

FME Flow Authoring

Exercise Workbook

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1 Authoring – The Basics

1.1 Publish and Run a Workspace on FME Flow

Demonstrates	Configure workspace User Parameters ready for use in FME Flow Publish a workspace from FME Desktop to FME Flow Register a workspace with appropriate Services Log into FME Flow web interface Run a workspace on FME Flow Inspect the FME Flow completed Jobs and their Logs
Overall Goal	Create a workspace to generate constraint areas based on SSSIs vicinity and publish it to FME Flow
Data	SSSIs (MapInfo TAB)
Start Workspace	None
End Workspace	C:\FMEFlowData\Workspaces\Complete\1.01-AuthoringBasics-PublishandRun-Complete.fmw

You are a technical analyst in the GIS department of your local city. You have plenty of experience using FME Desktop, and your department is now investigating FME Flow to evaluate its capabilities

Create a workspace to generate constraint area polygons based on vicinity to SSSIs. Then publish to FME Flow, for use on FME Flow.

1.1.1 Create Workspace

Launch the FME Workbench, if it isn't open already. Within the Get Started section of the Workbench, click on Blank Workspace.

Add a Reader, setting the parameters as follows:

Reader Format	Precisely MapInfo TAB (MAPINFO)
Reader Dataset	C:\FMEFlowData\Data\GB\SSSIs.tab
Workflow Option	Individual Feature Type

Add a Writer, setting the parameters as follows:

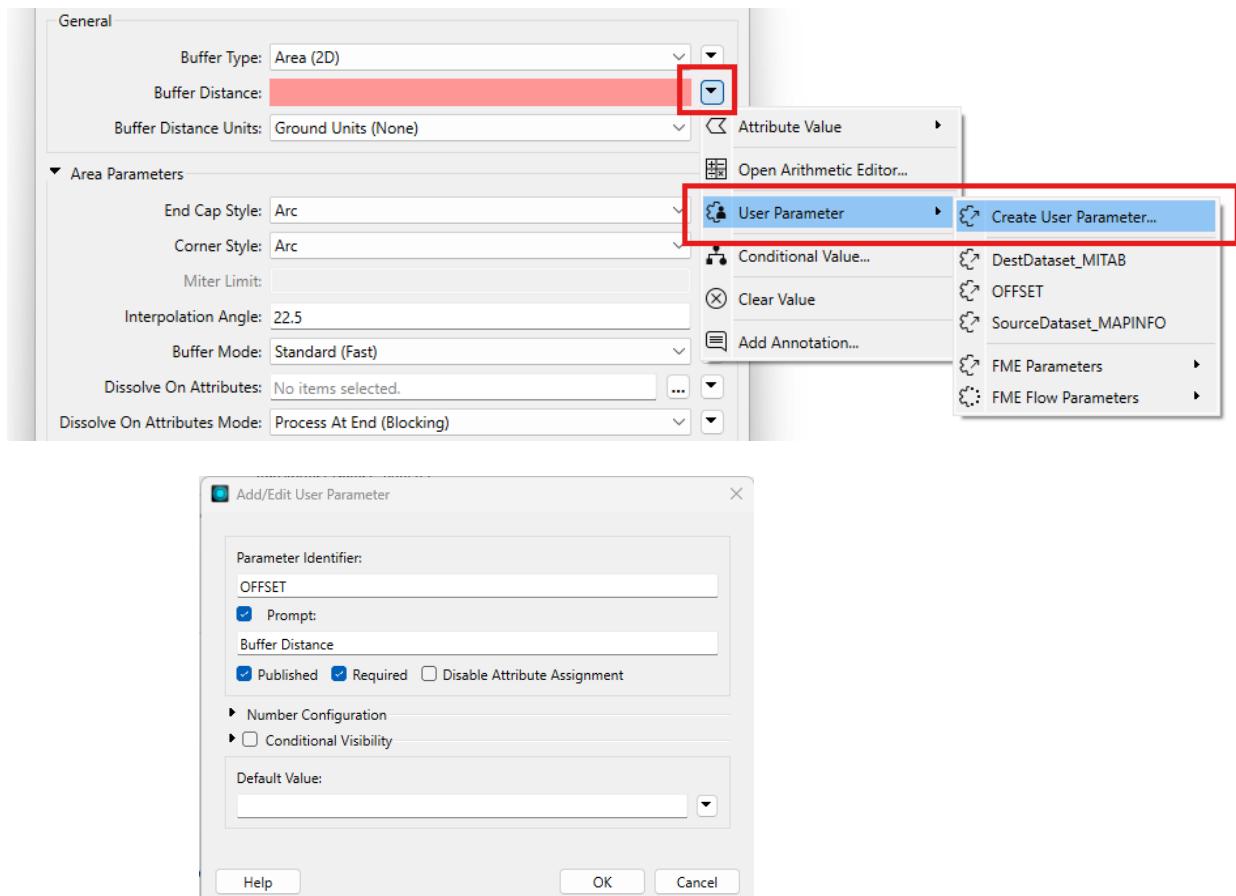
Writer Format	Precisely MapInfo TAB (MAPINFO)
Writer Dataset	C:\FMEFlowData\Output\Results
Table Definition	Automatic

Rename the writer Feature Type Table Name to: SSSI_Constraint

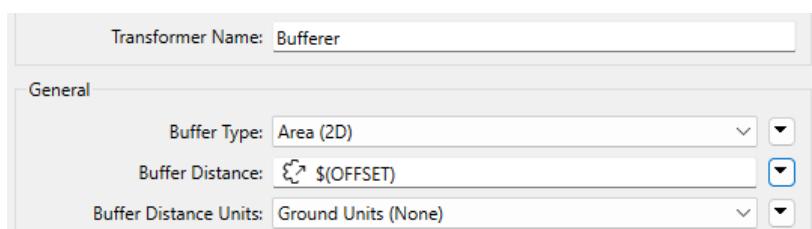


In between the reader and writer, add an AttributeKeeper transformer, choosing to keep: *Name, Reference, Status and PGID*.

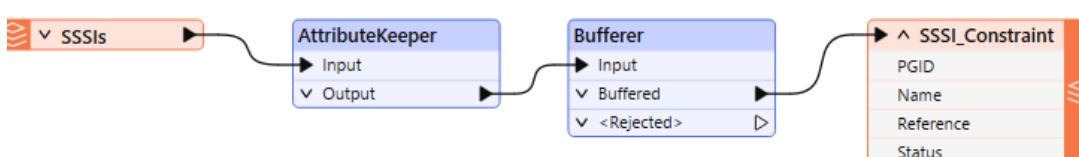
After the AttributeKeeper add a Bufferer transformer. For the *Buffer Distance* parameter create a *User Parameter* called *OFFSET*:



Leave the *Default Value* blank, then click OK



By setting up a User Parameter for defining the Buffer Distance, we are enabling the workspace end-user to specify a desired buffer size around the SSSIs each time they run the workspace.



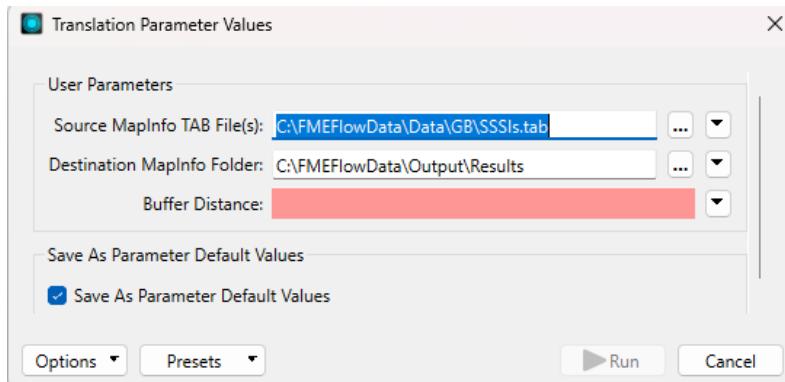
Save the workspace as:



C:\FMEFlowData\Output\My Workspaces\SSSI Constraint.fmw

Then run the workspace.

Upon which the Translation Parameters prompt dialog will display:

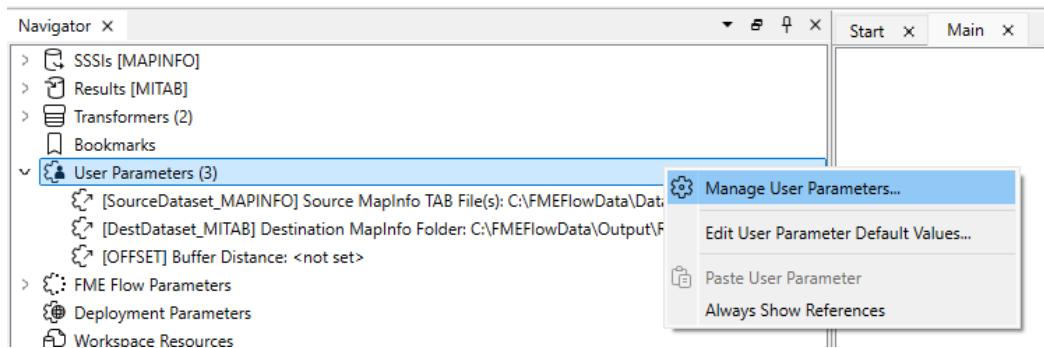


The newly created Buffer Distance user parameter will be included, but it's not really in a logical order in relation to the other User Parameters.

Also, the wording of the other prompts could be improved and made more user-friendly. As these prompts will appear to end-users on FME Flow, it's important that they are clear and easy to understand.

1.1.2 Modify User Parameters

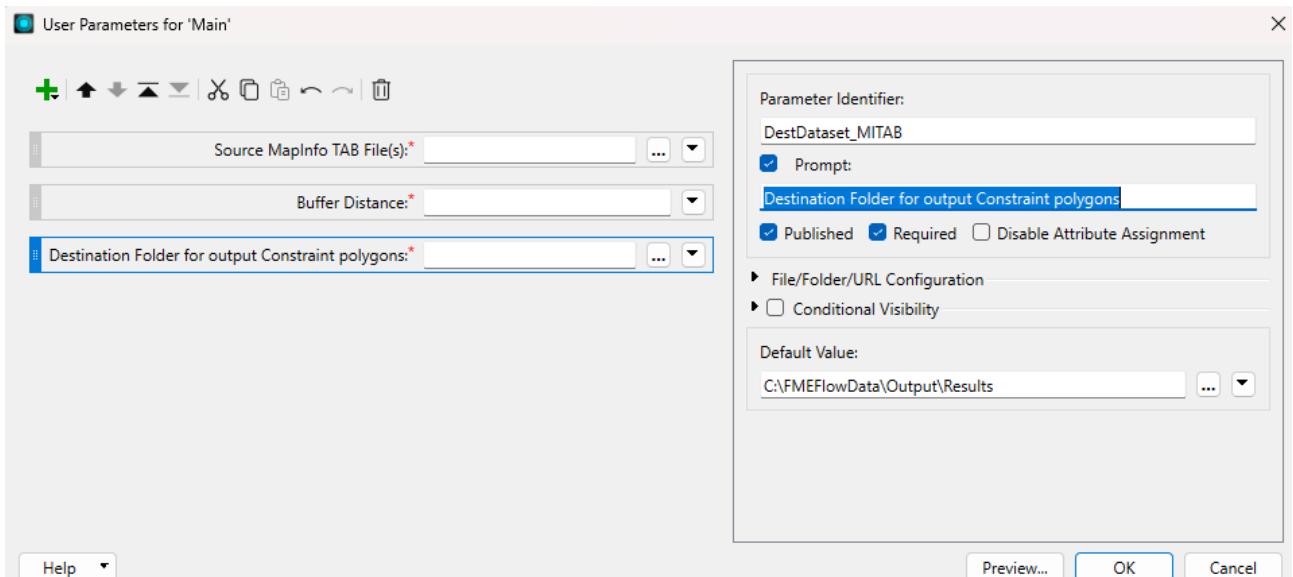
Within the Navigator Panel, right-click on *User Parameters* and choose *Manage User Parameters...*



Reorder the user parameters, so that *Buffer Distance* is the second parameter.

Reword the *Prompts* for both the SourceDataset and DestDataset parameters, to text that is more user-friendly.

The user parameters should now look similar to this:

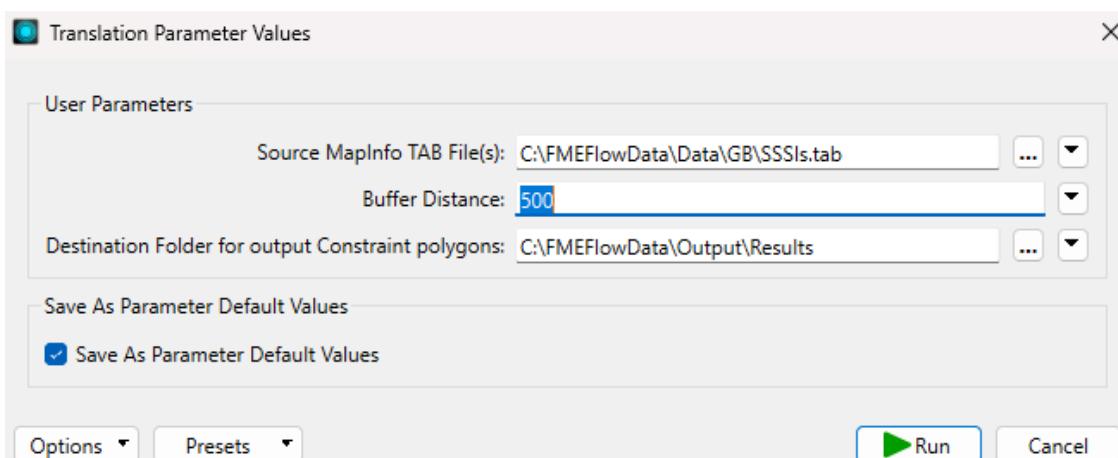


Click OK.

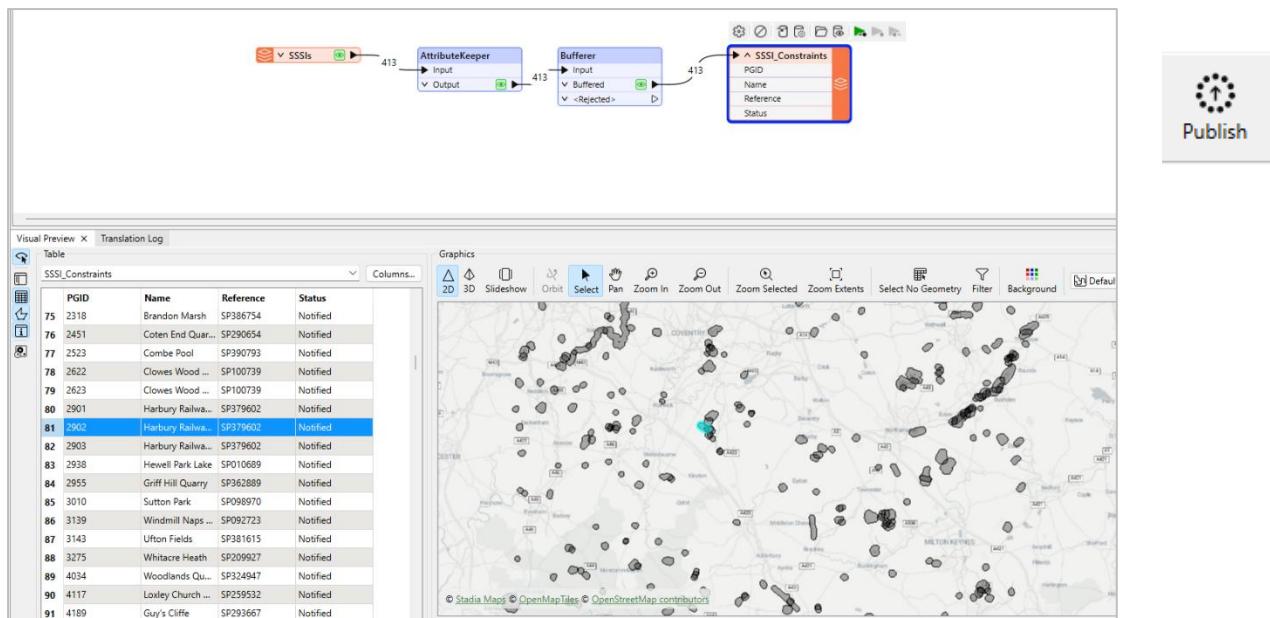
Resave the workspace. Then Rerun the workspace.

This time the User Parameter prompts will be in a more logical order and have more user-friendly wording.

Enter a Buffer Distance value, then click Run to proceed.



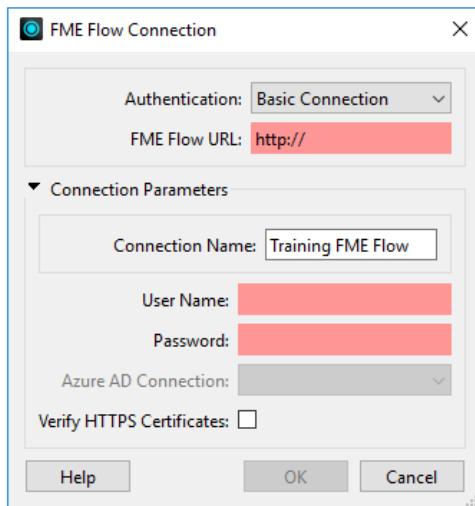
Our workspace is now ready to be published to FME Flow.



1.1.3 Publish to Flow: Create Connection

In FME Workbench, use either *File > Publish to FME Flow* from the menu bar. Or the *Publish to FME Flow* button on the toolbar.

As this is the first time we've connected to our FME Flow, we'll need to create a new connection, so in the FME Flow Connection select *Connect to FME Flow...* from the dropdown menu:



Then set the connection parameters as follows:

FME Flow URL: *http://localhost*
Connection Name: *Training FME Flow*
Username: *admin*
Password: *FMETraining1234*



FME Flow Parameters

FME Flow URL:

Authentication:

User Name:

Password:

Azure AD Connection:

Verify HTTPS Certificates:

FME Lizard

For this training our FME Flow Administrator has chosen the password FMETraining1234. If you are practicing this exercise outside of the miso training environment, please consult your FME Flow Administrator for the appropriate FME Flow username and password.

Click **OK** to confirm the connection.

Make sure the newly defined connection is selected and click **New** to create a new Repository.

Publish to FME Flow

Publish Workspace
Select a connection, repository, and name. To update an existing Workspace, select it from the list. The choice of connection will be remembered across Workbench.

FME Flow Connection

Training FME Flow

Repository Name: Dashboards New...

Workspace Name: Flow Auth 1.fmw

Existing Workspace List:

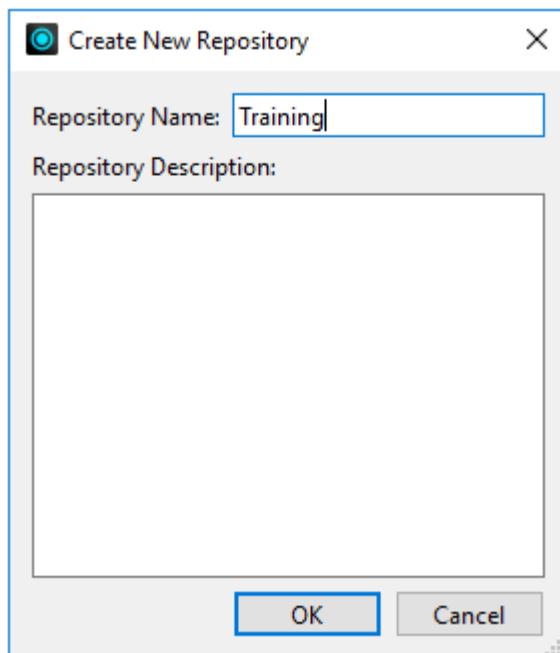
- Workspace
 - AverageRunningTime.fmw
 - DailyAverageQueuedTime.fmw
 - DailyTotalJobs.fmw
 - DailyTotalRunningTime.fmw
 - FailuresByWorkspace.fmw
 - JobHistoryStatisticsGathering.fmw

Upload data files

The next dialog prompts you to choose a repository in which to store the workspace. For this exercise, we'll create a new repository.

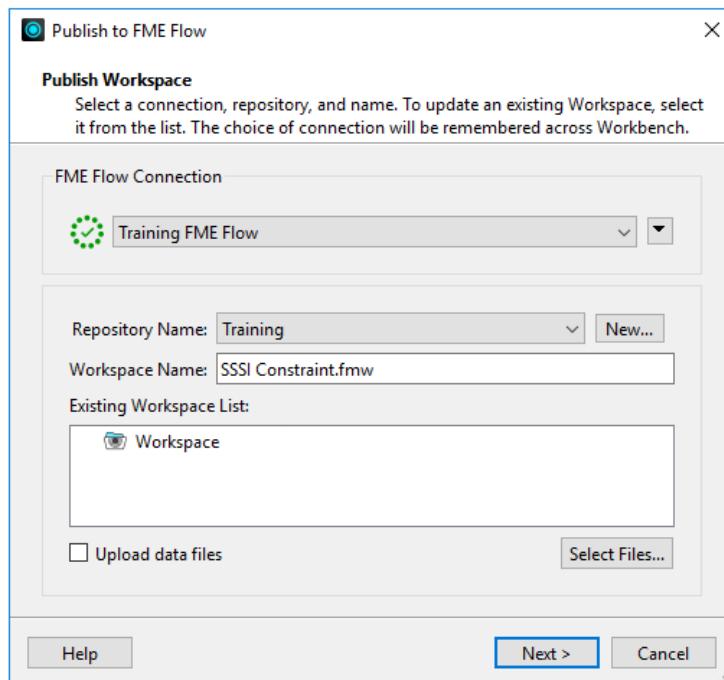


Next to Repository Name, click the button 'New'
Create a new repository called 'Training'



Click OK

Click 'Next' to publish the SSSI Constraint workspace.





1.1.4 Publish to Flow: Select Service

In the final screen of the wizard, we can register the workspace for use with various Services.

FME Lizard

FME Flow Web Services - These are different services that your workspace needs to be registered with, when you publish it up to Flow. You have to pay attention when you publish a workspace up to Flow, you can't just push it up to a Repository, you need to specify how you want FME Flow to use this workspace.

Data Download – provides the results data from the workspace back into the web browser (as a Zip). Where end-user can download it

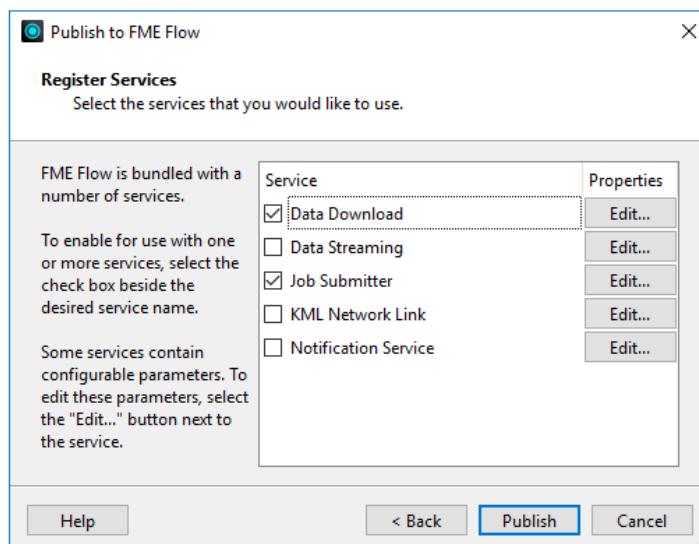
Data Streaming – stream data. Usually takes an engine and runs constantly

Job Submitter – simply runs the workspace as it would in Desktop – so will write results data to destinations specified on Writers

KML Network Link – if you want a link embedded up on Google. You can have that automatically refreshed and data pushed up there

Notifications – includes triggers, emails, etc

Select both the 'Data Download' and 'Job Submitter' Services (we'll see these in action later):



Then click 'Publish'

After a workspace is transferred to Flow, the Translation log will confirm the successful publication (along with detailing the destination Repository and Services registered):



Transformer		Message
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		

We'll now login to FME Flow to view and run the workspace.

1.1.5 Access FME Flow web interface

To log in to the FME Flow web interface, either select the *FME Flow Web Interface* option from the *Start menu > FME Flow*
or - in your web browser - enter the address of your FME Flow.

If you are following this training on one of our training machines, the URL for your FME Flow will be: <http://localhost/>

FME Lizard

When FME Flow is installed on either physical or virtual hardware, the address is
<http://<servername>/fmeserver>

If you are using FME Cloud, then the address is:
<https://<servername>.fmecloud.com/fmeserver>

This will open the web interface login screen for the FME Flow being used.



The image shows a screenshot of the FME Flow user login interface. It features a light gray header with the "FME Flow" logo. Below the header are two input fields: one for "Username" with a user icon and one for "Password" with a lock icon and a visibility toggle. At the bottom is a large blue "Log In" button.

