

Getting Started with FME

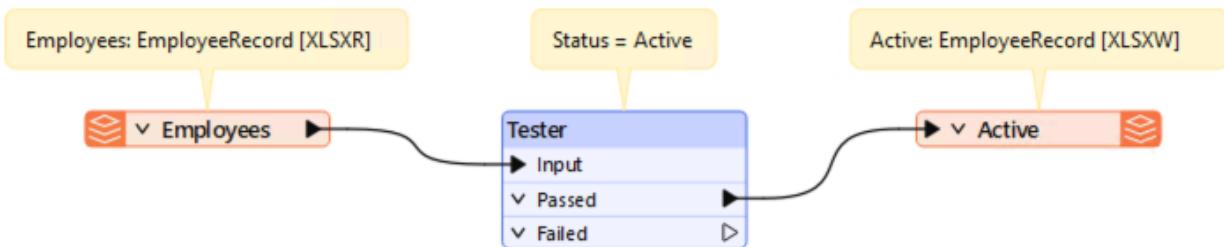
The Peak of Data and AI 2025

May 5th, 2025

Working with Table/Tabular Data

Introduction

In this article, you'll discover how to create a workspace in FME Workbench, the authoring application accompanying FME Form, specifically emphasizing