In the User Login dialog, enter the miso training username and password:

Username: admin

Password: FMETraining1234

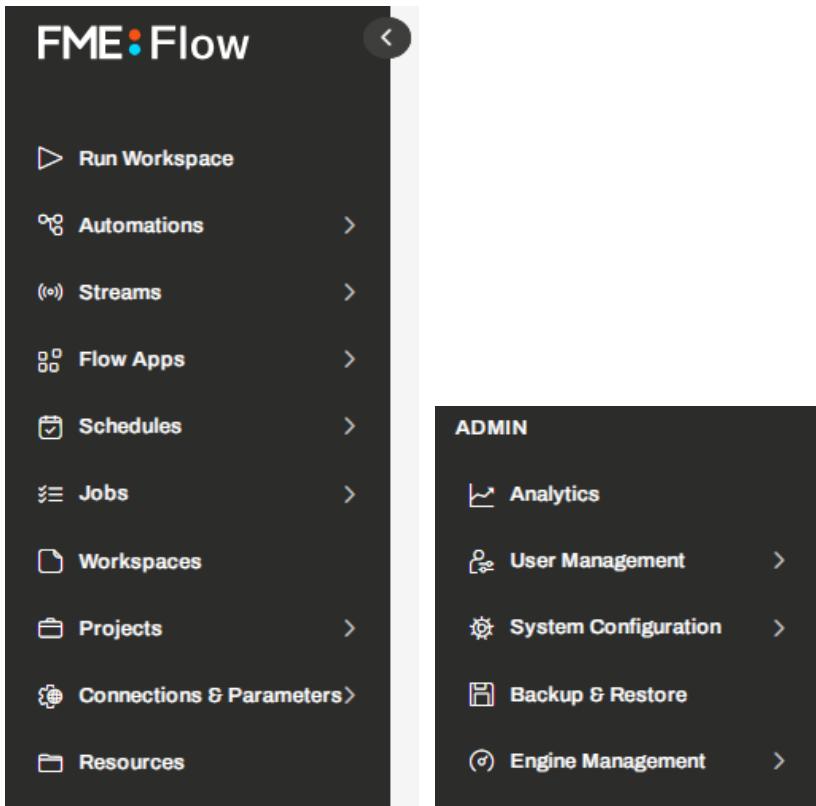
Click the *Login* button.

1.1.6 Examine the FME Flow web interface

Welcome to the FME Flow Web Interface. Take a moment to familiarize yourself with this interface. In the top-right corner, you can access the Help menu and your user settings:



The side menu is where all of the FME Flow functions can be accessed. If you need more space, this menu can be collapsed. Note that the side menu will look different depending on which account you are signed into. In the below image the user is logged in as admin:



Finally, while still on the FME Flow Home page, you can access Recent Jobs, Recent Projects, Last Published Workspaces, Favourite Workspaces, and Help pages. There are also options in the top right to customise the layout and content of this page. If you clicked away from this page, just click the FME logo in the top left corner to get back to the Home page.

We'll run the workspace shortly, but perhaps first we should make sure FME Flow is running correctly (the fact that we could log in is a good sign) and that we are licensed and have engines running.

1.1.7 Confirm Licensing

Expand the *System Configuration* section within *ADMIN* section. Then select *Licensing*.

This will open up the licensing page. You should see a message informing you that FME Flow is licensed and a list of the engines available:



The screenshot shows the FME Flow interface under the 'Licensing' section. It displays a green checkmark indicating 'FME Flow is Licensed'. Below this, there are links to 'Licensing Documentation' and 'FME Engines Documentation', and a blue button labeled 'Request New License'. A summary box shows the 'Machine Key: 0355950437', 'Serial Number: No Serial', and 'Expires: Sunday, June 1st 2025'. Below this, sections for 'Standard Engines' (with a green checkmark) and 'CPU-Usage Engines' (with a grey circle icon) are shown, each with a corresponding button ('Upload License File' or 'Download Usage Data').

Now let's find and run our workspace.

1.1.8 Workspaces

Look under the *Workspaces* section. Here it will list the *Repositories* containing the workspaces.

Select the newly created *Training* repository.

The screenshot shows the FME Flow interface under the 'Workspaces' section. It lists a single repository named 'Training'. The table below shows one entry: 'SSSI Constraint.fmw' (published), with 0 files, last updated today at 15:21:38, and 0 total runs. The table includes columns for Actions, Upload, and Delete. The bottom right corner of the table shows 'Showing 1 to 1 of 1 entries' and a dropdown set to '100'.

	Type	Name	Files	Last Updated	Total Runs	Average Elapsed Time	Average % CPU	Average CPU Time	Average Peak Memory Usage
<input type="checkbox"/>		SSSI Constraint.fmw	0	Today at 15:21:38	0				

Select the recently published workspace; SSSI Constraint.fmw

The workspace page shows a few options, the first of which are for the Repository, Workspace, and Service. These should already be filled in with values. This workspace has a few Published Parameters, they are also listed.



The screenshot shows the FME Flow web application. On the left is a dark sidebar menu with the following items:

- Run Workspace
- Automations
- Streams
- Flow Apps
- Schedules
- Jobs
 - Workspaces (selected)
 - Jobs
- Projects
- Connections & Parameters
- Resources
- ADMIN
 - Analytics
 - User Management
 - System Configuration
 - Backup & Restore
 - Engine Management

The main content area is titled "Run Workspace". It contains several configuration fields:

- Repository***: Training
- Workspace***: SSSI Constraint.fmw
- Service***: Data Download
- Email Results To**: (empty text input field)

Below these fields is a section titled "Published Parameters" with a "Reset Values" link. It includes a "Source MapInfo TAB File(s)*" input field which has a dashed box for "Upload Files" (with "Drop files here or browse file system" placeholder) and a "Browse Resources" button. There is also a "Selected Items (1)" list containing "SSSI.tab" from "C:\FMEFlowData\Data\GB\".

Notice: we could also access this page and run the workspace by also selecting the *Run Workspace* section at the top of the side menu, followed by choosing the required workspace.

FME Lizard

The ‘Direct Link’ within the Desktop Workbench log upon publishing the workspace to Flow can be used to directly access the workspace within FME Flow

19		Name : SSSI Constraint.fmw
20		: http://localhost/fmeserver/#/workspaces/run/Training/SSSI%20Constraint.fmw
21		

1.1.9 Run Workspace – using Job Submitter Service

Running a workspace using the *Job Submitter Service*, simply runs the workspace as it would in Desktop. So it will write results data to destinations specified on the Writers (or its published user parameters)

Change the *Service* setting to *Job Submitter*

The source data (SSSI.tab) doesn't need to be changed, so we don't need to make any changes to that published parameter.



Enter a desired buffer size for the *Buffer Distance* published parameter.

The results data will be written to the location specified in the writer destination published parameter (e.g. C:\FMEFlowData\Output\Results), but this could be changed to write to a new folder if desired by editing the path. e.g. C:\FMEFlowData\Output\Results\run1

Run Workspace

Workspace

Repository*
Training

Workspace*
SSSI Constraint.fmw

Service*
Job Submitter

Email Results To

Published Parameters [Reset Values](#)

Source MapInfo TAB File(s)*

Upload Files
Drop files here or [browse file system](#)

OR

[Browse Resources](#)

Selected Items (1) [+ Enter URL/Path](#) [X](#)

SSSIs.tab
C:\FMEFlowData\Data\GB\

Destination MapInfo Folder*
"C:\FMEFlowData\Output\Results\run1" [...](#)

Buffer Distance*
250

Click the *Run* button (you may need to scroll the page down to see it)

The workspace will run to completion, and a message to that effect will appear:



Run Workspace

Run Workspace > Job #42

☆ SSSI Constraint.fmw

✓ COMPLETED

Translation Successful

Run Again

View Details

JOB ID 42

FEATURES WRITTEN 413

Examine the output. Within File Explorer navigate to the specified destination folder:

This PC > Local Disk (C:) > FMEFlowData > Output > Results > run1			
Name	Date modified	Type	Size
SSI_Constraint.DAT	5/30/2025 4:37 PM	DAT File	324 KB
SSI_Constraint.ID	5/30/2025 4:37 PM	ID File	2 KB
SSI_Constraint.MAP	5/30/2025 4:37 PM	MAP File	1,088 KB
SSI_Constraint.tab	5/30/2025 4:37 PM	FMEFormatFile.F...	1 KB

Now let's run the workspace again, but using the Data Download Service.

1.1.10 Run Workspace – using Data Download Service

Running a workspace using the *Data Download Service* will provides the results data from the workspace back into the web browser (as a zip). Where the end-user can download it. - *for this reason, the destinations specified on the Writers are irrelevant.*

Back on the *Run Workspace* page, change the *Service* type to *Data Download*

As before, the source data (SSSI.tab) doesn't need to be changed, so we don't need to make any changes to that published parameter.

Enter a desired buffer size for the *Buffer Distance* published parameter.

Notice that the output Destination published parameter disappears. It's no longer required, as the results will be returned to the web browser, instead of writing the files to our previous destination folder.



Run Workspace

Workspace

Repository*
Training

Workspace*
SSSI Constraint.fmw

Service*
Data Download

Email Results To

Published Parameters [Reset Values](#)

Source MapInfo TAB File(s)*

Upload Files
Drop files here or [browse file system](#)
OR
[Browse Resources](#)

Selected Items (1)
 SSSIs.tab [+ Enter URL/Path](#)

Buffer Distance*
250

Click the *Run* button

The workspace will run to completion. This time the results will be returned as a downloadable zip file:

Run Workspace

[Run Workspace](#) > Job #44

SSSI Constraint.fmw

COMPLETED

Translation Successful

[Run Again](#)

[View Details](#)

JOB ID 44

FEATURES WRITTEN 413

DATA DOWNLOAD URL http://EC2AMAZ-BG08JPF/fmedatadownload/results/FME_1E150054_1748621756353_9044.zip

1.1.11 Examine Jobs and Logs

Let's now examine the Jobs section, where completed jobs are detailed.

Click *Jobs* on the side menu to expand it, then click *Completed* to view a list of the



completed jobs. A list of previously run jobs will open, including the one we just ran:

The screenshot shows the 'Jobs' page in FME Flow. The left sidebar has links for Run Workspace, Automations, Flow Apps, Schedules, Jobs (Completed, Queued, Running), and Workspaces. The main area has tabs for Completed (selected), Queued, and Running. Below is a 'Filters' button (circled 2). The table has columns: ID, WORKSPACE, REPOSITORY, USERNAME, RAN BY, STATUS, LOGS, STARTED, FINISHED, SOURCE NAME, and SOURCE TYPE. Row 1 (ID 44): SSSI Constraint.fmw, Training, admin, admin, green checkmark, Today at 17:15:56, Today at 17:15:58. Row 2 (ID 43): SSSI Constraint.fmw, Training, admin, admin, green checkmark, Today at 16:37:36, Today at 16:37:38. Buttons at the top right include Remove, Refresh, and Print (circled 5).

ID	WORKSPACE	REPOSITORY	USERNAME	RAN BY	STATUS	LOGS	STARTED	FINISHED	SOURCE NAME	SOURCE TYPE
44	SSSI Constraint.fmw	Training	admin	admin	✓		Today at 17:15:56	Today at 17:15:58		
43	SSSI Constraint.fmw	Training	admin	admin	✓		Today at 16:37:36	Today at 16:37:38		

Notice some interesting parts of the interface:

1. There are tabs to show Completed Jobs (the default), Queued Jobs, and Running Jobs.
2. There is an option to turn on Filters for the view to allow you to filter the list of jobs to make it easier to find specific ones on a busy server.
3. An icon is used to indicate if jobs succeeded or failed. The green check indicates a successful job and a red x marks a failed job.
4. The jobs are displayed in the chronological order in which they finished (whether successful or not).
5. Additional Columns can be displayed providing more information about the resources used by the job, including; engine, queue, %CPU, CPU time, elapsed time and peak memory usage.

Click on your job to inspect the results in more detail.

You'll see a summary at the top showing the number of features written as well as the time it started and finished. There are more timing details under STATUS that include the time the job was submitted, queued, etc. Information about the specific request made to FME Flow can be found under REQUEST DATA. And full results of the translation are under RESULT DATA.

You may also inspect the FME translation log file on this page. Along with download a copy of the Log



Jobs

Jobs > Job #44

☆ SSSI Constraint.fmw

[Download](#) [Resubmit Job](#) [Edit](#) [Delete](#)

✓ COMPLETED

admin

JOB ID 44
FEATURES WRITTEN 413
DATA DOWNLOAD URL
http://EC2AMAZ-BG08JPF/fmetadownload/results/FME_1E150054_1748621756353_9044.zip

TIME STARTED Today at 17:15:56

TIME FINISHED Today at 17:15:58

STATUS

>

REQUEST DATA

>

RESULT DATA

>

Search

Log

1 2025-5-30 17:15:56 | Current FME version: FME 2024.2.3.0 (20250130 - Build 24025 - WIN64)

O Δ I O ↑ ↻

Congratulations

By Completing this exercise you have learned how to:

- Configure workspace User Parameters ready for use in FME Flow
- Setup a connection to FME Flow from Desktop Workbench
- Create a Repository on FME Flow using the Publishing Wizard
- Publish a workspace to FME Flow using the Publishing Wizard
- Register a workspace with appropriate Services using the Publishing Wizard
- Log into FME Flow web interface
- Check that FME Flow is Licensed
- Run a workspace using Job Submitter Service
- Run a workspace using Data Download Service
- Inspect the Job history to confirm successful completion of job
- Examine and download Log for completed job



1.2 Workspace Description Parameters and Republishing a workspace

Demonstrates	Use of Workspace Parameters to provide descriptive information for workspaces within FME Flow Republish a workspace to FME Flow, replacing original
Overall Goal	Populate Workspace Parameters to provide workspace description, then republish the workspace to FME Flow
Data	SSSIs (MapInfo TAB)
Start Workspace	C:\FMEFlowData\Workspaces\1.02-AuthoringBasics-WorkspaceParametersRepublish-Begin.fmw
End Workspace	C:\FMEFlowData\Workspaces\Complete\1.02-AuthoringBasics-WorkspaceParametersRepublish-Complete.fmw

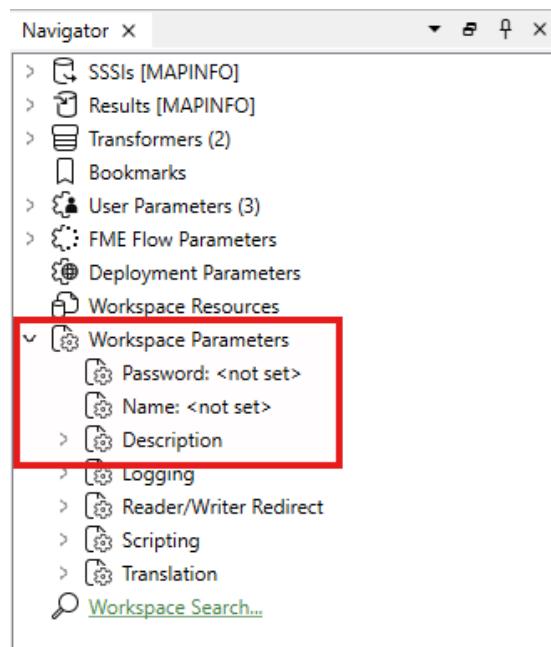
Either continue to use your SSSI Constraints workspace from the previous exercise, or use the starter workspace provided.

By populating the Workspace Description Parameters, we can provide valuable descriptions to workspaces within FME Flow.

1.2.1 Populate Workspace Parameters using Desktop Workbench

Within FME Desktop Workbench open the workspace (if not already open).

Within the Navigator panel locate the Workspace Parameters section:

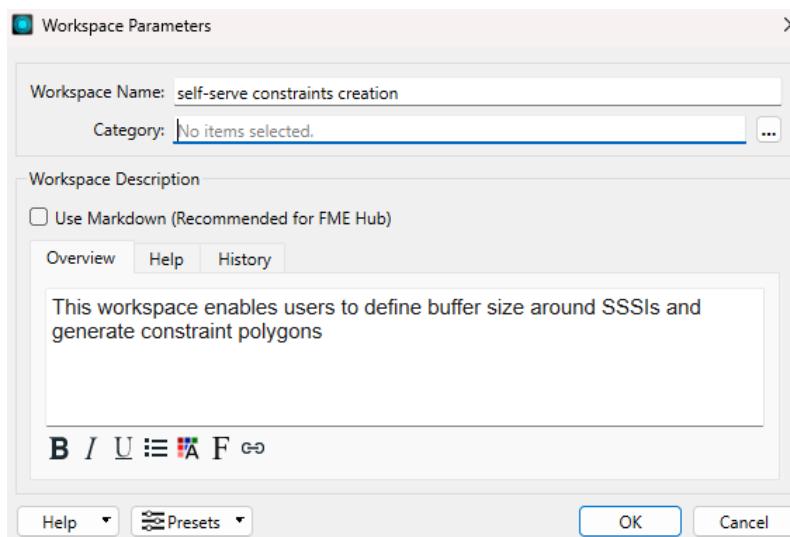


Double-click on the *Name* parameter
Set the *Workspace Name* to: *self-serve constraints creation*



Within the Workspace Description Overview box enter a brief user-friendly description/overview of the workspace.

e.g. *This workspace enables users to define buffer size around SSSIs and generate constraint polygons*



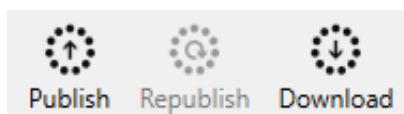
Click OK.

Then resave the workspace as *SSSI Constraint.fmw* (or replacing your existing workspace).

We'll now republish the workspace to FME Flow, replacing the original.

1.2.2 Republish Workspace

Using either the *Republish* icon on the toolbar, or the menu command *File > Republish to FME Flow*



Note: depending on whether you are still in the same Workbench session as the previous exercise or not, the *Republish* option may not be available. In this situation, use the *Publish* option and choose to replace the existing workspace.

Now return to the FME Flow web interface to examine the workspace entry.

1.2.3 Return to the FME Flow web interface

Back within the FME Flow web interface you'll need to 'refresh' the view of the Workspaces Repositories; either refresh the browser, or navigate out of the Workspaces section, then back in again.

Navigate to the *Training* Repository within the *Workspaces* section.



Below the workspace name (SSSI Constraint.fmw) the *Workspace Parameter Name* value of *self-serve constraints creation* will now be displayed:

The screenshot shows the FME Flow interface. On the left is a sidebar with options: Run Workspace, Automations, Streams, Flow Apps, Schedules, Jobs, Workspaces (which is selected and highlighted in blue), and Projects. The main area is titled "Workspaces" and shows a sub-section "Training". A search bar is at the top. Below it is a table with columns: TYPE, NAME, FILES, LAST UPDATED, TOTAL RUNS, and AVER. One row is visible: "SSSI Constraint.fmw" with a camera icon, 0 files, last updated on 2025-5-13 14:00:33, 2 total runs, and 00:00 average. A red box highlights the "NAME" column entry "self-serve constraints creation". At the bottom of the table are navigation arrows: <<, <, 1, >, >>.

Click on the SSSI Constraint workspace, as if we were going to run it.

Notice that the *Workspace Parameter Overview* value of '*this workspace enables users to define buffer size around SSSIs and generate constraint polygons*' will included under the workspace name:

The screenshot shows the "Run Workspace" page for the "Training/SSSI Constraint" workspace. The sidebar is identical to the previous screenshot. The main form has fields: Repository (set to "Training"), Workspace (set to "SSSI Constraint.fmw"), and Service (set to "Data Download"). Below the workspace dropdown, a tooltip box contains the text "this workspace enables users to define buffer size around SSSIs and generate constraint polygons", which is also highlighted with a red box. There is also an "Email results to" field with "(optional)" and a "Data Download" button.

This workspace overview information can be extremely useful to FME Flow users!

Congratulations

By Completing this exercise you have learned how to:

- Populate Workspace Parameters using FME Desktop Workbench to provide workspace descriptive information within FME Flow
- Republish a workspace to FME Flow, replacing the original



1.3 Publishing Source Data and Upload Temporary Data

Demonstrates	Publishing source data up to FME Flow to accompany the workspace Uploading temporary datasets as input for workspace
Overall Goal	Utilise alternative data source options of Publish Source Data (along with workspace) and Temporary Data Upload
Data	WestMidlands (shp) RegionNamePoints (csv)
Start Workspace	C:\FMEFlowData\Workspaces\1.03-AuthoringBasics-PublishandUploadData-Begin.fmw
End Workspace	n/a

The majority of workspaces will use source data that resides in corporate/central holdings. However occasionally there may be the requirement to hold some or all of the source data (file based, not database or feed) within FME Flow's system files. The source data can be published to FME Flow along with the workspace (if appropriate).

In other scenarios, the end-user may need to upload the source data that needs to be processed.

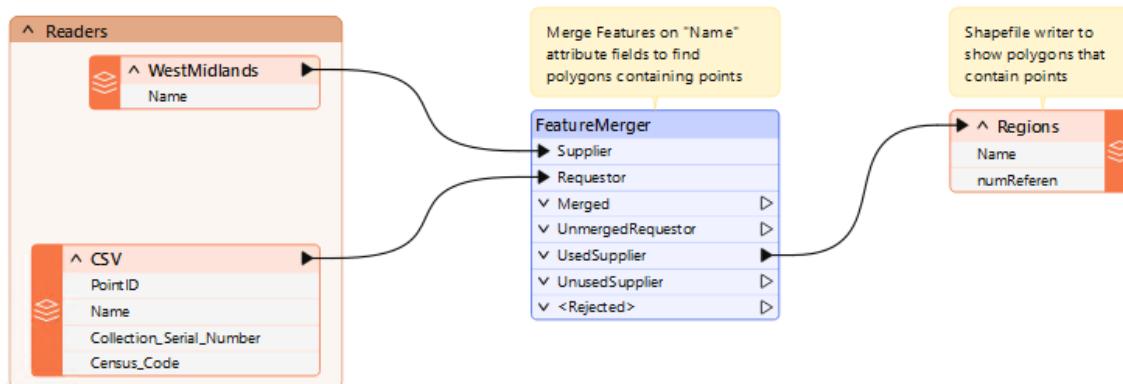
We'll use an existing workspace to demonstrate these two other source data options.

1.3.1 Examine Workspace using Desktop Workbench

Launch the FME Workbench, if it isn't open already. Navigate to and open the workspace C:\FMEFlowData\Workspaces\1.03-AuthoringBasics-PublishandUploadData-Begin.fmw

This workspace reads polygons of the West Midlands, and some census data from various regions in the West Midlands. FeatureMerger identifies those West Midlands polygons that are identified in the Census data.

Run the workspace and examine the feature caches.





1.3.2 Publish workspace and Source Data to FME Flow

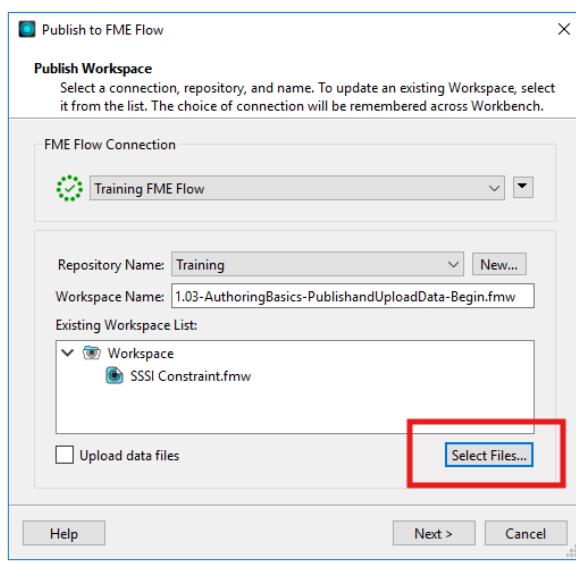
Publish the workspace to FME Flow.

The connection parameters are as follows:

Server URL: *http://localhost*
Username: *admin*
Password: *FMETraining1234*

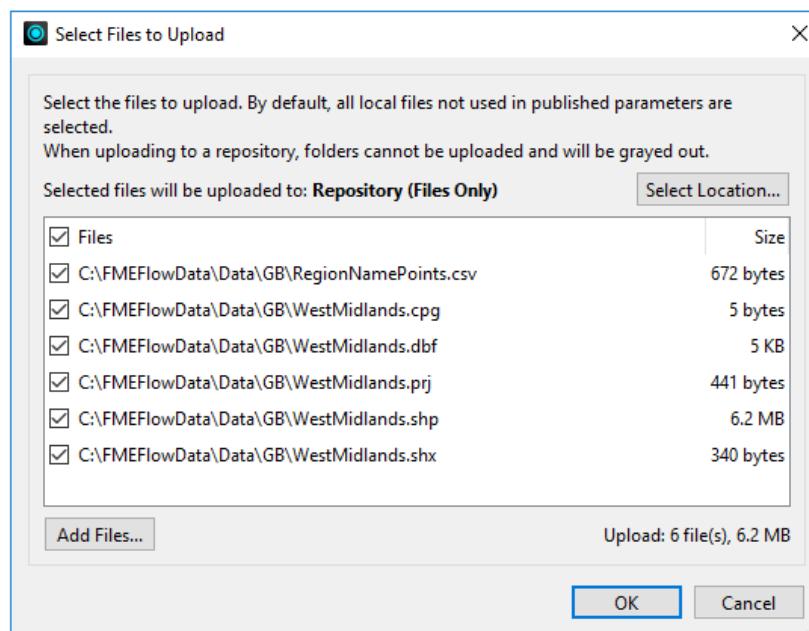
Select the *Training* repository.

This time, click the *Select Files* button:



Within the Select Files to Upload dialog the author can specify which datasets to upload (publish) to FME Flow.

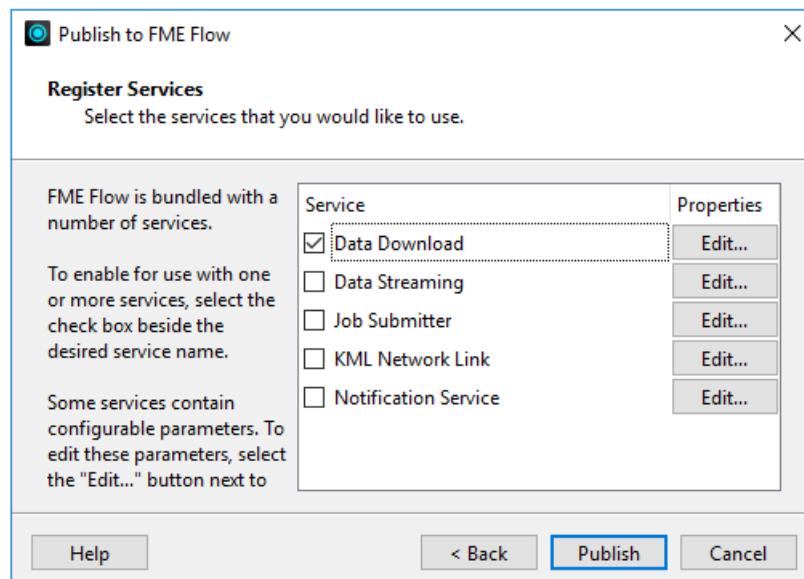
For this exercise we will upload all of them, so select them all:



Then click *OK* to publish the data to the repository, along with the workspace.



Click *Next*. Then in the final dialog of the publishing wizard, choose the *Job Submitter* as the web service to register the workspace against.



Then click *Publish*

Confirmation of successful publishing will be detailed in the log window:

Visual Preview Translation Log X		
Transformer	Message	
21	Successfully published to FME Flow as '1.03-AuthoringBasics-PublishandUploadData-Begin.fmw'. =====	
22		
23		
24		
25	Publish Summary =====	
26	FME Flow URL : http://localhost	
27	Username : admin	
28	Repository : Training	
29	Name : 1.03-AuthoringBasics-PublishandUploadData-Begin.fmw	
30	Direct Link : http://localhost/fmeaserver/#/workspaces/run/Training/1.03-AuthoringBasics-PublishandUploadData-Begin.fmw	
31	Uploaded Resources : C:\FMEFlowData\Data\GB\WestMidlands.shx C:\FMEFlowData\Data\GB\RegionNamePoints.csv C:\FMEFlowData\Data\GB\WestMidlands.prj C:\FMEFlowData\Data\GB\WestMidlands.dbf C:\FMEFlowData\Data\GB\WestMidlands.cpg C:\FMEFlowData\Data\GB\WestMidlands.shp	
32		
33		
34		
35		
36	Registered Services : Data Download	
37	Included Writers in Download : Regions [SHAPEFILE]	
38	Included Writers in Stream : Regions [SHAPEFILE]	
39	Time : Sat Jun 7 11:39:25 2025 =====	
40		

1.3.3 Examine Published Source Data Files

If you have access to the FME Flow computer itself, open File Explorer and navigate to the location that repository data is stored:

C:\ProgramData\Safe Software\FMEFlow\repositories\Training

You'll see that each workspace is saved to a separate folder.



Training			
File	Home	Share	View
←	→	▼	▲
This PC	>	Local Disk (C:)	> ProgramData > Safe Software > FMEFlow > repositories > Training >
Name	Date modified	Type	
1.03-AuthoringBasics-PublishandUploadData-Begin	6/5/2025 10:15 AM	File folder	
SSSI Constraint	5/30/2025 4:06 PM	File folder	

If you inspect the contents of the folder for '1.03-AuthoringBasics-PublishandUploadData-Begin', you'll see the uploaded datasets within it.

1.03-AuthoringBasics-PublishandUploadData-Begin				
	Name	Date modified	Type	Size
ess	1.03-AuthoringBasics-PublishandUploadData-Begin.fmw	6/7/2025 11:39 AM	FME Workspace	92 KB
ads	RegionNamePoints.csv	6/7/2025 11:39 AM	CSV File	1 KB
nts	WestMidlands.cpg	6/7/2025 11:39 AM	CPG File	1 KB
	WestMidlands.dbf	6/7/2025 11:39 AM	DBF File	6 KB
	WestMidlands.prj	6/7/2025 11:39 AM	PRJ File	1 KB
	WestMidlands.shp	6/7/2025 11:39 AM	SHP File	6,305 KB
	WestMidlands.shx	6/7/2025 11:39 AM	SHX File	1 KB

This is how a workspace has access to files published with it.

1.3.4 Run Workspace on Flow

Log in to FME Flow and then locate and run the workspace. In the Run dialog notice that the published parameters denoting the source data include an FME environment variable, *FME_MF_DIR*:



FME Flow

Run Workspace

Workspace

Repository* Training

Workspace* 1.03-AuthoringBasics-PublishandUploadData-Begin.fmw

Service* Data Download

Email Results To

Published Parameters Reset Values

Source Esri Shapefile(s)*

Upload Files
Drop files here or [browse file system](#)
OR
[Browse Resources](#)

Selected Items (1)
\$(FME_MF_DIR)WestMidlands.shp

+ Enter URL/Path X

Source CSV (Comma Separated Value) File(s)*

Upload Files
Drop files here or [browse file system](#)
OR
[Browse Resources](#)

Selected Items (1)
\$(FME_MF_DIR)RegionNamePoints.csv

+ Enter URL/Path X

FME Flow 2024.2.3
Build 24825 - win64
Safe Software

This variable tells FME to look in the same folder as the workspace for the source data files. As you can see, it isn't particularly user-friendly to handle data in this way, even though the workspace will run just fine. Select *Run* and once complete the Data Download URL will be presented.

Run Workspace

Run Workspace > Job #101

★ 1.03-AuthoringBasics-PublishandUploadData-Begin.fmw

✓ COMPLETED

Translation Successful

[Run Again](#)

[View Details](#)

JOB ID 101

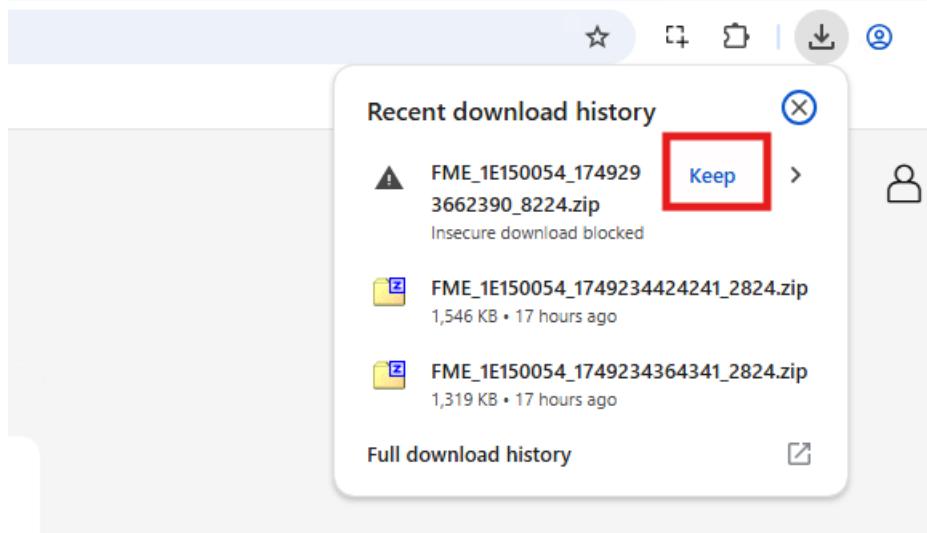
FEATURES WRITTEN 8

DATA DOWNLOAD URL http://EC2AMAZ-BG08JPF/fmedatadownload/results/FME_1E150054_1749293662390_8224.zip

Hit the URL to download the zip file.



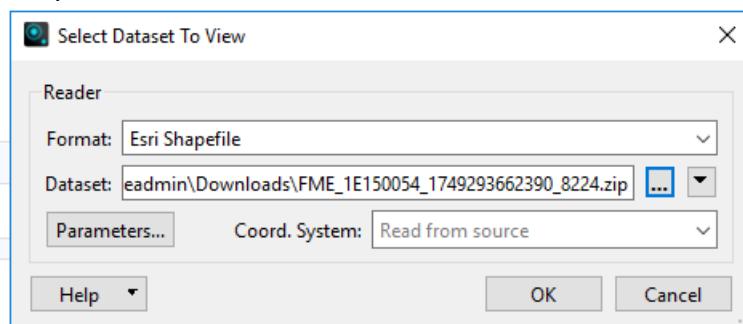
Depending on your browser, you may have to accept the download:



Open the folder to view the downloaded file in the Downloads folder.

1.3.5 Inspect results

Open Data Inspector, and open the dataset we have downloaded. Specify it is an Esri Shapefile:





Screenshot of FME Workbench interface showing a map view and a table view.

The map view displays a map of the United Kingdom with several regions highlighted in green. The regions shown are: County of Herefordshire, Shropshire, Wychavon District, City of Wolverhampton District (B), Bromsgrove District, Stratford-on-Avon District, Birmingham District (B), and East Staffordshire District (B).

The table view shows the following data:

Name	numReferen
1 County of Herefordshire	2
2 Shropshire	2
3 Wychavon District	3
4 City of Wolverhampton District (B)	1
5 Bromsgrove District	1
6 Stratford-on-Avon District	3
7 Birmingham District (B)	1
8 East Staffordshire District (B)	2

FME Lizard

Although simple, there are major limitations to publishing data with a workspace:

- *The data is hidden within FME Flow's system files and is inaccessible to non-FME Flow users - you create static silos of data!*
- *Large volumes of data stored within FME Flow's system files is detrimental to FME Flow and will impact Backups etc.*

Publishing Data Sources should be used with caution and is not appropriate in most scenarios.



1.3.6 Temporary Data Upload

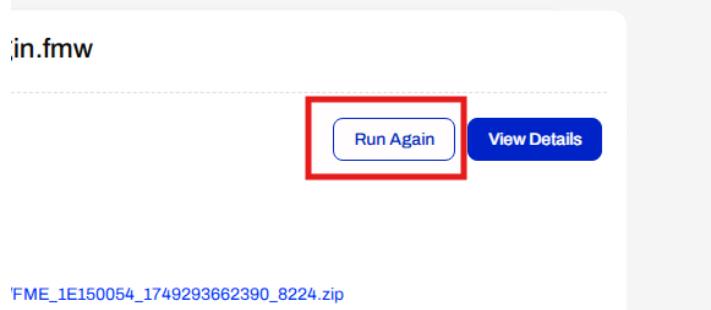
The Temporary Data Upload functionality allows the end-user to upload their data at run-time. This allows the user to specify and upload data as an input to the translation.

Now let's use the Temporary Data Upload option to process a new area of data, Northern Ireland.

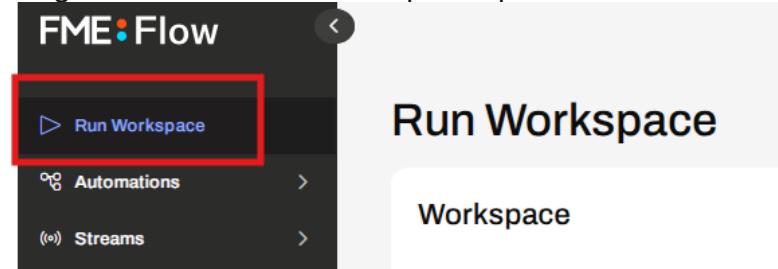
Within C:\FMEFlowData\Data\GB our new RegionNamePoints_UPDATE.csv can be found.

	Name	Date modified	Type	Size
Quick access	RegionNamePoints.csv	6/6/2025 6:52 PM	CSV File	1 KB
Desktop	RegionNamePoints_UPDATE.csv	6/6/2025 6:51 PM	CSV File	1 KB
Downloads	SSSIs.DAT	1/28/2022 3:09 PM	DAT File	1,615 KB
Documents	SSSIs.ID	1/28/2022 3:09 PM	ID File	2 KB
Pictures	SSSIs.MAP	1/28/2022 3:09 PM	MAP File	1,786 KB
GB	SSSIs.tab	1/28/2022 3:09 PM	FMEFormatFile.FMEWor...	1 KB
licenses	WestMidlands.cpg	6/6/2025 5:52 PM	CPG File	1 KB
Workspaces	WestMidlands.dbf	6/6/2025 5:52 PM	DBF File	6 KB
This PC	WestMidlands.prj	6/6/2025 5:52 PM	PRJ File	1 KB
Desktop	WestMidlands.shp	6/6/2025 5:52 PM	SHP File	6,305 KB
	WestMidlands.shx	6/6/2025 5:52 PM	SHX File	1 KB

We wish to run the workspace with the new data. Switch back to Flow, and hit the Run Again button:



Or go back to the Run Workspace option:



This time, we want to swap out the original csv file for the UPDATE one. To use the new dataset, scroll down to *Published Parameters* and under the “Source CSV...” section click the *Browse Resources* button:



Source CSV (Comma Separated Value) File(s)*

Upload Files
Drop files here or [browse file system](#)

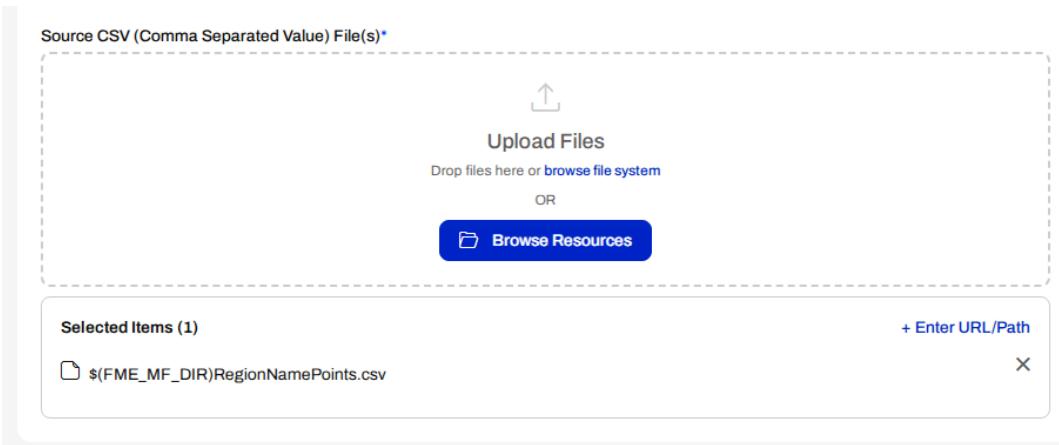
OR

[Browse Resources](#)

Selected Items (1)

[\\$FME_MF_DIR\RegionNamePoints.csv](#)

+ Enter URL/Path X



In the dialog that opens, click the *Temporary Uploads* tab

Select one or more files for *Source Dataset*

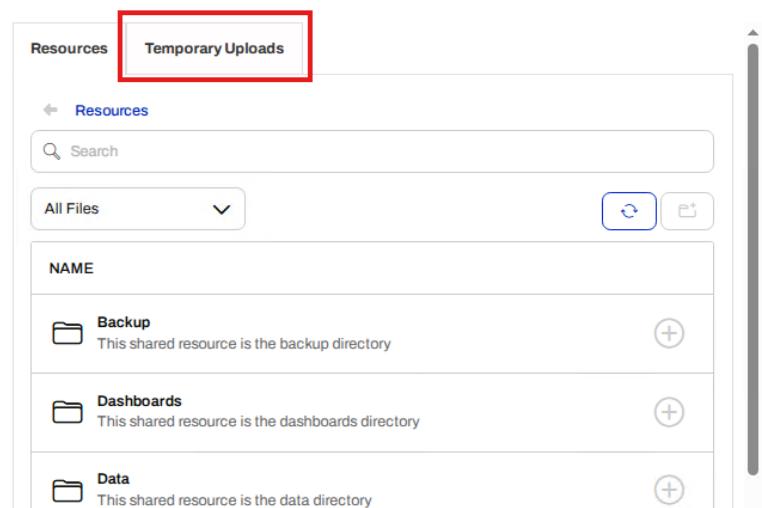
Resources Temporary Uploads

← Resources

Search

All Files

NAME
Backup
Dashboards
Data

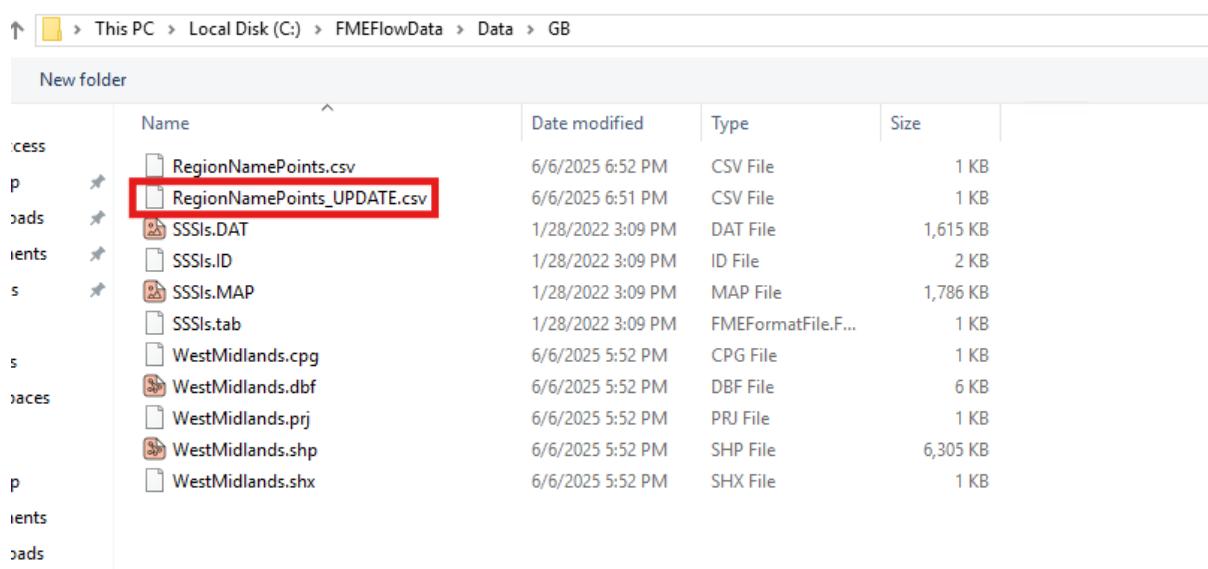


Then select *browse file system* button, navigate to FMEFlowData>Data>GB

↑ This PC > Local Disk (C:) > FMEFlowData > Data > GB

New folder

Name	Date modified	Type	Size
RegionNamePoints.csv	6/6/2025 6:52 PM	CSV File	1 KB
RegionNamePoints_UPDATE.csv	6/6/2025 6:51 PM	CSV File	1 KB
SSSIs.DAT	1/28/2022 3:09 PM	DAT File	1,615 KB
SSSIs.ID	1/28/2022 3:09 PM	ID File	2 KB
SSSIs.MAP	1/28/2022 3:09 PM	MAP File	1,786 KB
SSSIs.tab	1/28/2022 3:09 PM	FMEFormatFile.F...	1 KB
WestMidlands.cpg	6/6/2025 5:52 PM	CPG File	1 KB
WestMidlands.dbf	6/6/2025 5:52 PM	DBF File	6 KB
WestMidlands.prj	6/6/2025 5:52 PM	PRJ File	1 KB
WestMidlands.shp	6/6/2025 5:52 PM	SHP File	6,305 KB
WestMidlands.shx	6/6/2025 5:52 PM	SHX File	1 KB





Select the RegionNamePoints_UPDATE.csv file, click *Open* and then *OK* to upload it.

Back at the Published Parameters window, remove the \$(FME_MF_DIR)RegionNamePoints.csv because we have already used it.

The screenshot shows the 'Selected Items (2)' section of the Published Parameters window. It contains two items: 'RegionNamePoints_UPDATE.csv' (status: Uploaded) and '\$(FME_MF_DIR)RegionNamePoints.csv'. A red box highlights the 'X' button next to the second item, indicating it should be removed.

Now Run the workspace.

The workspace will now run to completion using the temporarily uploaded datasets.

This was only a **temporary** upload. The workspace can be re-run immediately, and the data will still appear in the temporary upload section, but it will not be permanently stored within FME Flow. The temporary data will be cleaned up automatically within 24 hours (this is the default unless an FME Flow Administrator has modified the clean up task).

1.3.7 Inspect Updated Results

As before, select the URL link

The screenshot shows the job details for '1.03-AuthoringBasics-PublishandUploadData-Begin.fmw'. The status is 'COMPLETED' with a green checkmark and the message 'Translation Successful'. Below the status, it shows 'JOB ID 102' and 'FEATURES WRITTEN 10'. At the bottom, it displays 'DATA DOWNLOAD URL' followed by a redacted URL: http://EC2AMAZ-BG08JPF/fmedatadownload/results/FME_1E150054_1749302650767_7136.zip.

And hit "Keep" if applicable. The file should save to the Downloads folder. Open it in Data Inspector. Note the change in selected polygons.



The screenshot shows the FME Workbench application. At the top is a toolbar with various icons for file operations (Open, Add, Save As, Save Selected, Refresh, Stop), spatial analysis (2D, 3D, Table, Slideshow, Measure), and selection/panning (Orbit, Select, Pan, Zoom). Below the toolbar is a 'Display Control' panel showing a tree view of 'View 1 (18)' containing items like 'FME_1E150054_1749302650767_... (10)', 'Regions (10)', and 'Default Light [STADIA]'. To the right of the tree view is a map of the UK with several regions highlighted in red. The map includes labels for major cities and towns. Below the map is a copyright notice: '© Stadia Maps © OpenMapTiles © OpenStreetMap contributors'. The main workspace below the display control shows a 'Log' tab and a 'Table View' tab. The 'Table View' tab is active, displaying a table titled 'FME_1E150054_1749302650767_7136 [SHAPEFILE] - Regions'. The table has two columns: 'Name' and 'numReferen'. The data is as follows:

Name	numReferen
1 County of Herefordshire	5
2 Shropshire	1
3 Telford and Wrekin (B)	1
4 Stafford District (B)	2
5 Staffordshire Moorlands District	1
6 Birmingham District (B)	1
7 Stratford-on-Avon District	1
8 Warwick District	1
9 Solihull District (B)	1
10 Tamworth District (B)	1

FME Lizard

When end-users need to use the Temporary Data Upload option for specifying input data to be processed, and the data consists of multiple files (such as ESRI Shapefiles or MapInfo TAB). It's often easier for the users to manage the upload process if you instruct them to first zip all the required files.

Then they can then simply use the Upload button and select the zip file.

But remember to set your workspace Readers to expect zip files!

Congratulations

By Completing this exercise you have learned how to:

- Publish Source Data to accompany a workspace when publishing to FME Flow
- Locate source data on the FME Flow filesystem
- Use the Temporary Data Upload option at run-time



1.4 Running a Workspace as a Scheduled Task

Demonstrates	Use of Schedules to automatically run workspaces within FME Flow
Overall Goal	Create Schedule to run a workspace
Data	SSSIs (MapInfo TAB)
Start Workspace	C:\FMEFlowData\Workspaces\1.04-AuthoringBasics-ScheduleTask-Begin.fmw
End Workspace	n/a

If you have a workspace that needs to run regularly (e.g., daily, weekly, hourly), scheduling it eliminates the need for manual execution. Now we will learn how to run a workspace automatically on a schedule.

1.4.1 Create a Network-Based Resource Folder

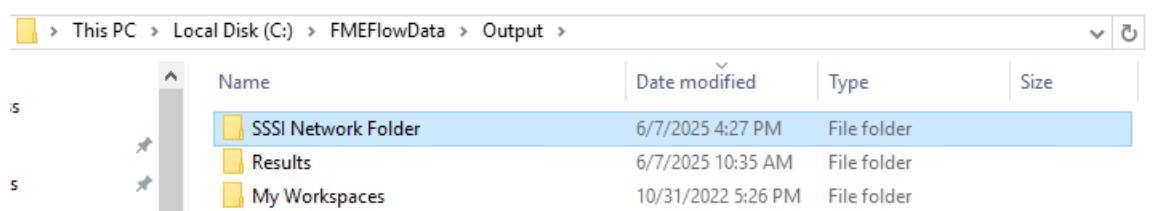
We want to write out output files to a location that can be accessed by Flow, perhaps this is a Network Folder in your organisation.

In this example we will create a folder on our C drive as if it is a Network folder.

FME Lizard

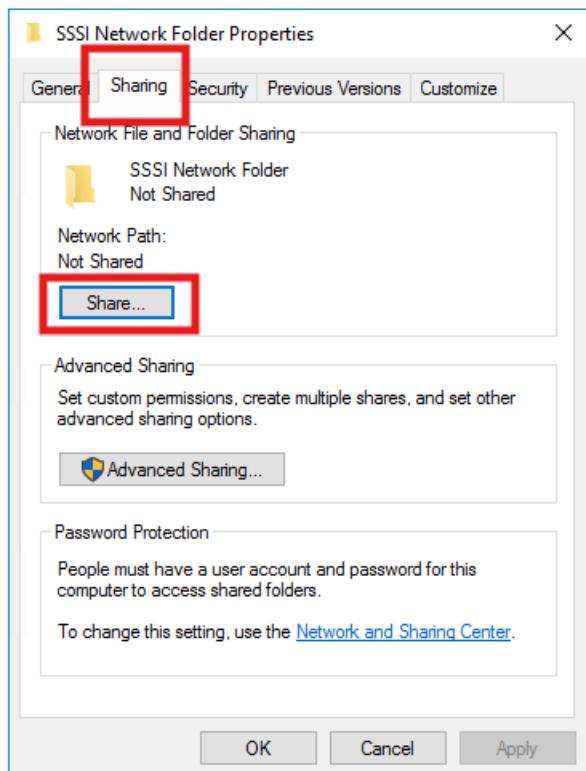
When creating a Resource folder for reading or writing data a UNC path is required (e.g. “\\servername\\foldername”) rather than a local path (e.g. “C:\\FMEFlowData....”)

In File Explorer navigate to C:\FMEFlowData\Output and create a new folder called “SSSI Network Folder”. Note it is very important to type this correctly, including the spaces, because our workspace writes out to this location.

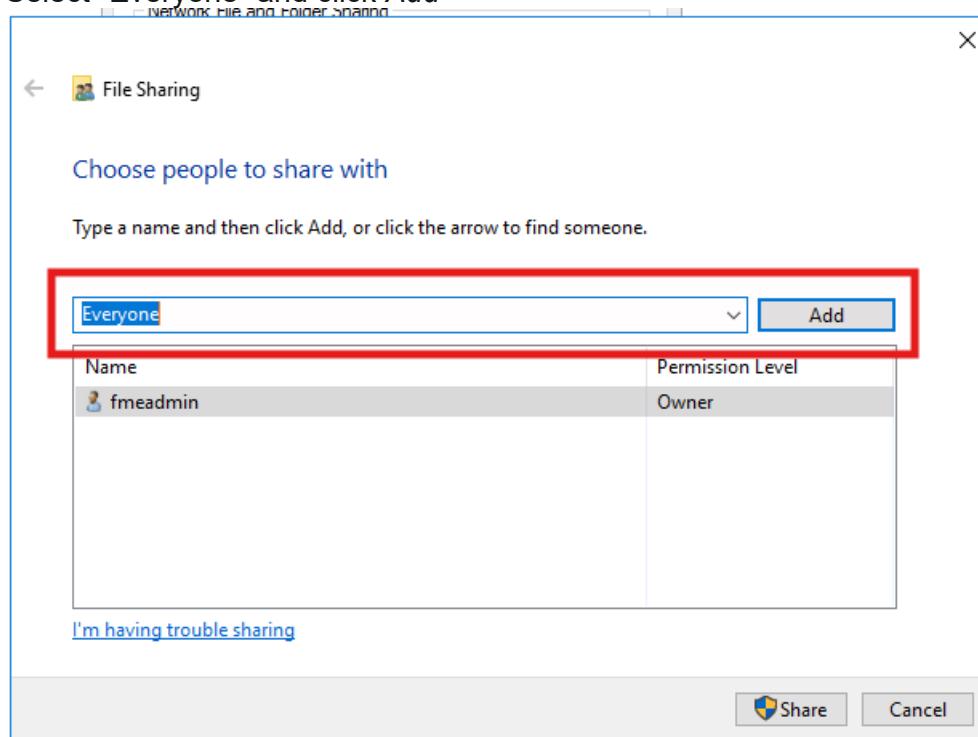


Right click on the folder, select *Properties*, then the *Sharing* tab.

Select *Share...*

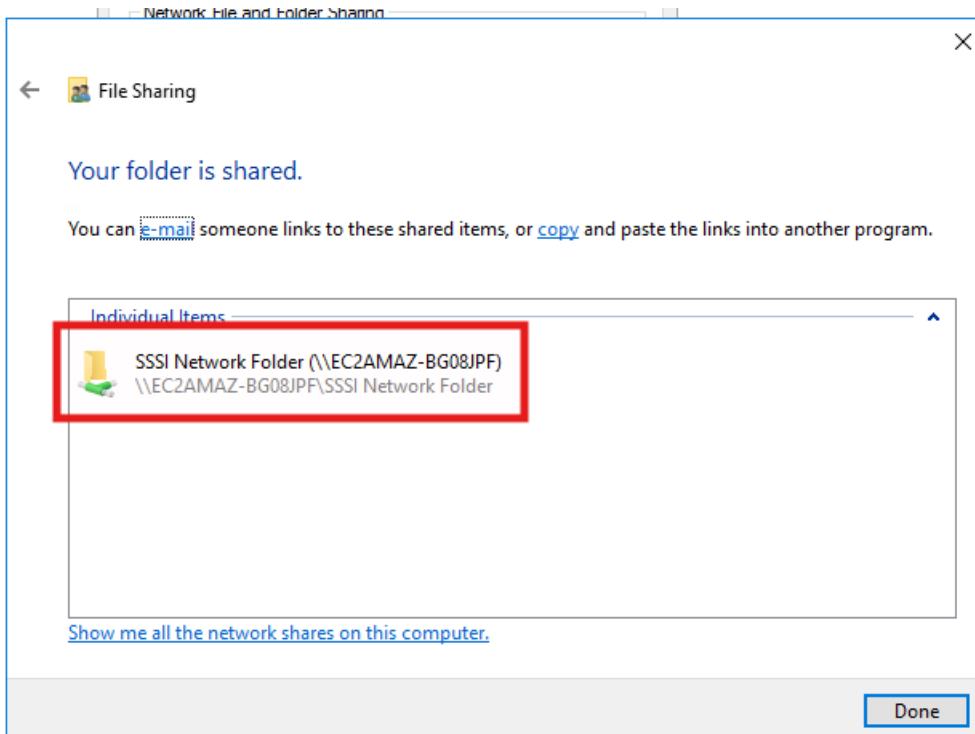


Select “Everyone” and click Add

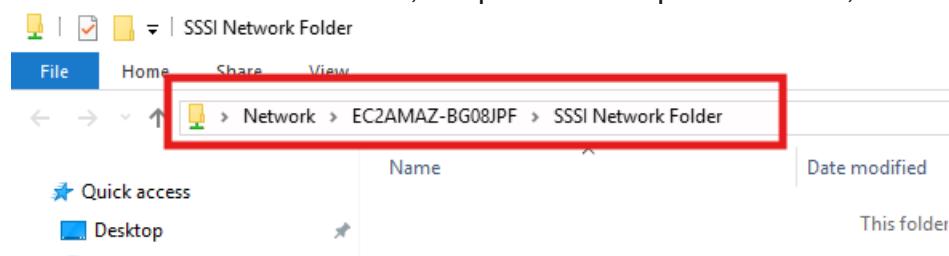


Then click Share at the bottom of the window.

This should give you a similar result to this:



Double click the folder details, to open a File Explorer window, and select the address



And copy the UNC path to your clipboard. In this example “\\EC2AMAZ-BG08JPF\\SSSI Network Folder”. Close the File Explorer window, and click *Done*, and then *Close*.

1.4.2 Create a Resource path to the Shared folder

In Flow, select *Resources* and then *Create*.

Populate the “Create New Resource Connection” with details as follows, under *Type* select *Network based resource* and paste the UNC path from your clipboard:



Resources ?

Resources > Create

Create New Resource Connection

Name*
SSSI_Output

Display Name*
SSSI Output Folder

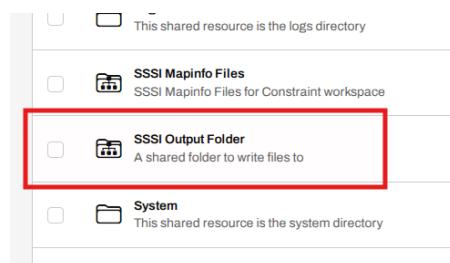
Description*
A shared folder to write files to

Type*
Network based resource

Directory of a network file based resource*
Path must start with either -// or \\
\\EC2AMAZ-BG08JPF\SSSI Network Folder

Cancel Create

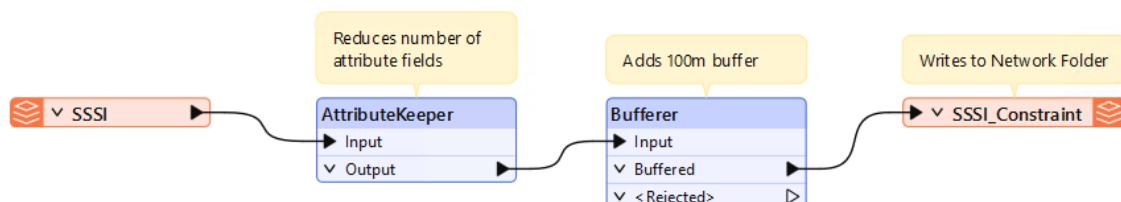
Hit *Create* to finish, and you should see this in your list of Resources.



1.4.3 Run Workspace

Open Form, and open the workspace:

C:\FMEFlowData\Workspaces\1.04-AuthoringBasics-ScheduleTask-Begin.fmw



Inspecting each transformer you can see we do some filtering of attribute fields and add



a 100m buffer to each polygon, then write out to the folder we have just created:
C:\FMEFlowData\Output\SSSI Network Folder

Run this workspace and ensure the outcome is “Successful” in the Translation Log.

1.4.4 Run workspace in Flow

Now we want to ensure the workspace runs in Flow. We already have the workbench published and it is located in the *Workspaces > Training* folder:

The screenshot shows the FME Workbench interface. On the left, there is a sidebar with the following menu items:

- Run Workspace
- Automations
- Streams
- Flow Apps
- Schedules
- Jobs
- Workspaces** (highlighted with a red box)
- Projects
- Connections & Parameters
- Resources

Below the sidebar, the main area is titled "Workspaces" and shows the path "Workspaces > Training". A red box highlights the "Training" folder. The table below lists workspaces:

	TYPE	NAME	FILES	LAST UPDATED
<input type="checkbox"/>		1.03-AuthoringBasics-PublishandUploadData-Begin.fmw	6 (6.46 MB)	2025-6-7 11:39:19
<input type="checkbox"/>		1.04-AuthoringBasics-ScheduleTask-Begin.fmw	0	Today at 18:42:21

At the bottom of the table, there are navigation buttons: <<, <, 1, >, >>.

Ensure “Job Submitter” is selected



Run Workspace

Workspace Actions ▾

Workspace

Repository*
Training

Workspace*
1.04-AuthoringBasics-ScheduleTask-Begin.fmw ⭐

Service*
Job Submitter

Email Results To:

Published Parameters [Reset Values](#)

Source MapInfo TAB File(s)*

Upload Files
Drop files here or [browse file system](#)
OR
[Browse Resources](#)

Selected Items (1) [+ Enter URL/Path](#) [X](#)

SSSI.tab
C:\FMEFlowData\Data\GB\SSSI\SSSI Original\

Destination MapInfo Folder*
"C:\FMEFlowData\Output\SSSI Network Folder" [...](#)

Advanced >

[Run](#)

Select *Run*, this will now write output to the “SSSI Network Folder” we have created.

Ensure the workspace completes successfully.



Run Workspace

Run Workspace > Job #144

☆ 1.04-AuthoringBasics-ScheduleTask-Begin.fmw

COMPLETED

Translation Successful

JOB ID 144

FEATURES WRITTEN 10

1.4.5 Create a Schedule to automatically run this workspace

Go to *Schedules > Create Schedule* and fill in the relevant sections.

Name: SSSI_Output

Description: For running the 1.04-AuthoringBasics-ScheduleTask-Begin workspace

Ensure *Enabled* is ticked

For this exercise we will have the *Schedule Type* to be “Basic” and the *Recurrence* set to Daily.

The screenshot shows the FME Flow application interface. On the left is a dark sidebar menu with the following items:

- Run Workspace
- Automations
- Streams
- Flow Apps
- Schedules** (selected, highlighted with a red box)
- Create Schedule
- Manage Schedules
- Jobs
- Workspaces
- Projects
- Connections & Parameters
- Resources
- ADMIN
- Analytics
- User Management

The main content area is titled "Create New Schedule". It contains the following fields:

- Schedule Details**
 - Name***: SSSI_Output
 - Description**: For running the 1.04-AuthoringBasics-ScheduleTask-Begin workspace
 - Tags**: Select or create new tags
 - Enabled**:
 - Schedule Type***: Basic
 - Recurrence***: Daily

In the *Start* section select today's date and a time 3 minutes ahead of the current time as shown on the computer clock in the bottom right hand side of your screen.



Date Range

Note: Schedules must be configured according to the time zone of the FME Flow that runs the task.

Current Server Time: Mon-09-Jun-2025 07:11:56 PM +0100

Start *	End
<input type="text"/>	<input type="text"/>

Does Not Expire

Skip if Job In Progress
Skip next scheduled job if previous scheduled job is not completed.

Workspace

Repository*

Training

Workspace*

1.04-AuthoringBasics-ScheduleTask-Begin.fmw

Select the Training *Repository* and in *Workspace* select the “1.04...” workspace we have just been using.

Hit *Create* at the foot of the page.

In Manage Schedules check that the *Status* is a green tick:

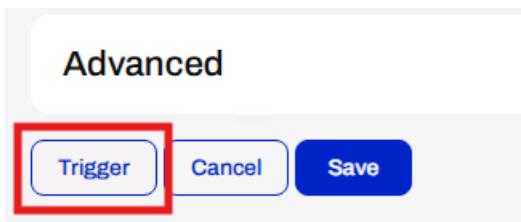
NAME	TAGS	START TIME	END TIME	RECURRENCE	WORKSPACE	STATUS	TOTAL RUNS	OWNER	SHARE
Backup_Configuration		2025-5-14 14:28:00	N/A	Once a minute	backupConfiguration.fmw		38	admin	
DashboardStatisticsGathering		2016-1-1 00:00:00	N/A	Once a day	JobHistoryStatisticsGathering.fmw		0	admin	
SSSI_Output		2025-6-9 19:36:00	N/A	Daily	1.04-AuthoringBasics-ScheduleTask-Begin.fmw		0	admin	

Sometimes this can take 5 to 10 seconds to appear. Wait and hit refresh on your browser until the tick appears.

This is controlled by the “Enabled” tick box when you set this schedule up. After 10 seconds if it isn’t enabled go back into the schedule and ensure that “Enabled” is ticked.

Note that in the adjacent column the number of *TOTAL RUNS* will be “0” until the first time the schedule runs. If you set the time to be 3 minutes in advance wait until this time arrives and hit the refresh button on the browser. This will turn to “1”.

If the time has passed and the schedule hasn’t run reopen the schedule, scroll to the foot of the page, and you will see a new option has appeared “*Trigger*”.



Select *Trigger*, a window pops up to say it has been triggered.

This particular workspace will run in less than a second, so if you now select *Jobs > Completed* you should now see that the workspace has run.

The screenshot shows the 'Jobs' section of the interface. On the left is a sidebar with 'Schedules', 'Jobs' (selected), 'Completed', 'Queued', 'Running', and 'Dashboards'. The main area displays a table with columns: ID, WORKSPACE, REPOSITORY, USERNAME, RAN BY, STATUS, LOGS, STARTED, FINISHED, SOURCE NAME, and SOURCE TYPE. One row is highlighted, showing ID 149, WORKSPACE '1.04-AuthoringBasics-ScheduleTask-Begin.fmw', RAN BY 'admin', STATUS 'FINISHED', and FINISHED 'Today at 19:43:55'.

1.4.6 Manage Schedule

Back in *Schedules > Manage Schedules* select the schedule we have just created, *SSSI_Output*, and select *Actions* in the top right corner.

The screenshot shows the 'Manage Schedules' page. On the left is a sidebar with 'Create Schedule', 'Manage Schedules' (highlighted with a red box), 'Jobs', 'Workspaces', 'Projects', 'Connections & Parameters', and 'Resources'. The main area displays a table of scheduled jobs. A checkbox next to 'SSSI_Output' is checked. In the top right, there are buttons for 'Create', 'Manage Tags', and 'Actions' (highlighted with a red box). Below the table, a message says 'Showing 1 to 3 of 3 entries 100'.

The screenshot shows the 'Actions' dropdown menu for the 'SSSI_Output' schedule. It includes options: View Triggered Jobs, Duplicate, Remove (highlighted with a red box), Enable, Disable, Trigger, and Reset Statistics. To the left is a 'STATUS' column with three entries, each with a minus sign icon.

This enables us to perform several tasks. If we want to delete it we can select *Remove*, but in this case let's simply select *Disable* to turn off the schedule. Note the *STATUS* now shows it is stopped.



Schedules								Actions		
	Name	Tags	Start Time	End Time	Recurrence	Workspace	Status	Total Runs	Owner	Share
<input type="checkbox"/>	Backup_Configuration		2025-5-14 14:28:00	N/A	Once a minute	backupConfiguration.fmw		39	admin	
<input type="checkbox"/>	DashboardStatisticsGathering		2025-6-9 19:55:00	N/A	Once a day	JobHistoryStatisticsGathering.fmw		0	admin	
<input type="checkbox"/>	SSSI_Output		2025-6-9 19:59:00	N/A	Daily	1.04-AuthoringBasics-ScheduleTask-Begin.fmw		0	admin	

Congratulations

By Completing this exercise you have learned how to:

- Create a Network Based Resource folder that Flow can read and write to.
- Create and run a Schedule.
- Monitor the Jobs Completed list to ensure they have successfully.
- Manage the schedules we have created



2 Automations and Flow Apps

2.1 Automation Workflow

Demonstrates	Creating a new Automation Set up a Directory Watch to poll an FME Flow Resource Test a Directory Watch trigger by reading a log
Overall Goal	Create an automation workflow to watch a directory and generate a trigger when new files are detected
Data	Building Footprints updates (ESRI Shapefile)
Start Workspace	n/a
End Workspace	n/a

As a technical analyst in the GIS department, you want to start experimenting with Automations in FME Flow. The Directory Watch protocol seems like a good place to start, and you were already thinking about a shared folder where users place Shapefile datasets for adding to, or updating, the corporate database.

A Directory Watch publisher monitors activity on a specified directory or an FME Flow Resources folder and publishes messages about that activity (which can be used to in actions, such as workspaces). Activity can include adding, changing, and deleting files and folders.

For this exercise we could monitor a directory on a network, but instead we'll create an FME Flow Resources folder, into which we'll later upload the building footing update files for processing.

2.1.1 Create FME Flow Resources Folder

Access the FME Flow web interface.

Server URL: <http://localhost>
Username: *admin*
Password: *FMETraining1234*

Then navigate to the *Resources* section.

We are now going to use a Network Resource Folder called *Target Folder*.



The screenshot shows the FME Flow interface with the 'Resources' section selected. A list of shared folders is displayed:

Folder	Description	Owner	Action
SSSI Output Folder	A shared folder to write files to	admin	
System	This shared resource is the system directory	admin	
Target Folder	A shared folder to write files to	admin	
Temp	This shared resource is the temp directory	admin	

Showing 1 to 10 of 10 entries | 100 |

FME Lizard

This exercise utilizes the FME Flow Target Folders, which is a “Shared” folder on the C: drive of this machine, and is set up using a UNC path, but you could also watch a Directory in FME Flow Resources.

There are protocols specifically for watching resources in Amazon S3 Buckets, Dropbox, and FTP. Using the same concepts described here, you could use one of these protocols instead of Directory Watch.

2.1.2 Create Automation

Now to create the Automation that will watch the BuildingUpdates Directory for incoming files. Navigate to *Automations: Create Automation* on the side menu bar.

The screenshot shows the FME Flow interface with the 'Automations' section selected. A 'Get Started' dialog is open, featuring a 'Create' button highlighted with a red box.

Get Started

Create Learn

Welcome to Automations

Create and link components

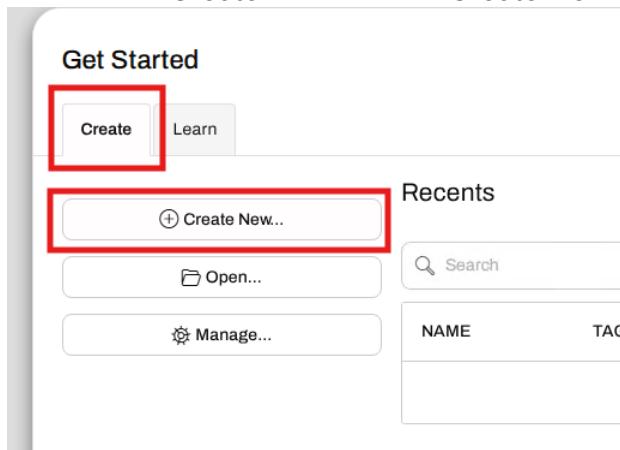
Configure components and set parameters

Click Start to run Automation

Don't Show on Startup Close

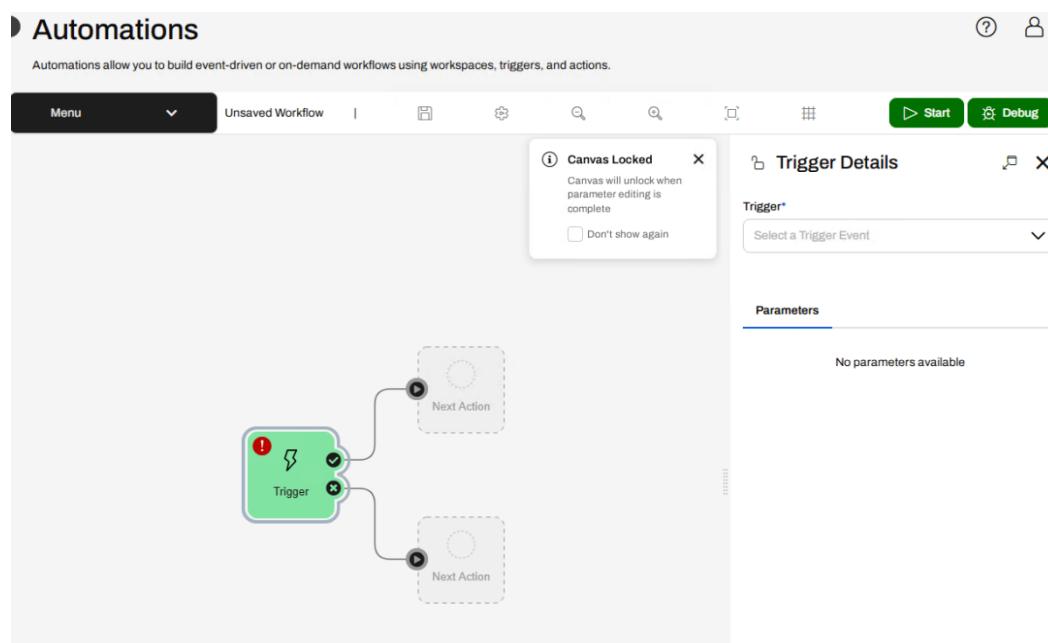


If the *Get Started* dialog appears when you go to the Automations page for the first time, click on the *Create* tab and click *Create New* to start a new Automation.



By default, Automations starts in guided mode. This means that there is already a *Trigger* node on the canvas but it will still need to be configured.

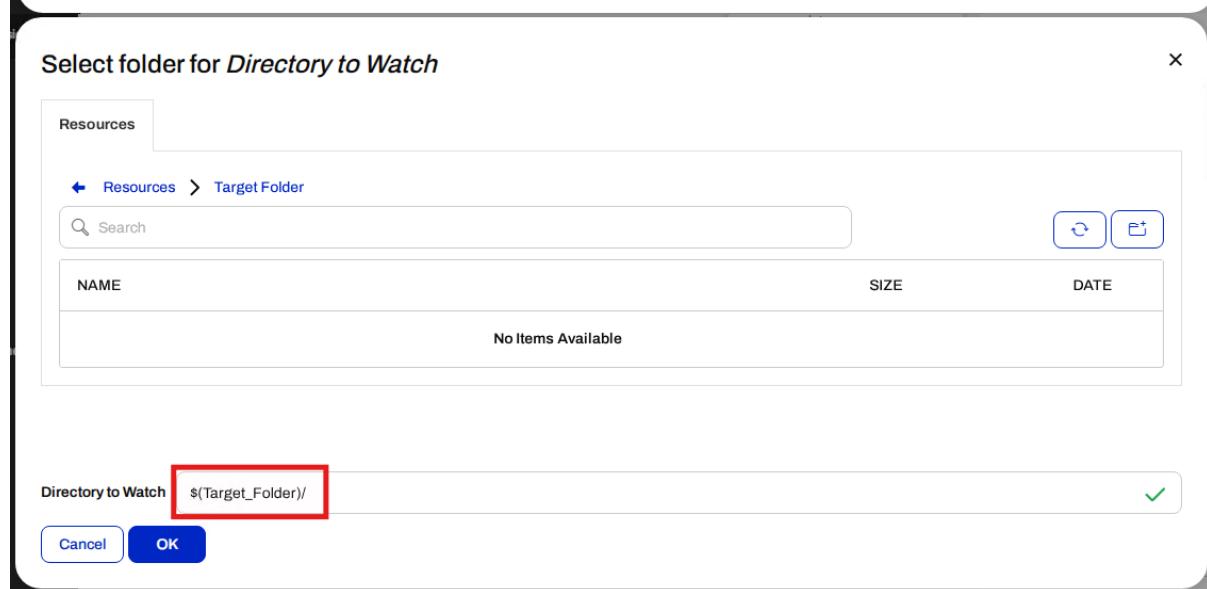
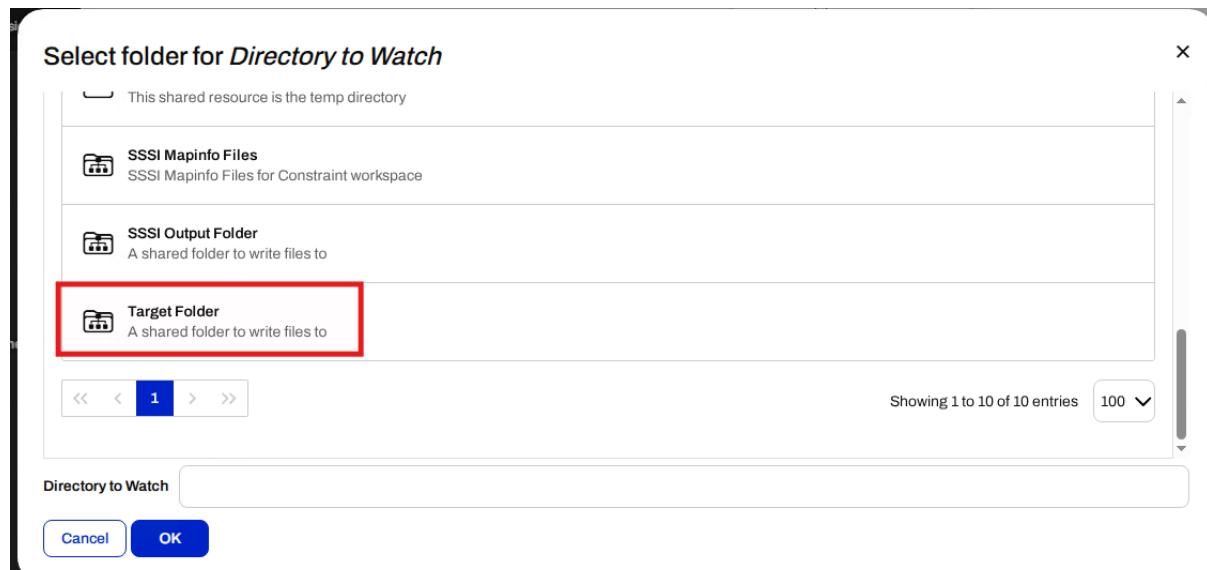
Start by double-clicking the *Trigger* and a parameter box will appear on the right hand side of the canvas.



2.1.3 Configuring the Directory Watch

Select *Resource or Network Directory* option from the drop-down list as the Trigger for this Automation.

Directory to Watch: to watch our Network Based Resource directory, click the ellipsis (...), and then browse to and select the newly created *Target Folder* folder.



Click OK



Menu ▾ Unsaved Workflow | 🔍 ⚙️ 🔎

Canvas Locked X
Canvas will unlock when parameter editing is complete
 Don't show again

Resource or Network Directory Details

Trigger* Resource or Network Directory (updated) ▾

Parameters Output Attributes

Directory to Watch* \$(Target_Folder)/

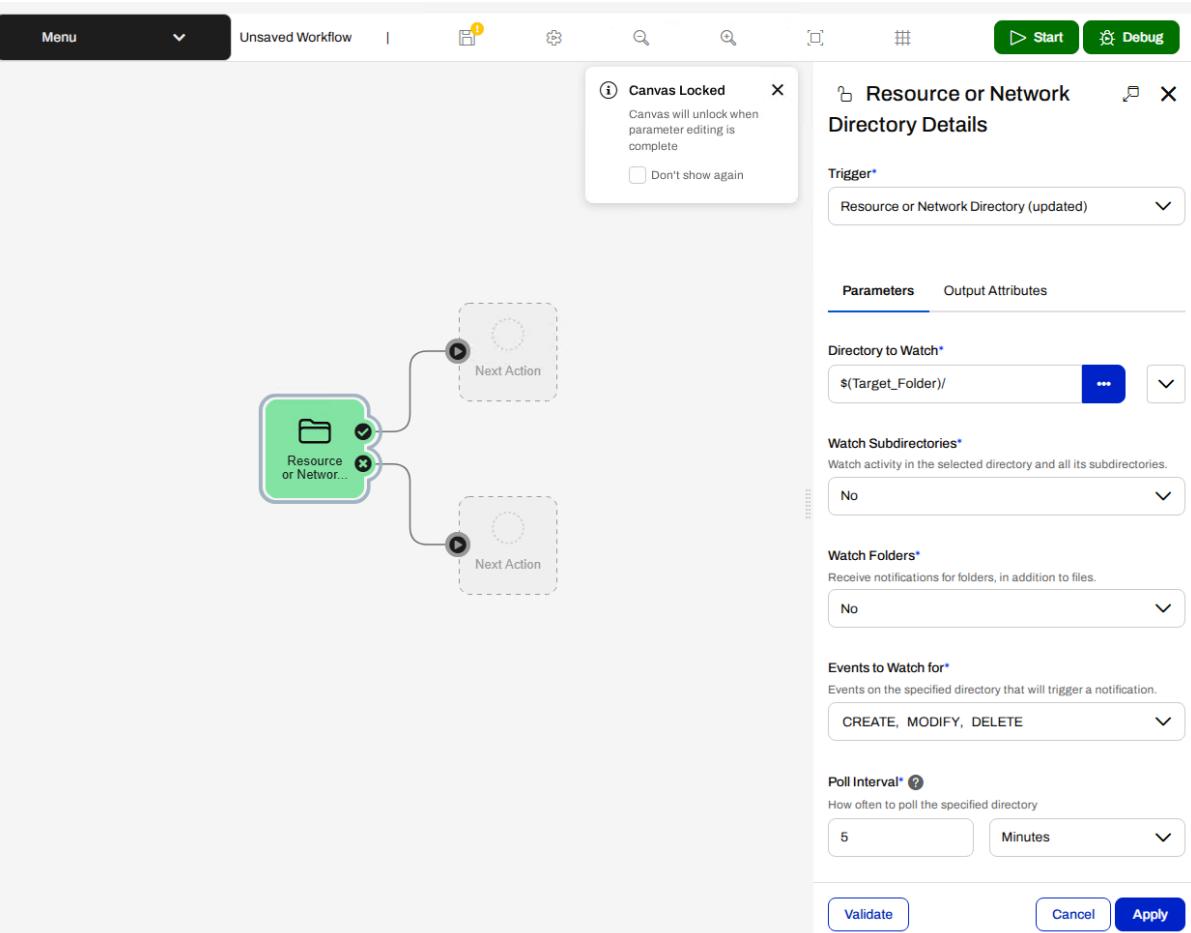
Watch Subdirectories* Watch activity in the selected directory and all its subdirectories.
No

Watch Folders* Receive notifications for folders, in addition to files.
No

Events to Watch for* Events on the specified directory that will trigger a notification.
CREATE, MODIFY, DELETE ▾

Poll Interval* How often to poll the specified directory
5 Minutes

Validate Cancel Apply



FME Lizard

Permissions: The user account that runs the FME Flow Core service must have Read/Write (Windows) or Read (Linux) permission on any directories that are not managed as FME Flow Resources. This is a task for your FME Flow Administrator.

Watch Subdirectories: for this exercise, specify **No**

Watch Folders: if Yes, the publisher monitors activities on both files and folders. If No, the publisher monitors activities on files only. **For this exercise, specify No.** As we are only interested in monitoring for files in the *Target Folder* folder directly.

Events to Watch for: by default, all actions on the specified directory are monitored, including adding (CREATE), changing (MODIFY), and deleting (DELETE) files (and folders, if applicable). To monitor only one or two of these actions, click the down arrow and untick the function you do not require. To add an action after removing it, click inside the dropdown and select it. (Note - events trigger based on changes in file date. If a file is overwritten, a MODIFY event is triggered.)

In this example we are only interested in monitoring for new files arriving, not old ones being changed or removed, and looking to add to the corporate holding. So, *remove MODIFY and DELETE*.



Poll Interval: How often to poll the specified Directory to Watch for activity. For this exercise, specify **30 Seconds**

The screenshot shows the Automate interface with the following components:

- Menu** and **Start** buttons at the top.
- An **Unused Workflow** title bar.
- A **Canvas Locked** notification box: "Canvas will unlock when parameter editing is complete" with a checkbox for "Don't show again".
- A **Resource or Network** trigger step, highlighted with a green rounded rectangle.
- Two **Next Action** steps, each represented by a dashed rounded rectangle with a play button icon.
- Trigger*** dropdown set to "Resource or Network Directory (updated)".
- Parameters** tab selected under "Directory to Watch*":
 - Target Folder** input field.
 - Watch Subdirectories***: "No" dropdown.
 - Watch Folders***: "No" dropdown.
 - Events to Watch for***: "CREATE" dropdown.
 - Poll Interval***: "30" dropdown, "Seconds" dropdown.
- Validate**, **Cancel**, and **Apply** buttons at the bottom right.

Click on the **Validate** button to ensure the trigger was set up correctly.
Now click **Apply** to save these parameters.

2.1.4 Save the Automation

Save the Automation by selecting **Menu > Save As**
Name the Automation as *Incoming Building Footprints*



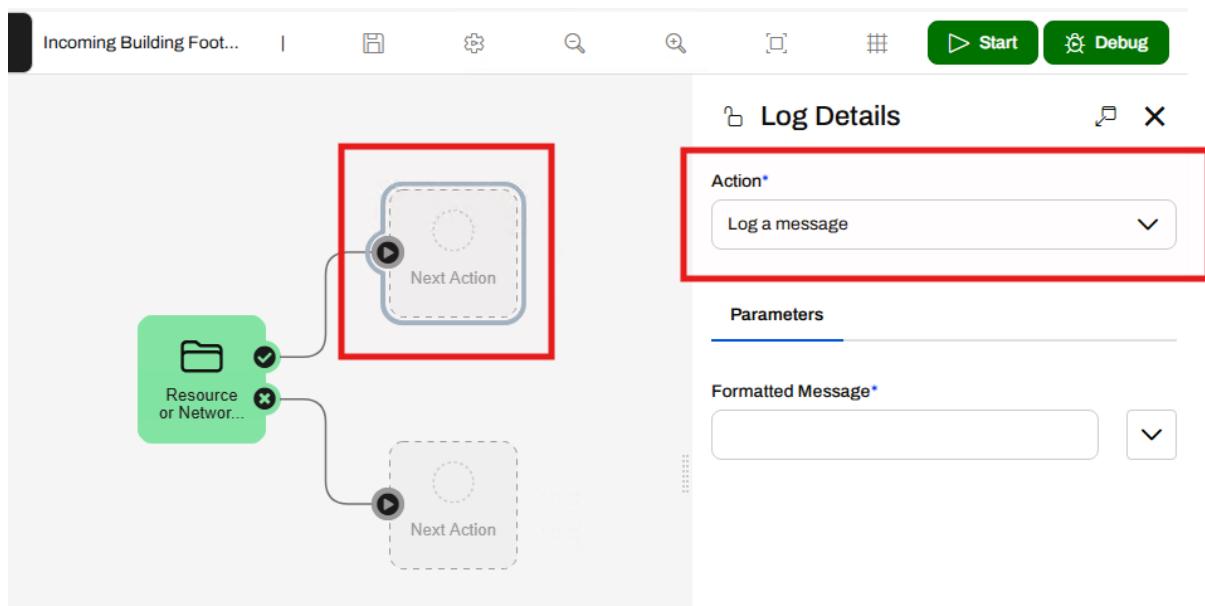
The screenshot shows the FME Flow application interface. On the left is a sidebar with various workspace-related options like Run Workspace, Automations, Streams, Flow Apps, Schedules, and Jobs. The Automations section is currently selected. A dropdown menu is open from the top right, with the 'Save As' option highlighted by a red box. Below this, another red box highlights the 'Save' button in a 'Save As for Untitled' dialog box. The dialog box contains fields for 'Name*' (set to 'Incoming Building Footprints') and 'Tags' (set to 'BuildingFootprints'), both also highlighted with red boxes.

Click Save

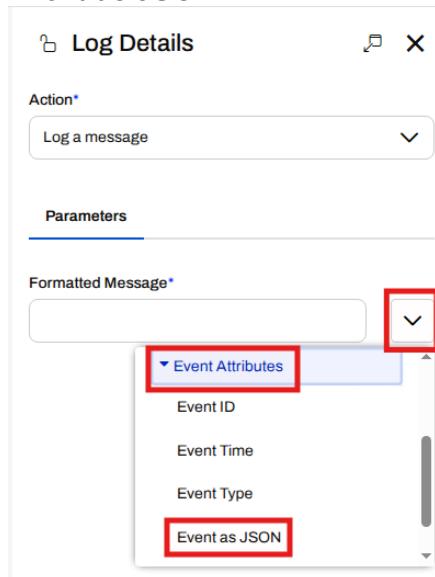
The Directory Watch will parse a JSON message, which can be used by actions, such as running a workspace. Later we will process the uploaded building footprint files. But first we want to check that the Directory Watch trigger is working as expected. To do this we'll send the incoming messages to a log file.

2.1.5 Log Message

Within the automation select the *Next Action* node and set the Action to *Log a message*.



Click on the drop-down arrow for the *Formatted Message* parameter and select *Event > Event as JSON*

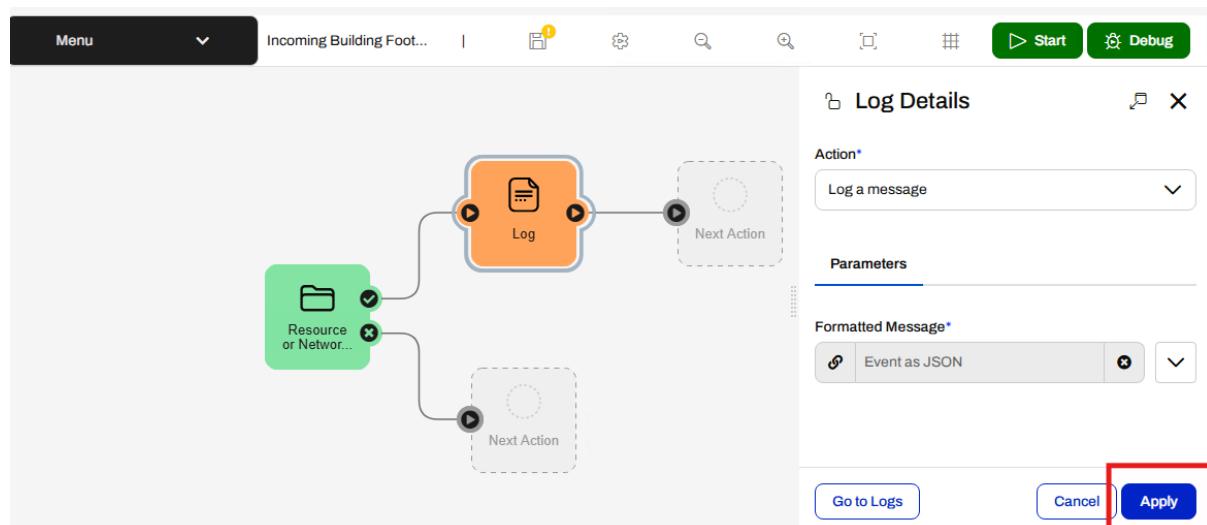


Because in this instance we want to record the entire incoming message from the Directory Watch protocol.

FME Lizard

A trigger stores the incoming message event details as JSON however for the standard protocols FME is able to flatten the JSON down into its separate elements so the workspace or other subsequent action does not need to be able to handle this.

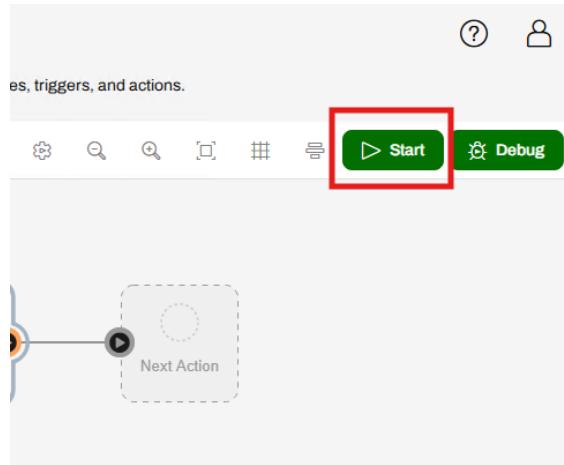
If your trigger contains information from a webhook that is buried in the JSON you can parse the entire message into a parameter to flatten using JSON transformers in FME Workbench.



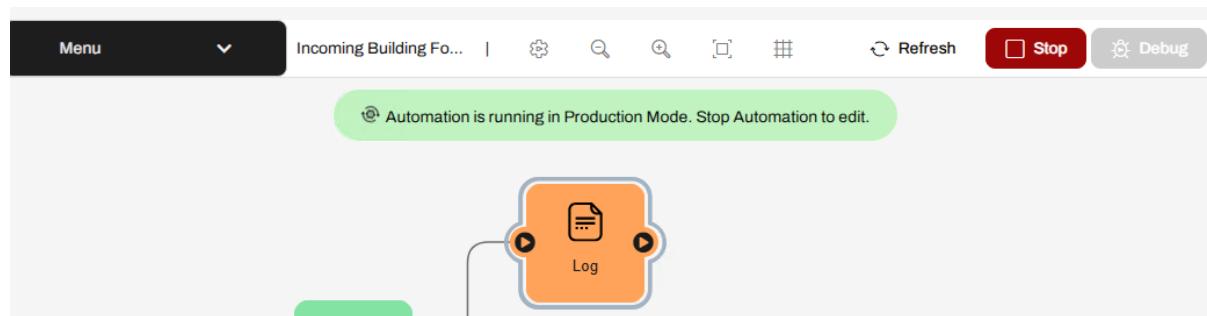
Click **Apply** to save this Log configuration. Then click the automation **Save** button.

2.1.6 Start Automation

In order for FME Flow to start watching the directory for incoming files, the Automation must be enabled. Select the *Start Automation* button in the top right corner.



The button will turn red and a green ribbon will appear across the canvas indicating that your Automation is currently running. This means FME Flow is now checking that directory every 30 seconds for updates.



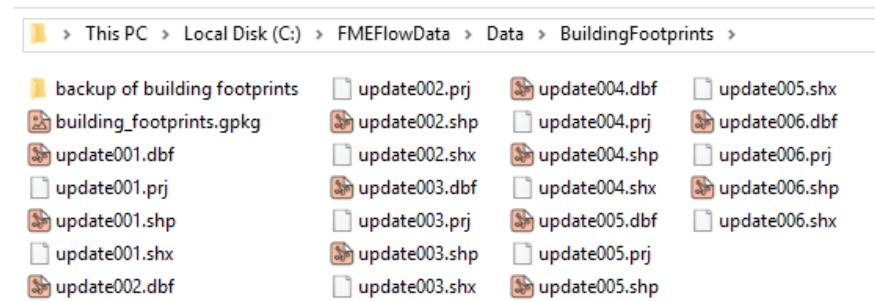


FME Lizard

As your Automation grows you may wish to turn off Guided mode, this can be done by selecting Hide Guides from the Menu drop-down list.

2.1.7 Test Automation

Now let's test the Automation. Locate the update Shapefile datasets in C:\FMEFlowData\Data\BuildingFootprints



Select a set of files (.dbf, .prj, .shp, .shx) for update002 and upload these files into the newly created Resources folder. There are two ways to do this.

- You can use the file system, by copying the files to C:\FMEFlowData\Target
- or use the FME Flow web interface: go to *Resources > Target Folder* Then click the *Upload* button and select *Files*.

Select update002:



This PC > Local Disk (C:) > FMEFlowData > Data > BuildingFootprints >

Name	Date modified	Type	Size
2D Folder	6/11/2025 10:00 AM	File folder	
backup of building footprints	10/27/2022 5:03 PM	File folder	
BuildingFootprints.gdb	6/11/2025 11:27 AM	File folder	
building_footprints.gpkg	6/11/2025 11:00 AM	GPKG File	1,312 KB
update001.dbf	4/4/2022 10:58 AM	DBF File	34 KB
update001.prj	4/4/2022 10:58 AM	PRJ File	1 KB
update001.shp	4/4/2022 10:58 AM	SHP File	30 KB
update001.shx	4/4/2022 10:58 AM	SHX File	1 KB
update002.dbf	4/4/2022 10:58 AM	DBF File	8 KB
update002.prj	4/4/2022 10:58 AM	PRJ File	1 KB
update002.shp	4/4/2022 10:58 AM	SHP File	9 KB
update002.shx	4/4/2022 10:58 AM	SHX File	1 KB
update003.dbf	4/4/2022 10:58 AM	DBF File	9 KB
update003.prj	4/4/2022 10:58 AM	PRJ File	1 KB
update003.shp	4/4/2022 10:58 AM	SHP File	9 KB
update003.shx	4/4/2022 10:58 AM	SHX File	1 KB
update004.dbf	4/4/2022 10:58 AM	DBF File	24 KB

Once the update files are loaded into the *Target Folder* Resource folder, we'll check the log to see if the Directory Watch is working.

Back in the Automation page, from the Menu select *View Log File*

The screenshot shows the FME Flow interface. On the left, there's a sidebar with various options like Run Workspace, Automations, Streams, Flow Apps, Schedules, Jobs, Workspaces, Projects, Connections & Parameters, Resources, Admin, and Analytics. The 'Automations' section is currently selected. In the main area, there's a title 'Automations' with a sub-instruction: 'Automations allow you to build event-driven or on-demand workflows using workspaces, triggers, and actions.' Below this, there's a button labeled 'Menu' with a dropdown arrow. The dropdown menu is open, showing several options: 'New', 'Open', 'Save As', 'Rename', 'Share', 'View Triggered Jobs', 'View Log Files' (which is highlighted with a red box), and 'Download Logs'. To the right of the dropdown, there's a status message: 'Automation is running in Production Mode. Stop Automation to edit.' At the bottom right of the main area, there's a small diagram of a workflow: a green 'Resource or Network...' box has an arrow pointing to an orange 'Log' box.



Resources

Resources store important files for running FMEFlow workspaces, including data files, custom formats, transformers, coordinate systems, log files, and backups.

Resources > Logs > automations > current

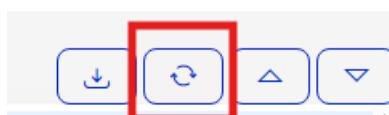
<input type="checkbox"/>	NAME	SIZE	DATE
<input type="checkbox"/>	action_dropbox.log		2025-5-13 16:31:57
<input type="checkbox"/>	action_email.log		2025-5-13 16:31:58
<input type="checkbox"/>	action_eventgrid.log		2025-5-13 16:31:59
<input type="checkbox"/>	action_fmelogaction.log	3.89 KB	Today at 15:09:09
<input type="checkbox"/>	action_fmesubscribers.log		2025-5-13 16:31:44
<input type="checkbox"/>	action_ftp.log		2025-5-13 16:31:59

Select the *action_fmelogaction.log*

For each Shapefile dataset uploaded (ie 4 files: dbf; prj; shp; and shx) you will see four CREATE messages from the Logger showing the individual file paths.

If the CREATE messages are yet present in the log, use the Refresh button.

Remember, the Poll interval is set up to check the folder only once per 30 seconds - so if the Log file doesn't immediately appear, don't panic! Be patient and it will appear shortly.



In the example we have uploaded 4 files (1 shapefile) therefore there are 4 CREATE messages.

Now we know how the Directory Watch Trigger works!
We will see in a subsequent exercise how to process this information.

Congratulations

By completing this exercise you have learned how to:

- Create a new Automation
- Use Directory Watch to poll a Network based resource
- Test a Directory Watch trigger by reading a log



2.2 Processing Directory Watch

Demonstrates	Processing data loaded into a Watched Directory Identify JSON elements from an incoming Trigger message Configure the Automation to run a Workspace in response to a Trigger using part of the message Passing an element of the incoming JSON through a Filter
Overall Goal	Modify the Directory Watch automation to process the uploaded building footprint update files
Data	Building Footprints updates (ESRI Shapefile) BuildingFootprints.gdb (ESRI Geodatabase)
Start Workspace	none
End Workspace	C:\FMEFlowData\Workspaces\Complete\2.02-Automations-DirectoryWatch-Complete.fmw

As a technical analyst in the GIS department, you want to start experimenting with Automations in FME Flow. So far you have successfully setup a Directory Watch to generate a trigger when users upload building footprint update datasets (Shapefiles). We will modify the automation to now process the uploaded building footprint files and update the corporate Building Footprint holding (an ESRI Geodatabase).

2.2.1 Examine Corporate holding of Building Footprints

Use the Data Inspector to examine the Building Footprints corporate holding.

Reader Format	Esri Geodatabase (File Geodb Open API)
Reader Dataset	C:\FMEFlowData\Data\BuildingFootprints\BuildingFootprints.gdb



The screenshot shows the FME Workbench interface. At the top is a toolbar with various icons for file operations (Open, Add, Save As, Refresh, Stop, 2D, 3D, Table, Slideshow, Measure, Orbit, Select, Pan, Zoom In, Zoom Out, Zoom Selected) and a display control panel. Below the toolbar is a 'Display Control' window showing a tree view of layers: 'View 1 (3103)' expanded to show 'BuildingFootprints (3103)' and its sub-item 'BuildingFootprints (3103)', and 'Default Light [STADIA]' expanded to show 'alidade_smooth'. To the right is a map view of Vancouver, specifically the Lower Mainland area, with buildings outlined in green. Labels on the map include 'Vancouver Harbour', 'Flight Centre', 'ALBERNI STREET', 'Lower Davie', 'West End', 'PACIFIC BLVD', 'Habib Island', 'MAIN STREET', and 'DOVA ST'. Below the map is a copyright notice: '© Stadia Maps © OpenMapTiles © OpenStreetMap contributors'. At the bottom is a 'Table View' window titled 'BuildingFootprints - BuildingFootprints' containing a table with three rows of data:

	id	orient8	bldgid	topelev_m	med_slope	baseelev_m	hgt_agl	rooftype	area_m
1	2829	-44.55942611158	145505	48.78	0	31.32	17.45	Pitched	
2	2976	-44.11518734422	150996	94.48	15	16.67	77.81	Flat	
3	2451	-44.62090236382	137128	20.47	25	16.03	4.44	Pitched	

Now it's time to create a new workspace to fit in with your overall goal: to provide real-time updates to your corporate holding.

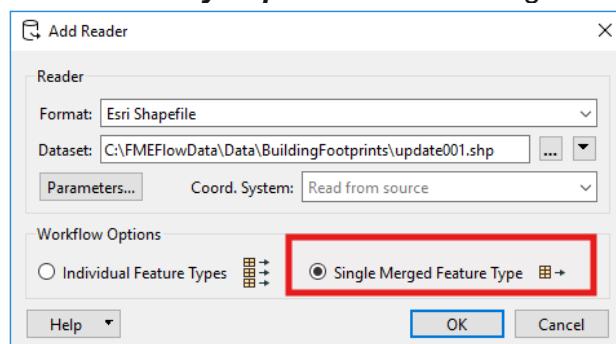
2.2.2 Create Workspace

Launch the FME Workbench, if it isn't open already. Within the Get Started section of the Workbench, click on *Blank Workspace*.

Add a Reader:

Reader Format	Esri Shapefile
Reader Dataset	C:\FMEFlowData\Data\BuildingFootprints\update001.shp
Workflow Option	Single Merged Feature Type

Note: it is **really important** to use "Single Merged Feature Type"!





We will write the results into the existing geodatabase, appending to it.
Add a Writer:

Writer Format	Esri Geodatabase (File Geodb Open API)
Writer Dataset	C:\FMEFlowData\Data\BuildingFootprints\BuildingFootprints.gdb
Table Definition	Import from Dataset....

For Import Writer Feature Types definition, navigate to and select geodatabase
C:\FMEFlowData\Data\BuildingFootprints\BuildingFootprints.gdb

The image shows two dialog boxes from FME Workbench.

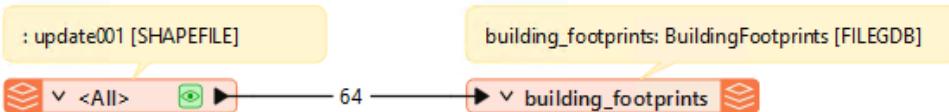
Add Writer Dialog:

- Format: Esri Geodatabase (File Geodb Open API)
- Dataset: C:\FMEFlowData\Data\BuildingFootprints\BuildingFootprints.gdb
- Parameters... (button)
- Coord. System: Same as source (dropdown)
- Add Feature Type(s) (button)
- Feature Class or Table Definition: Automatic... (dropdown)
- Help (button)
- OK (button)
- Cancel (button)

Feature Type Dialog:

- General Tab:**
 - Feature Class or Table Name: building_footprints (highlighted with a red box)
 - Writer: BuildingFootprints [FILEGDB] (dropdown)
 - Geometry: geodb_polygon (highlighted with a red box)
 - Dynamic Schema Definition (checkbox)
- Table Tab:**
 - General:** Feature Operation: Insert (highlighted with a red box), Table Handling: Create If Needed (highlighted with a red box)
 - Update Spatial Column(s):
 - Row Selection (button)
 - Table Creation (button)
- Help (button)
- Apply to... (button)
- OK (button)
- Cancel (button)

Your workspace should look similar to this:



Save the workspace as:

C:\FMEFlowData\Output\My Workspaces\building updates.fmw

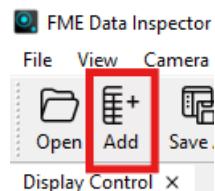
Let's now test the workspace. Run the workspace within FME Form Workbench.

The workspace should successfully run to completion. The existing geodatabase should have been updated with the features from update001 Shapefile.

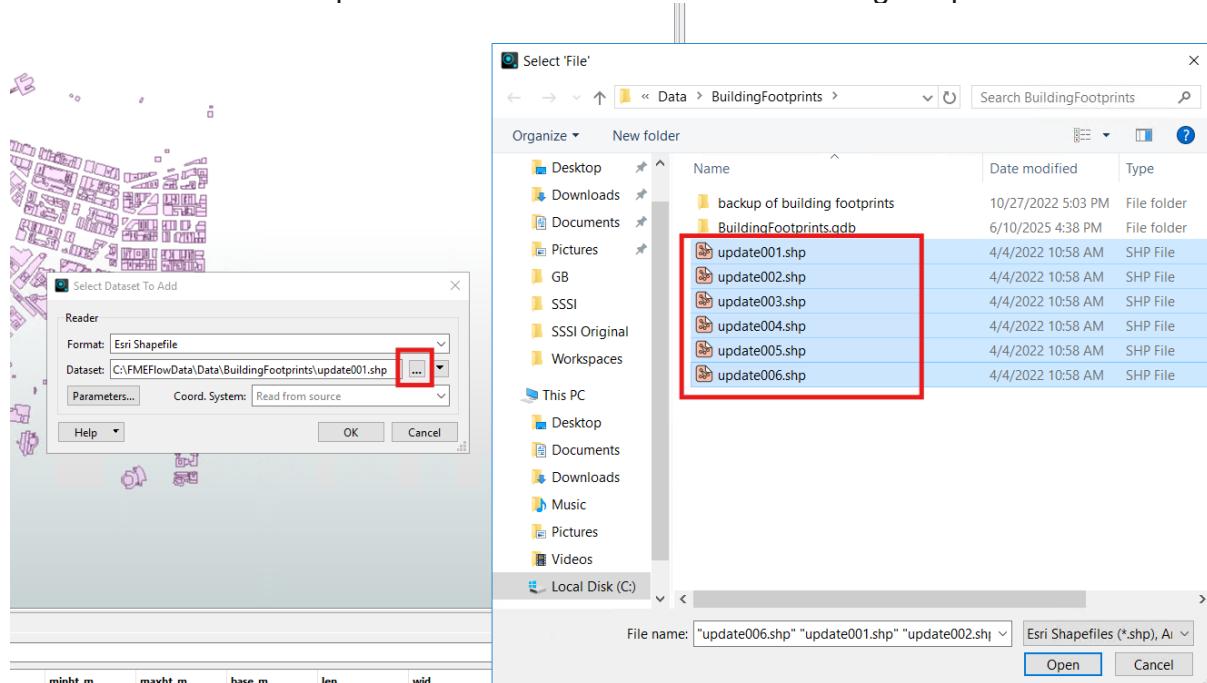
Use the Data Inspector to examine

C:\FMEFlowData\Data\BuildingFootprints\building_footprints.gdb

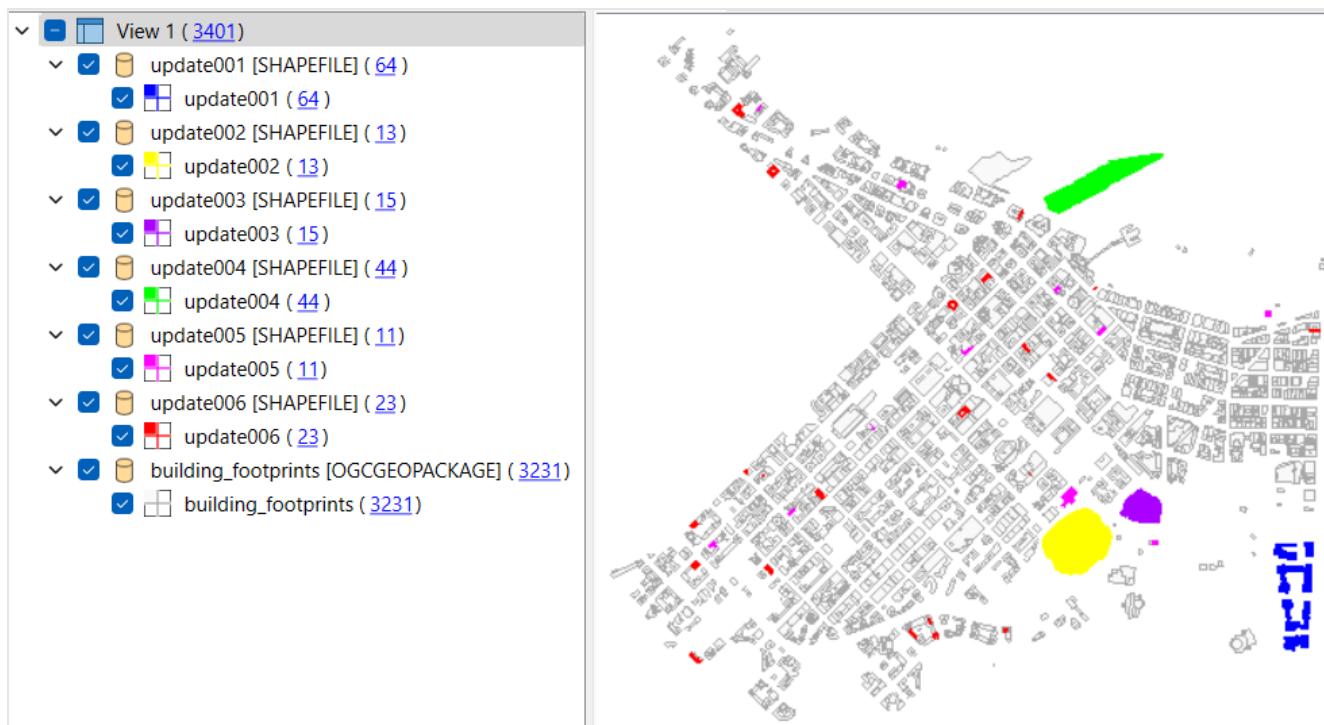
Then select Add



And select all of the shapefiles in C:\FMEFlowData\Data\BuildingFootprints



The below shows the areas of change for each update file:



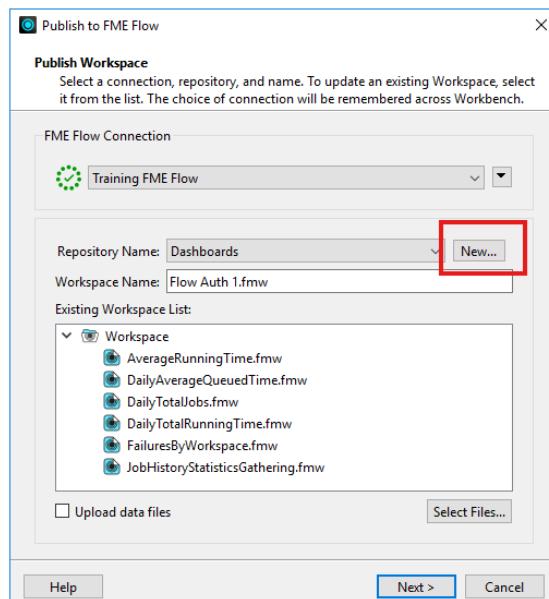
You can see how the area of Shapefile Update001 has now been added to the geodatabase, and the other shapefiles are yet to be added.

2.2.3 Publish workspace and Source Data to FME Flow

In FME Form Workbench publish the workspace to FME Flow. The connection parameters are as follows:

Server URL: `http://localhost`
Username: `admin`
Password: `FMETraining1234`

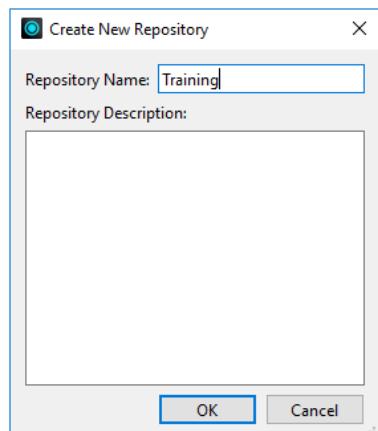
Select the *Training* repository. If it is not present then create it: click *New* to create a new Repository.





The next dialog prompts you to choose a repository in which to store the workspace.
For this exercise, we'll create a new repository.

Next to Repository Name, click the button 'New'
Create a new repository called 'Training'



Click OK

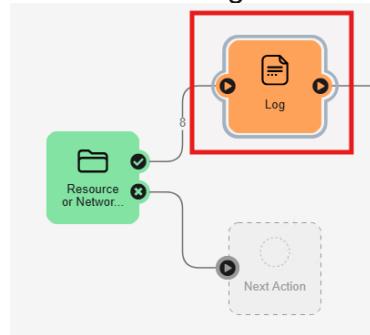
Select only *Job Submitter* as the registered Service.

2.2.4 Edit Automation to use Workspace

Within FME Flow web interface navigate to the *Automations > Manage Automations*
Then select our *Incoming Building Footprints* automation for editing.

Before you can make any changes, stop the Automation using the *Stop* button in the top right corner.
The Log action was just temporary – to enable us to test the Directory Watch. We'll now change the Action to Workspace.

Instead of adding a new action node, simply double-click the *Log* node...



...and change the Action parameter value to *Run a workspace*.



building updates Details

Start Debug

Details Job Statistics

Action* Run a Workspace

Repository* Training

Workspace* building updates.fmw

Select the *Training* Repository and workspace uploaded in the previous step.

IMPORTANT! Ensure the *Feature Types to Read* box is empty.

Source Esri Shapefile(s)*

File Path

Feature Types to Read

The parameters will currently include one for the Source Esri Shapefile and the output database.

Parameters Output Attributes Advanced Retry

Reset

Source Esri Shapefile(s)* "C:\FMEFlowData\Data\BuildingFootprints\update001.shp"

File Geodatabase* "C:\FMEFlowData\Data\BuildingFootprints\BuildingFootprints.gdb"

We don't want to keep writing update001.shp to the gdb, so the source dataset needs to pick up the file path from the Directory Watch trigger. From the *Source Esri Shapefile(s)* drop-down menu, select the *Directory* folder then *File Path*.



(This drop-down list is essentially the JSON flattened into its separate components.)

The screenshot shows the 'Event Attributes' section of the FME Workbench configuration interface. A red box highlights the 'Directory' section under 'Event Attributes'. Within the 'Directory' section, the 'File Path' option is also highlighted with a red box.

Click *Apply*

2.2.5 Add Filter to Automation

The Esri Shapefile Reader will only accept .shp file extension types, however the Directory Watch will pass a message to the workspace for every file uploaded. To prevent the Automation triggering update workspaces that will fail, add a Filter action so that only the file path containing .shp is parsed to the Run Workspace action.

Select the plus icon at the bottom of the canvas:



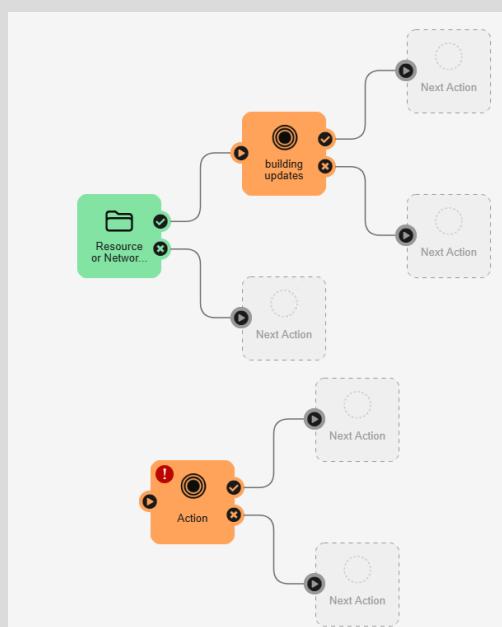
Then select & drag an Action (orange) onto the canvas:



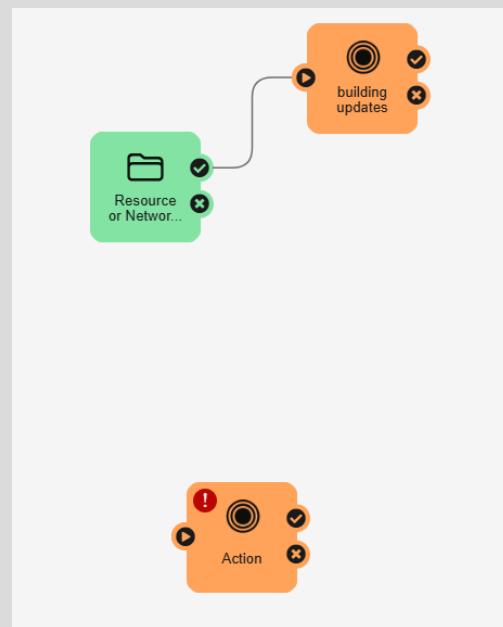
FME Lizard

TIP: if you haven't already, try switching off the Hide Guides from the Menu drop-down list.

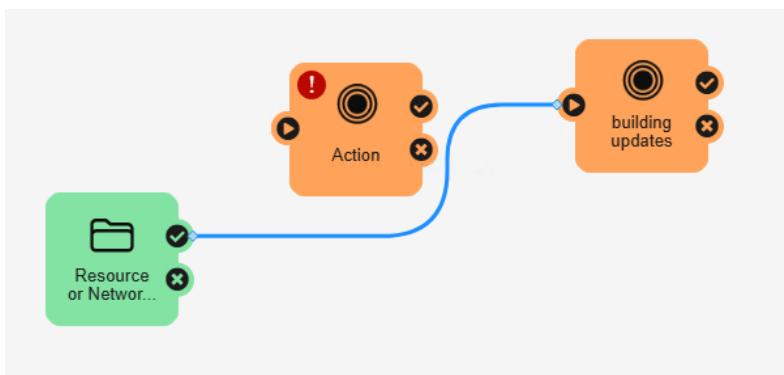
Guides On:



Guides Off:

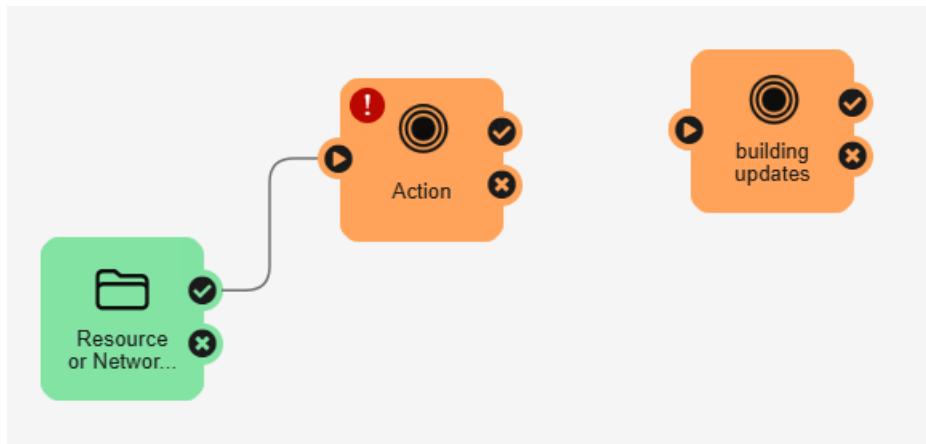


Position the new Action between the Directory Watch and the Workspace action:





Select the connector line, then drag the node from the *building updates* action and drop onto the input for *Action*



Then add another connector line between the *Action* and the *building updates* actions.

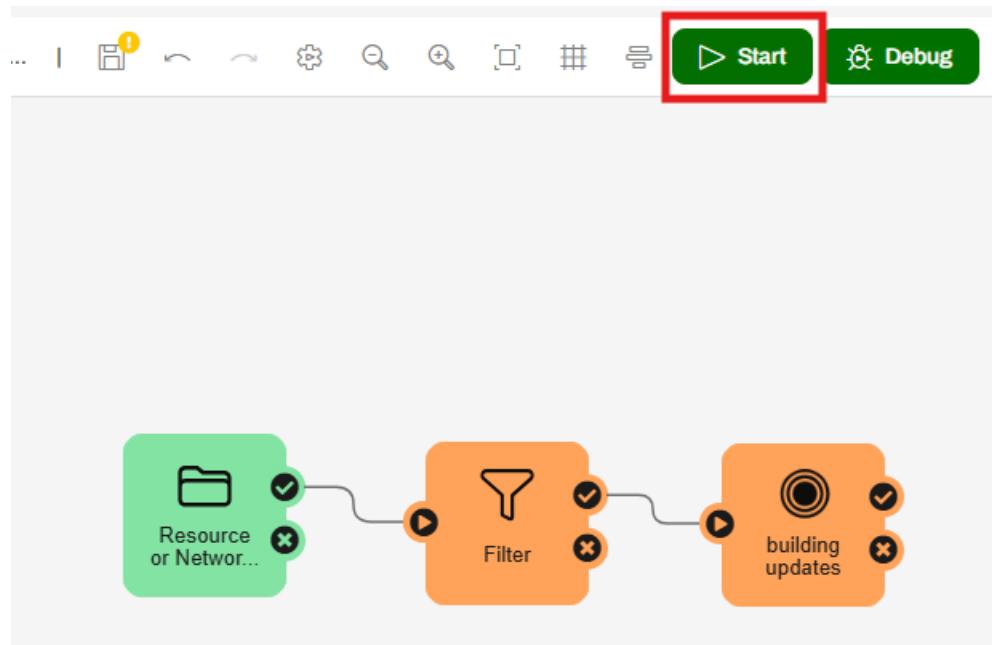


Double-Click on the new Action to configure the filter, then set the Action to *Filter messages*.

There are two parameter values required. Similar to how the Source dataset of the workspace was set, specify the *File Path* as the *Attribute*. In *Contains*, set the string to search for as *.shp*.

The screenshot shows the ArcGIS Automation interface. At the top, there are buttons for 'Footprints', 'Start', and 'Debug'. Below the canvas, a 'Filter Details' dialog is open. The 'Action*' dropdown is set to 'Filter messages'. Under 'Parameters', the 'Attribute*' dropdown is set to 'File Path' and the 'Contains*' dropdown has '.shp' entered. A tooltip 'Canvas Locked' is visible, stating 'Canvas will unlock when parameter editing is complete' with a checkbox 'Don't show again'.

Click the *Apply* button. Then restart the automation using the *Start* button



FME Lizard

Instead of using a Filter action we could have zipped up the update datasets .shp/.dbf/.shx/.prj files, so that the Directory Watch was only triggered once. If you are handling a high volume of incoming data zipping files may be the preferred option.

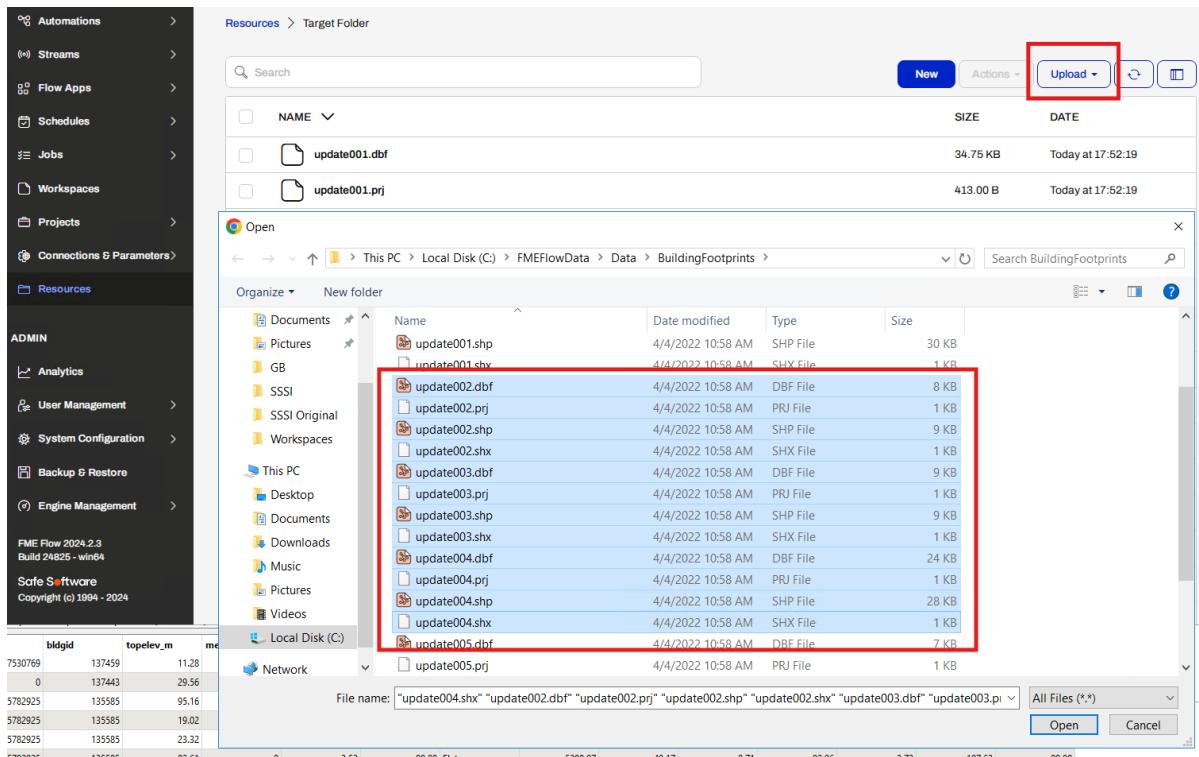
2.2.6 Test the Automation

Now test the solution by putting update002 or update003.shp (and other extensions) into the *Target Folder* Resource folder. (we've already processed update001).

Use the FME Flow web interface: go to *Resources > Target Folder*.

The screenshot shows the FME Flow web interface's sidebar and main content area. The sidebar includes sections for Projects, Connections & Parameters, Resources (which is highlighted with a red box), ADMIN, Analytics, User Management, System Configuration, Backup & Restore, and Engine Management. The main content area shows a list of resources under 'Resources': SSSI Mapinfo Files, SSSI Output Folder, System (which is also highlighted with a red box), Target Folder (which is also highlighted with a red box), and Temp. Each resource has a description below it.

Then click the *Upload* button and select some more shapefiles, remembering to include not only .shp, but all the others too.



You will find that each dataset put into the folder is processed by the workspace and added to the corporate holding:
C:\FMEFlowData\Data\BuildingFootprints\building_footprints.gdb

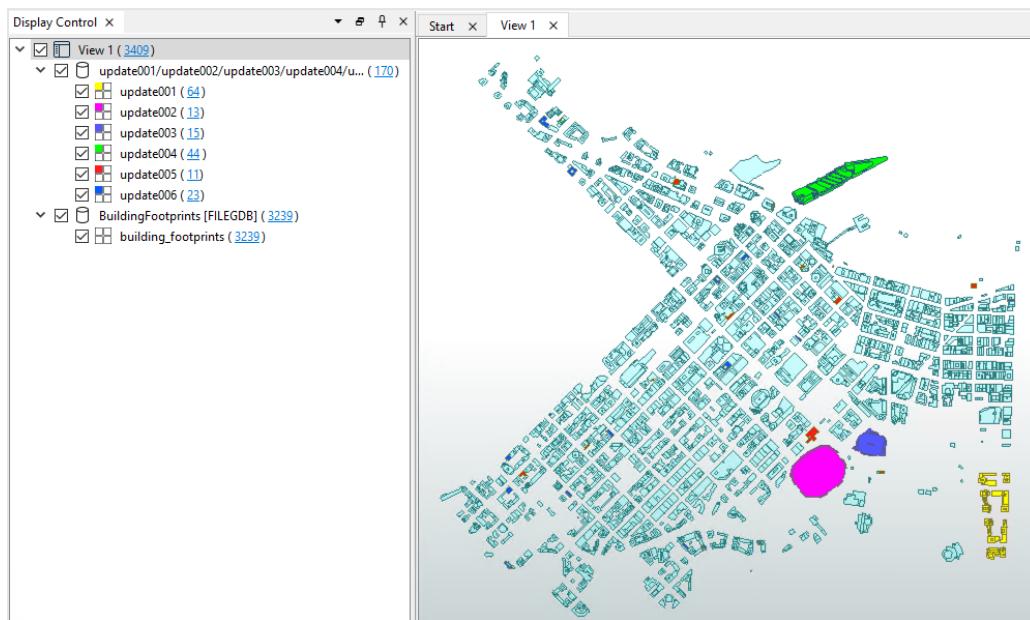
Check the Completed Jobs page to confirm that the workspace was run.

2.2.7 Inspect the Output

Use the Data Inspector to examine

C:\FMEFlowData\Data\BuildingFootprints\building_footprints.gdb and add in the original update shapefiles so that you can see the areas of the shapefiles are now added to the geodatabase.

The below shows the areas of change for each update file:



For comparison purposes, a copy of the original `building_footprints.gpkg` can be found in `C:\FMEFlowData\Data\BuildingFootprints\backup` of building footprints

Congratulations

By Completing this exercise you have learned how to:

- Modify an Automation
- Process data loaded into a watched directory
- Identify JSON elements from an incoming Trigger message
- Configure the Automation to run a Workspace in response to a Trigger using part of this message
- Chain actions by passing an element of the incoming JSON through a Filter



2.3 Create an FME Flow App (Workspace App)

Demonstrates	Create an FME Flow App (Workspace App) to share a workspace with users who do not have FME Flow accounts Configure permissions within Workspace App Token Management
Overall Goal	Share a workspace with non-FME users using an FME Flow App
Data	SSSIs (MapInfo TAB)
Start Workspace	C:\FMEFlowData\Workspaces\2.03-Apps-FlowApps-Begin.fmw
End Workspace	C:\FMEFlowData\Workspaces\Complete\2.03-Apps-FlowApps-Complete.fmw

Let's create an FME Flow App so that anyone with the URL can run the SSSI Constraint workspace to obtain constraint polygons whenever they need to. They won't even need an FME Flow account!

Before we deploy the workspace as an FME Flow App (also known as Workspace App), we need to ensure that any published user parameters are appropriate for the end-user. Currently if we were to publish this workbench, the published parameters include the ability to specify the SSSI source dataset at run-time:

Published Parameters [Reset Values](#)

SSSI dataset (MapInfo TAB)*

Upload Files

Drop files here or [browse file system](#)

OR

[Browse Resources](#)

Selected Items (1)

[+ Enter URL/Path](#)

SSSIs.tab

C:\FMEServerData\Data\GB\

X

Buffer Distance*

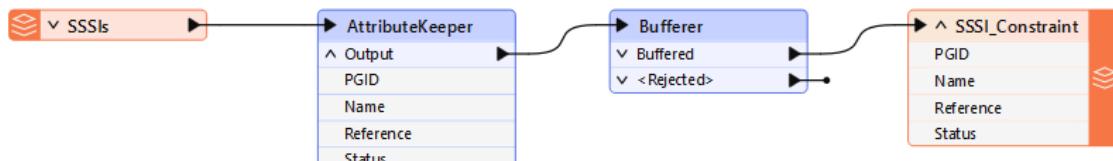
500

However, for the Flow App end-users it's not appropriate that they are able to change the SSSI source dataset. So, we will first create a new version of the workspace within Desktop Workbench, removing the User Parameter for the SSSI source data.



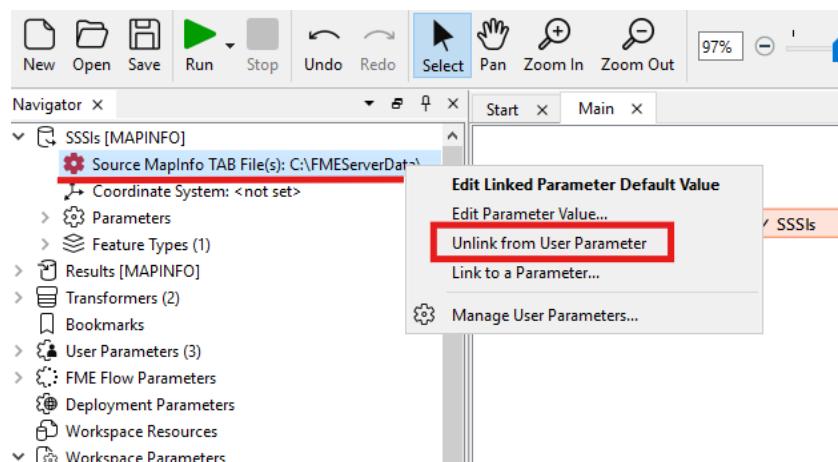
2.3.1 Modify the Workspace Published Parameters

Launch the FME Workbench, if it isn't open already. Then open the workspace C:\FMEFlowData\Workspaces\2.03-Apps-FlowApps-Begin.fmw



Within the Navigator panel, right-click on the SSSIs [MAPINFO] reader's SSSI dataset Source parameter.

The choose *Unlink for User Parameter...*



The source has now been converted to an FME parameter, instead of a User (published) parameter. And therefore won't be available to the end-user at run-time.

2.3.2 Save as New Workspace

Save a copy of the workspace, as:

C:\FMEFlowData\Output\My Workspaces\SSSI Constraint Self-Serve.fmw

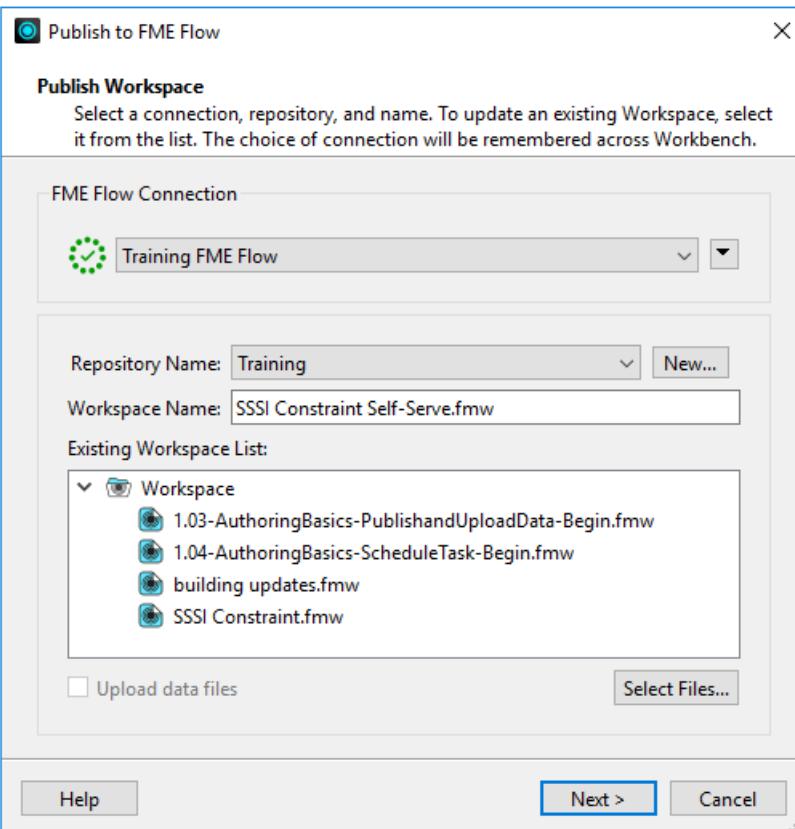
2.3.3 Publish the workspace to Flow – Register as Data Download Service

In FME Workbench, use either *File > Publish to FME Flow* from the menubar. Or the *Publish to FME Flow* button on the toolbar.

Connection parameters:

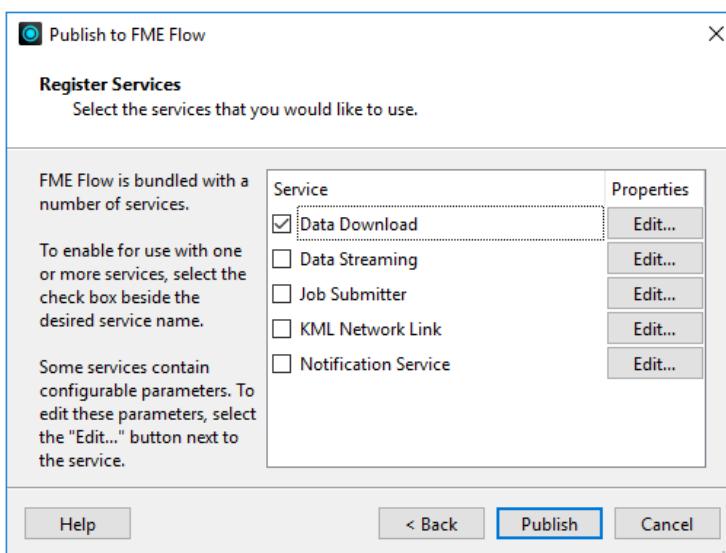
Server URL: <http://localhost>
Username: admin
Password: FMETraining1234

Select the repository called 'Training'



Click *Next*

Select only *Data Download* as the Registered Service.



Then click *Publish*.

After a workspace is transferred to Flow, the Translation log will confirm the successful publication.

We'll now login to FME Flow to test the workspace.



2.3.4 View Workspace within FME Flow web interface

Navigate to the *Workspaces* section. Then within *Repositories* go into the *Training* repository.

Select the recently published workspace; SSSI Constraint Self-Serve.fmw

The screenshot shows the FME Flow web interface. On the left is a dark sidebar with various navigation links. The main area is titled "Run Workspace". It has sections for "Workspace" (Repository: Training, Workspace: SSSI Constraint Self-Serve.fmw), "Service" (Data Download), and "Published Parameters" (Buffer Distance: 500). A "Run" button is at the bottom.

Enter a desired buffer size for the *Buffer Distance* published parameter.
Then click *Run*

The workspace will run to completion. The results will be returned as a downloadable zip file:



Run Workspace

[Run Workspace](#) > Job #209

★ SSSI Constraint Self-Serve.fmw

self-serve constraints creation

FAILURE

MAPINFO Reader: Invalid or non-existent dataset
'C:/FMEServerData/Data/GB/SSSIs.tab'

[Run Again](#)

[View Details](#)

JOB ID 209

FEATURES WRITTEN 0

Now that we have successfully tested the workspace, lets deploy it as a Flow App.

2.3.5 Create a Flow App

From the side menu choose *Flow Apps > Create Workspace App*

Set a *Name*, *Title*, and *Description* for your new Flow App. The *Name* is what is displayed in the list of Workspace Apps and the Title and Description is what will be displayed on the actual App.

Select the *Training Repository* and *SSSI Constraint Self-Serve* Workspace.

The Service will default to Data Download, as that's the only service that we registered the workspace with upon publishing to Flow.

You can leave the expiration time at its default value, which will allow the API Token to expire after 10 years. You could set this to a shorter time if you only want to grant access for a smaller time window.



The screenshot shows the FME Flow interface with a dark sidebar menu on the left. The sidebar includes sections for Run Workspace, Automations, Streams, Flow Apps, Schedules, Jobs, Workspaces, Projects, Connections & Parameters, Resources, and Admin (Analytics, User Management, System Configuration, Backup & Restore, Engine Management). The Flow Apps section is expanded, showing options like Create Workspace App, Manage Workspace Apps, Create Automation App, Manage Automation Apps, Create Gallery App, and Manage Gallery Apps. The main content area is titled 'Flow Apps' and describes them as applications running workspaces from a web browser. It shows a breadcrumb path: Workspace Apps > Create. The current step is 'Create Workspace App'. The 'App Details' form is displayed, requiring fields for Name (SSSIConstraintPolygons), Title (Create SSSI Constraint Polygons), Description (App for creating SSSI Constraint Polygons), Repository (Training), Workspace (SSSI Constraint Self-Serve.fmw), Service (Data Download), and Expiration (2035-06-11 00:00). Below the form are sections for 'Parameters' and 'Customize', each with a 'Cancel' and 'Create' button.

Now we'll customise the appearance of the Flow App web page.

2.3.6 Customise Flow App

Below the workspace selection area, you will see sections for Parameters and Customise.

- Parameters will allow you to configure which published parameters should be displayed for your users to set when using the Flow App.
- Customise enables you to set the appearance of the App's header, footer and logos.



Within *Parameters* choose to only show the *Buffer Distance* parameter, by clearing the tick-box for Destination Folder:

Parameters [Reset Values](#)

Buffer Distance*
500 Show in App

Destination Folder for output Constraint polygons*
"C:\FMEServerData\Output\Results"

Within the *Customise* section change the *Header Background Colour* to a colour of your choice.

Then for the *Footer Logo*, use C:\FMEFlowData\Resources\FlowApps\CanoeZipster.png



Customize

Browser Icon

For best results, select an image that is at least 192x192 pixels to be displayed as the icon. Maximum file size is 300.00 KB.

Upload Files

Drop files here or [browse file system](#)

Heading Background Color

#f03a16

Heading Logo

Upload Files

Drop files here or [browse file system](#)

Heading Banner

Upload Files

Drop files here or [browse file system](#)

Footer Text

Footer Logo

Upload Files

Drop files here or [browse file system](#)

Footer Banner

CanoeZipster.png

113.02 KB

Run Immediately

Run the app immediately without showing the parameter form or description.

[Cancel](#)

[Save](#)

Then click Save.

The Flow App has now been created. The summary information displayed includes the



URL for end-users to use to access the App. Along with the security API Token details.

Click on the URL to open it.

Flow Apps

Flow Apps are applications that run workspaces from a web browser. You can group multiple apps together and create customizable web pages for them.

[Workspace Apps](#) | [Automation Apps](#) | [Gallery Apps](#)

[Workspace Apps](#) > [SSSIConstraintPolygons](#) > Edit

Your Workspace App has been saved

Anyone with this URL will be able to run this app. A login will not be required.
<http://ec2amaz-bg08jpf/fmeserver/apps/SSSIConstraintPolygons> ⓘ

Name: SSSIConstraintPolygons

Expiration: 2035-6-11 00:00:00

App Security

The following permissions have been granted to run your app and are saved with the API Token [Workspace App - SSSIConstraintPolygons](#).

Repositories Training

Services Data Download

Does your workspace have any additional dependencies? [Add More Permissions](#).

Flow Apps and FME Mobile

Alternatively, you can run Flow Apps on mobile devices with FME Mobile. [Learn more about FME Mobile and how you can download it.](#) ⓘ



OK

The Workspace App will open and includes only the specified published parameters (in this example just Buffer Distance) and it does not require the user to enter a username and password to access it.



← → ⌛ Not secure ec2amaz-bg08jpf/fmeserver/apps/SSSIConstraintPolygons ☆ ━ ━ ━ ━ ━

Login - FME Server Adobe Acrobat Home - FME Flow

FME•Flow

Create SSSI Constraint Polygons

App for creating SSSI Constraint Polygons

Buffer Distance*

500

Run



FME Lizard

Permissions – when creating your own Flow Apps, check the ‘Add More Permissions’ settings within App Security to ensure that adequate permissions have been granted within the Token Management section. e.g. will any Connections be required, or permissions to read/write to Resource Directories:



Flow Apps

Flow Apps are applications that run workspaces from a web browser. You can group multiple apps together and create customizable web pages for them.

[Workspace Apps](#) | [Automation Apps](#) | [Gallery Apps](#)

[Workspace Apps](#) > [SSSIConstraintPolygons](#) > Edit

Your Workspace App has been saved

Anyone with this URL will be able to run this app. A login will not be required.

<http://ec2amaz-bg08jpf/fmeserver/apps/SSSIConstraintPolygons>

Name: SSSIConstraintPolygons

Expiration: 2035-6-11 00:00:00

App Security

The following permissions have been granted to run your app and are saved with the API Token [Workspace App - SSSIConstraintPolygons](#).

Repositories Training

Services Data Download

Does your workspace have any additional dependencies? [Add More Permissions](#)

Flow Apps and FME Mobile

Alternatively, you can run Flow Apps on mobile devices with FME Mobile. [Learn more about FME Mobile and how you can download it.](#)



OK



Token Management

[API Tokens](#) | [Session Tokens](#) | [All Tokens](#)

Editing API Token "Workspace App - SSSIConstraintPolygons"

Token Name*

Workspace App - SSSIConstraintPolygons

Description

Token for Workspace App SSSIConstraintPolygons

Enabled

Expiration*

2035-06-11 00:00



Will expire in 10 years.

All Permissions

Permissions

Analytics Access

Automations Access Create



Broadcast Messages Manage

Connections Access Create Manage



Dashboards Access

Deployment Parameters Access Create



Flow Automation Apps Access Create



Flow Gallery Apps Access Create



Flow Workspace Apps Access Create



Jobs Access Manage

Licensing & Engines Manage

Network Configuration Manage

Packages Access Upload

Projects Access Create



Publications Access Create





Congratulations

By Completing this exercise you have learned how to:

- Create an FME Flow App (Workspace App) to share a workspace with users who do not have FME Flow accounts
- Configure permissions within Workspace App Token Management



2.4 Data Download Self-Serve

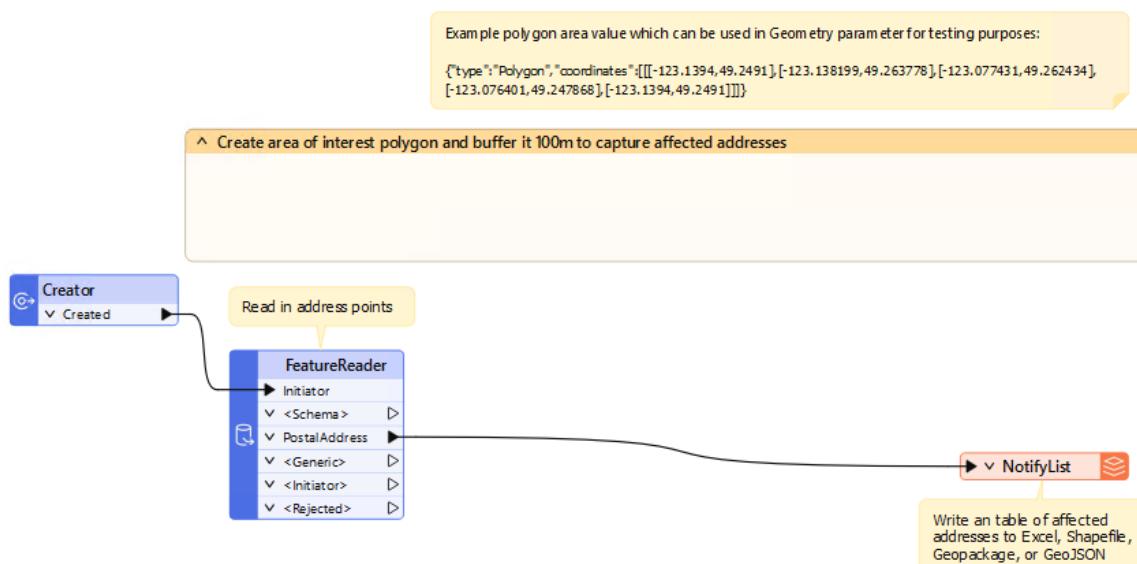
Demonstrates	Use published parameters to create a Self-Serve Data Download workspace Create and use a Geometry published parameter to allow users to draw an area of interest on a map
Overall Goal	Create an FME Flow Data Download facility, allowing the user to choose the desired output format and define an area of interest on a map
Data	Community Mapping (Esri File Geodatabase)
Start Workspace	C:\FMEFlowData\Workspaces\2.04-Apps-DataDownloadSelfServe-Begin.fmw
End Workspace	C:\FMEFlowData\Workspaces\Complete\2.04-Apps-DataDownloadSelfServe-Complete.fmw

As a technical analyst in the GIS department of a city, you have just commenced an initiative to allow other departments to download address data for defined areas, rather than having to ask you to create bespoke datasets for them. Not only will their requests be processed quicker, but you will also spend less time on that task.

So far you have created a workspace that allows users to choose the format for their data download. Now you need to add a Geometry published parameter to let users interactively choose their area of interest.

2.4.1 Open Existing Workspace in Desktop Workbench

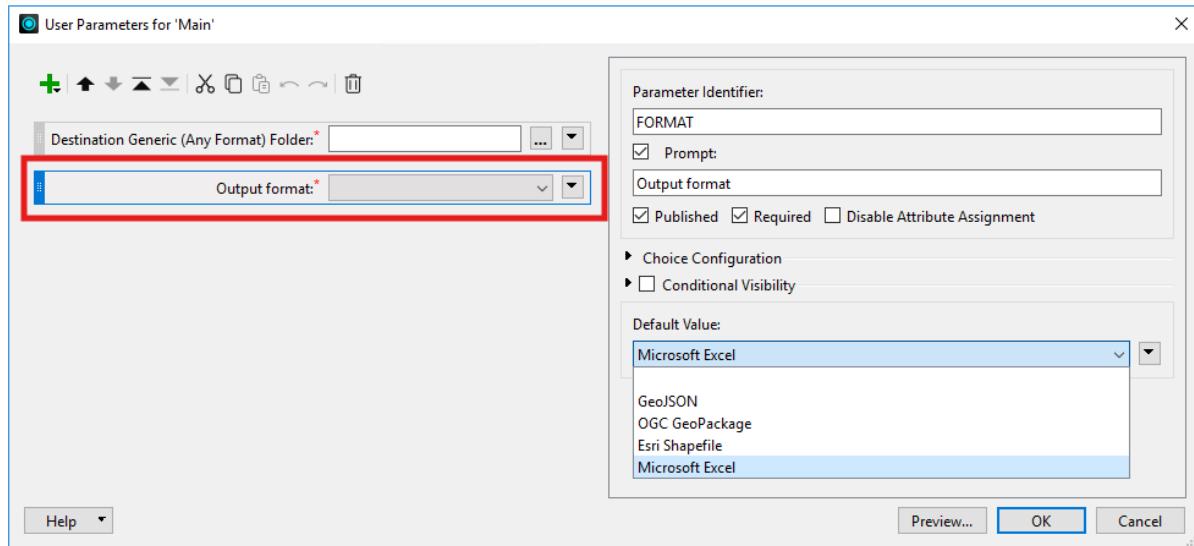
Launch the FME Workbench, if it isn't open already. Then open the workspace C:\FMEFlowData\Workspaces\2.04-Apps-DataDownloadSelfServe-Begin.fmw





2.4.2 Inspect Published Parameters

The starting workspace is in-progress. It already has a published parameter that lets users choose the output format. You can find them by looking at the Navigator Panel and right-clicking on *User Parameters*, then choosing *Manage User Parameters....*. Examine the Output format parameter (FORMAT):

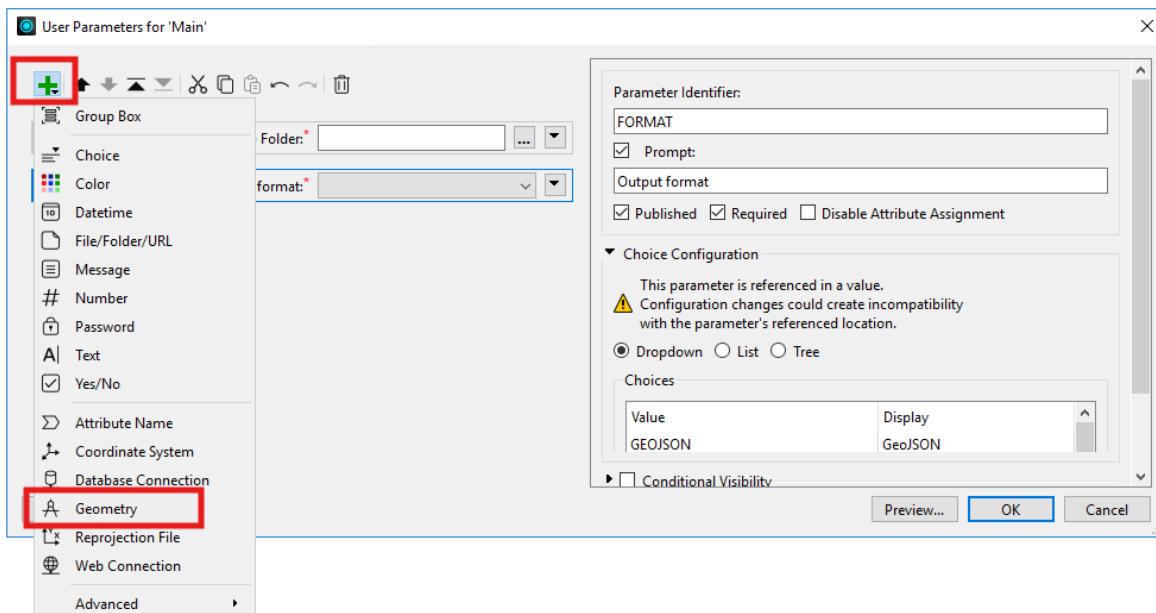


This parameter lets the user choose the output format for the data they receive. The default is Microsoft Excel.

Let's edit this workspace so the user can define the area of interest on a map. The first step is to add a Geometry published parameter.

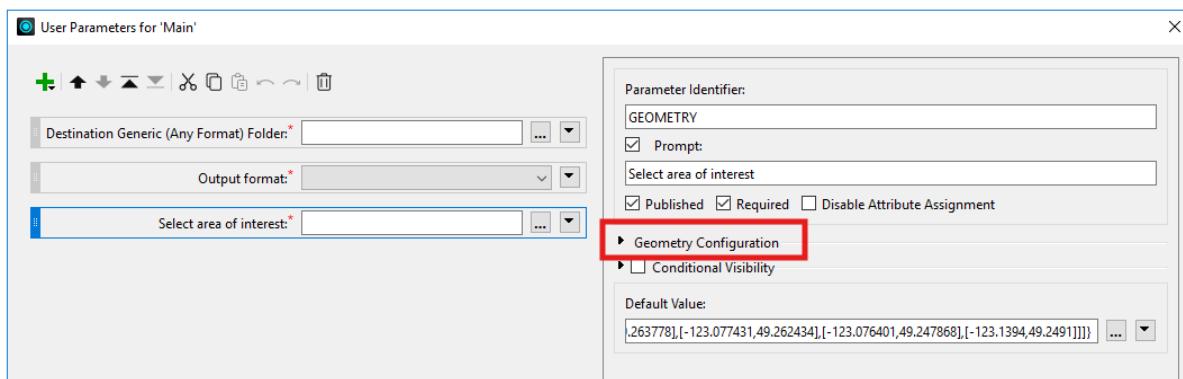
2.4.3 Create a Geometry Published Parameter

Within the Parameter Manager create a New parameter and select type **Geometry**:





Expand Geometry Configuration,



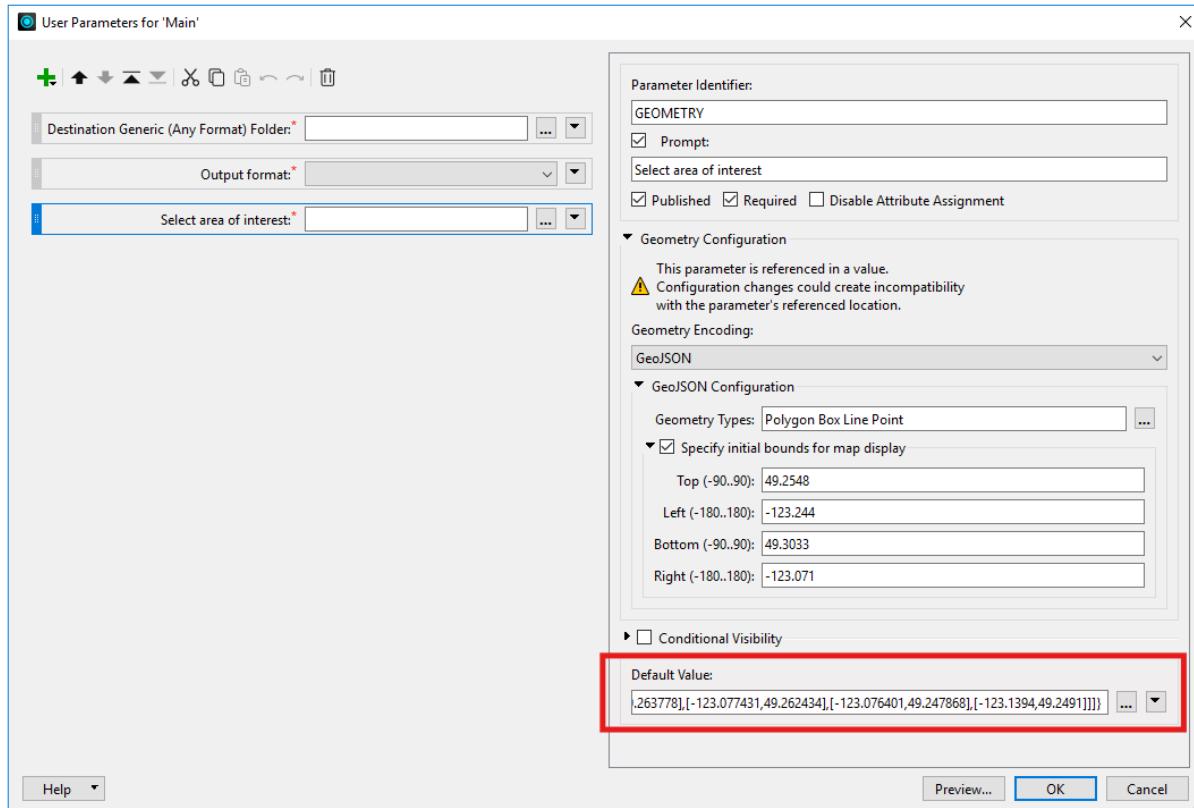
Enter the following:

Parameter Identifier	GEOMETRY
Prompt	Select area of interest
Geometry Types	Box, Polygon, Line
Specify initial bounds for map display	checked
Top	49.2548
Left	-123.244
Bottom	49.3034
Right	-123.071

The initial bounds will be the area shown in FME Flow.

To show an initial polygon on the app, in the *Default Value* box enter the following code:

```
{"type":"Polygon","coordinates":[[[-123.1394,49.2491],[-123.138199,49.263778],[-123.077431,49.262434],[-123.076401,49.247868],[-123.1394,49.2491]]]}
```



Click OK

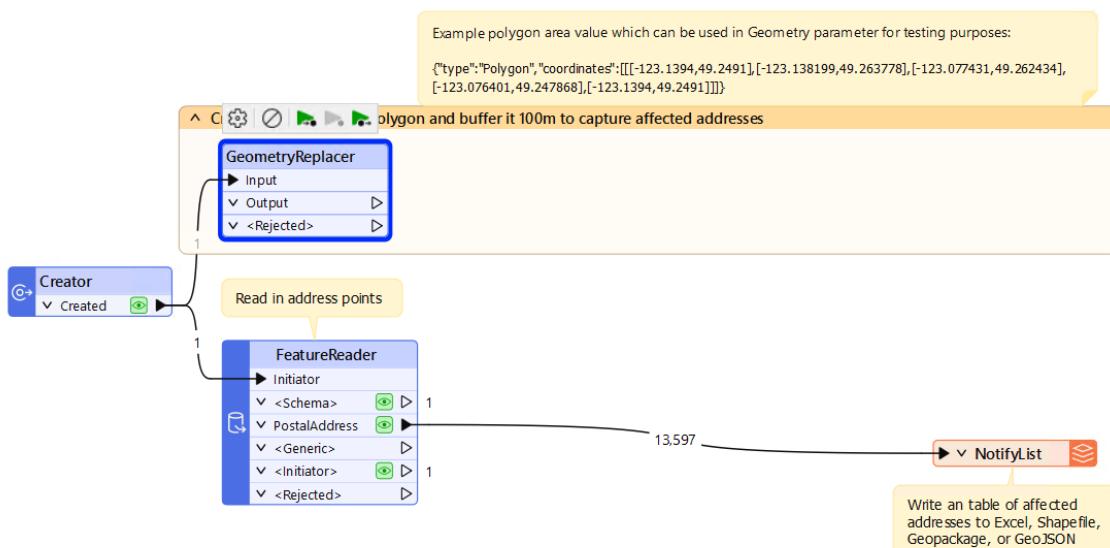
FME Lizard

The Geometry Parameter in FME Flow allows users to draw an area of interest on a map and then have that area inputted into a workspace. This functionality is first set up in FME Workbench with a combination of the Geometry published parameter and the GeometryReplacer transformer, then in FME Flow the user can access the map anywhere you can see published parameters (Run Workspace, FME Apps, etc.).

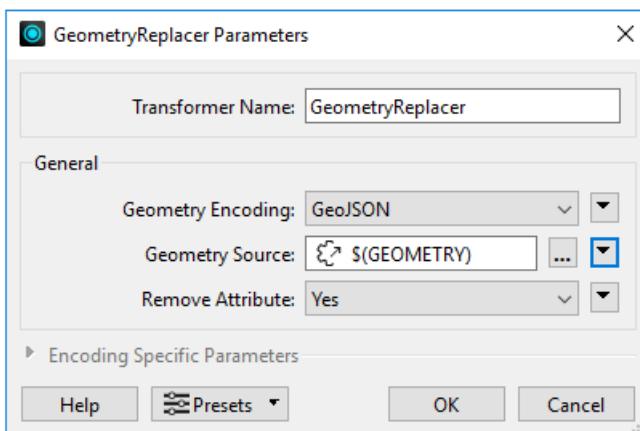
Now that we have set up the geometry published parameter, we need to use it within the workflow.

2.4.4 Create the Area of Interest Polygon

Add a *GeometryReplacer* transformer in a new stream after the *Creator* transformer.

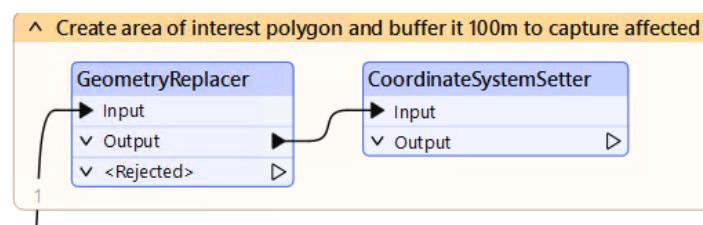


Open the parameters for the GeometryReplacer. Set the *Geometry Encoding* to **GeoJSON** and then set the *Geometry Source* to the **GEOMETRY** published parameter.



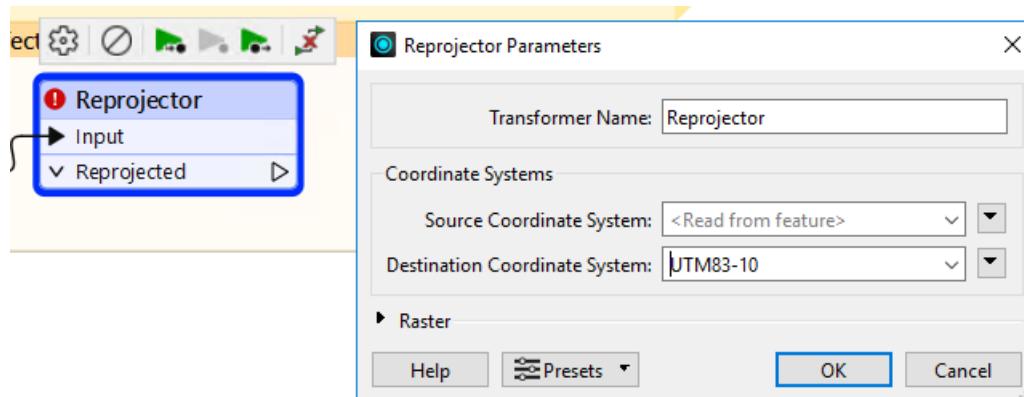
Click **OK**.

We want to ensure that FME knows our data is in LL84, as this is what the *Geometry* published parameter accepts as values. So, add a *CoordinateSystemSetter* transformer after the *GeometryReplacer*. In the parameters, set the Coordinate System to **LL84**.

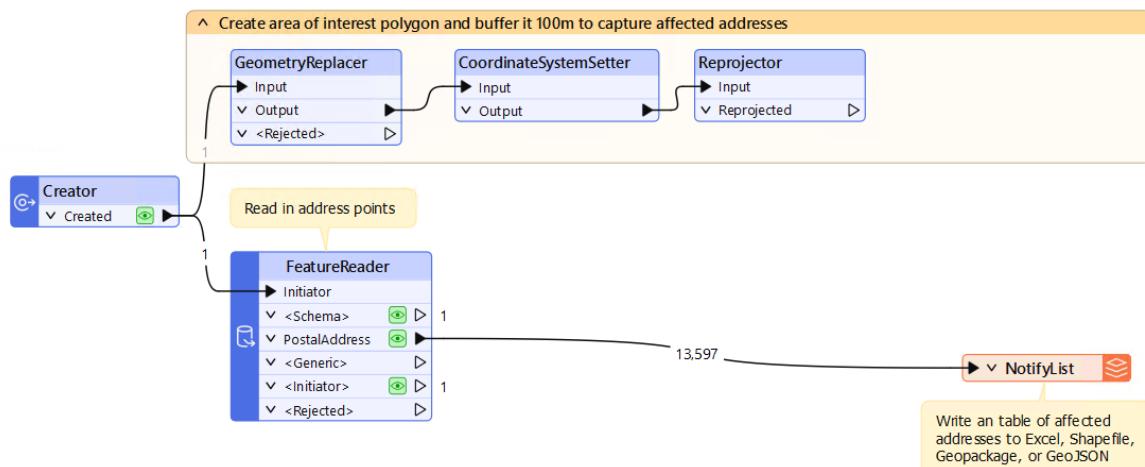


2.4.5 Reproject the Area of Interest

Our source Address data is in UTM83-10. So, we will reproject the area of interest polygon to UTM83-10. Add a *Reprojector* after the *CoordinateSystemSetter*. Set the *Destination Coordinate System* to **UTM83-10**.



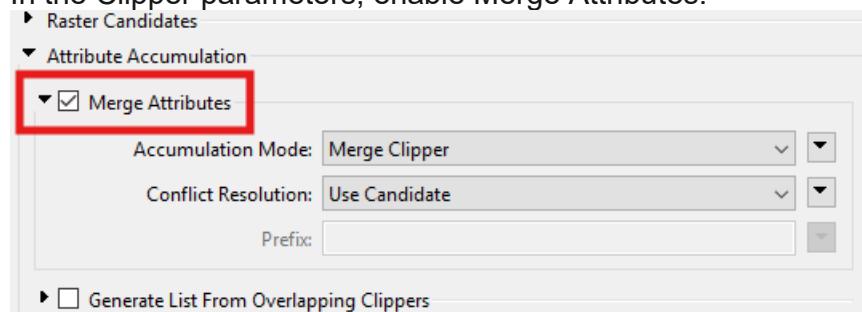
The workspace should look like this:

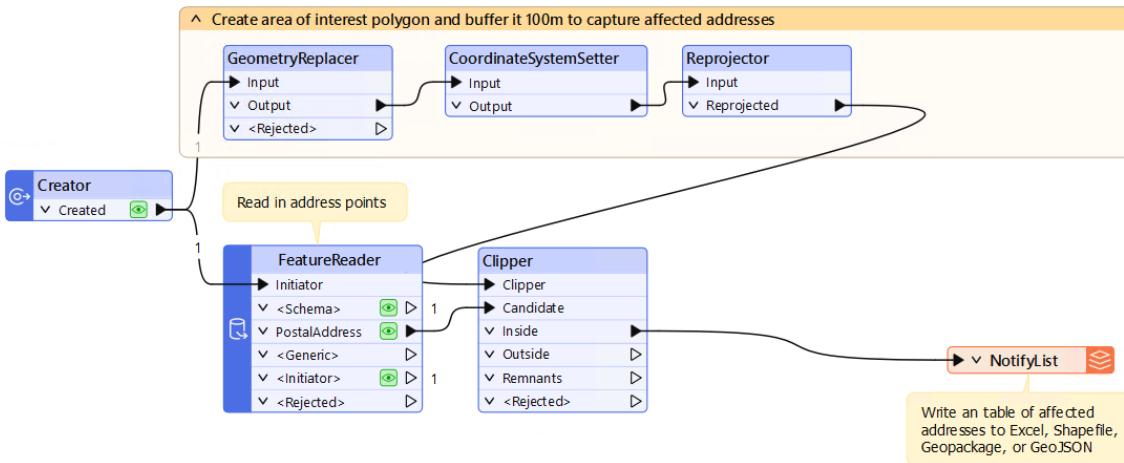


2.4.6 Clip the Addresses to the Area of Interest

Add a *Clipper* transformer to the canvas and connect the Reproductor to the Clipper input port. Then disconnect the FeatureReader from NotifyList, and instead connect it to the Candidate input port.

In the Clipper parameters, enable Merge Attributes.





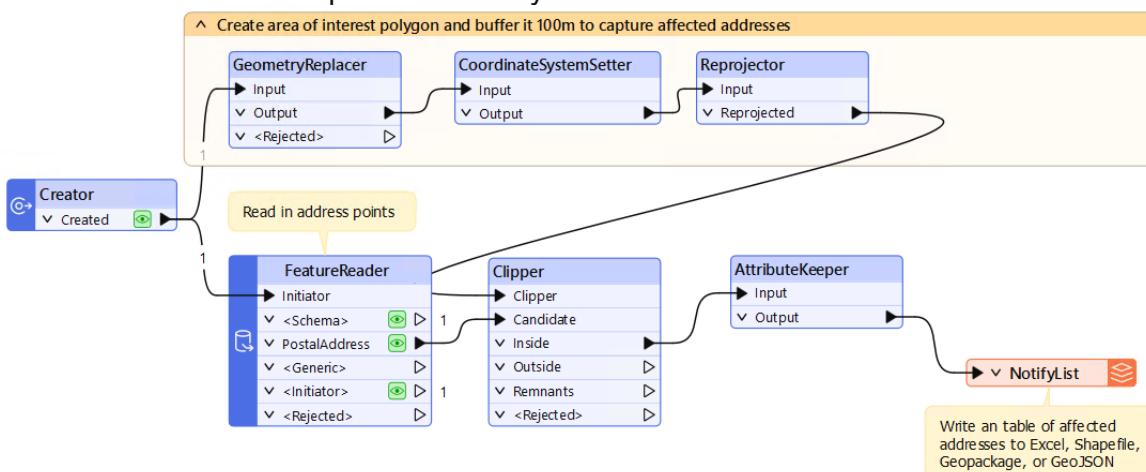
2.4.7 Clean up Attributes

One final step before we can write out our data is to clean up the attributes. Add an *AttributeKeeper* to the canvas and connect it to the *Inside* output port on the Clipper.

In the parameters, for Attributes to Keep, select:

- OWNERNM1
- PSTLADDRESS
- PSTLCITY
- PSTLPROV
- POSTALCODE

Connect the AttributeKeeper to the NotifyList



2.4.8 Save and Publish Workspace

Save a copy of the workspace as:

C:\FMEFlowData\Output\My Workspaces\Address data download Self-Serve.fmw

Let's Publish our workspace to Flow. Use either *File > Publish to FME Flow* from the menubar. Or the *Publish to FME Flow* button on the toolbar.

Connection parameters:

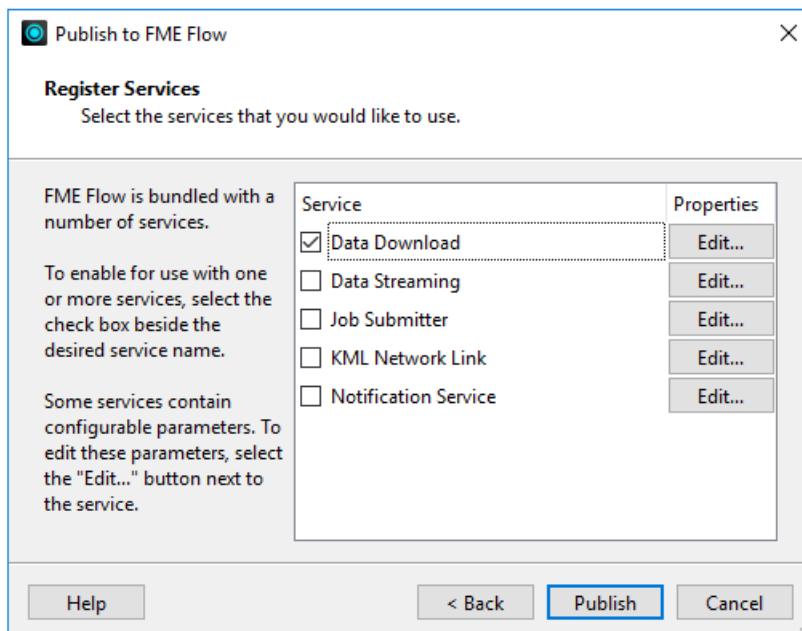
Server URL: <http://localhost>



Username: *admin*
Password: *FMETraining1234*

Select the repository called ‘Training’
Click *Next*

Select only *Data Download* as the Registered Service.



Then click *Publish*.

After a workspace is transferred to Flow, the Translation log will confirm the successful publication.

We'll now login to FME Flow to test the workspace.

2.4.9 View Workspace within FME Flow web interface

Navigate to the *Workspaces* section. Then within *Repositories* go into the *Training* repository.

Select the recently published workspace; *Address data download Self-Serve.fmw*



FME Flow

Run Workspace

Workspace

Repository* Training

Workspace* Address data download Self-Serve.fmw

Service* Data Download

Email Results To

Published Parameters [Reset Values](#)

Output format* Microsoft Excel

Select area of interest* [{"type": "Polygon", "coordinates": "[-123.1394, 49.2491], [-123.138199, 49.263778], [-123.0774]"}]

Advanced

Run

Select an Output format (maybe ESRI Shapefile).
To specify the *Select area of interest*, click on the map icon.

Published Parameters [Reset Values](#)

Output format* Microsoft Excel

Select area of interest* [{"type": "Polygon", "coordinates": "[-123.1394, 49.2491], [-123.138199, 49.263778], [-123.0774]}]

When you click on the map icon, the Geometry Picker dialog will appear, which will have a map of the area set up in the published parameter, as well as tools across the top to determine which geometry type you wish to use for your selection.



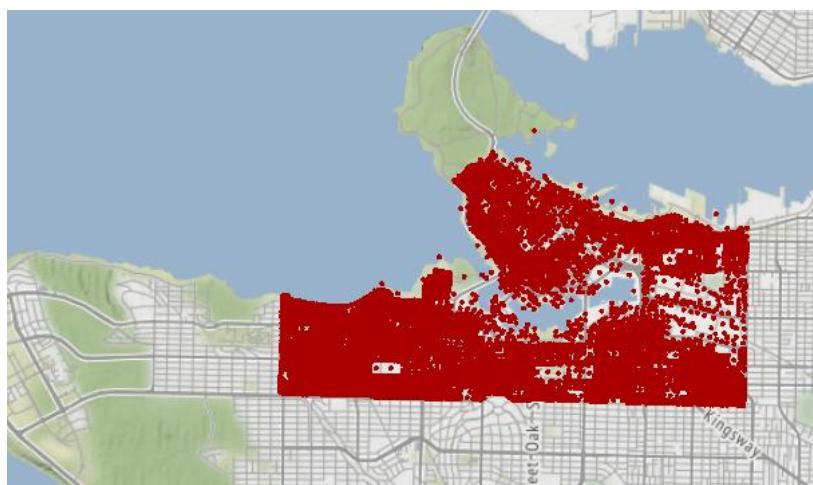
Select area of interest

A map of Vancouver, Canada, showing various neighborhoods like Kitsilano, Fairview, and Mount Pleasant. A blue polygon is drawn around downtown Vancouver. Below the map are two buttons: 'Cancel' and 'Confirm'.

Zoom into the area of interest. For this example, we will zoom into downtown Vancouver and use the polygon tool to pick an area of buildings.

Note: For this workspace to run correctly, buildings with addresses need to be selected. If an area is selected without an address the workspace won't write out any data.

The below map shows the coverage of out Address data within Vancouver:



Therefore our initial polygon displayed in the map is in the correct location.

Within the map draw a polygon. Click on the start point to close the polygon, or click finish.

Select area of interest

A screenshot of a map interface with a red box highlighting the polygon tool icon (a circle with a dot) in the toolbar.



Click on the polygon start point to close the polygon, or click finish.

Select area of interest

The screenshot shows a map of Vancouver, Canada, with various neighborhoods labeled. A blue polygon is drawn over the downtown area. At the bottom left, there are 'Cancel' and 'Confirm' buttons. At the top right, there is a close button (X).

Click **Confirm** to submit area of interest.

Back on the Run Workspace page, GeoJSON coordinates will now be populated in the Select area of interest text box. e.g.

```
{"type": "Polygon", "coordinates": [[[-123.1394,49.2491], [-123.138199,49.263778], [-123.077431,49.262434], [-123.076401,49.247868], [-123.1394,49.2491]]]}
```

The screenshot shows the 'Run Workspace' page. On the left is a sidebar with navigation links like Run Workspace, Automations, Streams, Flow Apps, etc. The main area has tabs for 'Workspace' and 'Published Parameters'. In the 'Published Parameters' tab, there is a 'Select area of interest*' input field containing a GeoJSON string. This input field is highlighted with a red border. Below it is a 'Run' button. At the top right, there is a 'Workspace Actions' dropdown.



Once the map area has been selected, click *Run* to run the workspace.

When the workspace has finished running, click on the download link to get the data.

Run Workspace

Run Workspace > Job #211

★ Address data download Self-Serve.fmw
2.04-Apps-DataDownloadSelfServe-Begin.fmw

COMPLETED
Translation Successful

Run Again View Details

JOB ID 211 FEATURES
WRITTEN 396

DATA DOWNLOAD URL http://EC2AMAZ-BG08JPF/fmedatadownload/results/FME_1E150054_174965517956_1_2724.zip

2.4.10 Examine Results Data

Extract and open the data in the FME Data Inspector.

The screenshot shows the FME Data Inspector application. At the top, there's a navigation bar with Home, Share, View, and a file path: This PC > Local Disk (C:) > Users > fmeadmin > Downloads > FME_1E150054_174965517956_1_2724 > GENERIC_1 > Training. Below the path is a file list table with one item: NotifyList.xlsx. The main window below shows a tree view with 'View 1 (396)' expanded, revealing 'NotifyList [XLSXR] (396)' and 'NotifyList (396)'. To the right is a table viewer titled 'NotifyList [XLSXR] - NotifyList' displaying 12 rows of data:

	OWNERNM1	PSTLADDRESS	PSTLCITY	PSTLPROV	POSTALCODE
1	Nichelle Sancho	401 W 16th Av	Vancouver	British Columbia	V5Y8K1
2	Marietta Cypher	407 W 16th Av	Vancouver	British Columbia	V5Y0C9
3	Many Purdy	417 W 16th Av	Vancouver	British Columbia	V5Y2O7
4	Kent Garbett	368 W 11th Av	Vancouver	British Columbia	V5Y1B1
5	Duncan Scaglione	2439 Alberta St	Vancouver	British Columbia	V5Y1D8
6	Kent Garbett	338 W 8th Av	Vancouver	British Columbia	V5Y9U0
7	Nicolas Hammel	215 W 15th Av	Vancouver	British Columbia	V5Y1B8
8	Shawn Cerulli	2626 Alberta St	Vancouver	British Columbia	V5Y1Y8
9	Glenn Dismukes	3080 Cambie St	Vancouver	British Columbia	V5Y2Y7
10	Sheba Bogle	135 W 14th Av	Vancouver	British Columbia	V5Y0N3
11	Junior Kite	157 W 13th Av	Vancouver	British Columbia	V5Y9Q0
12	Daryl Hodges	320 W 15th Av	Vancouver	British Columbia	V5Y2M7



Congratulations

By Completing this exercise you have learned how to:

- Create and use a Geometry published parameter to allow users to draw an area of interest on a map
- Use Published Parameters to create a self-serve data download workspace



Got any questions?

0121 232 8000

We're happy to help!

info@misoportal.com

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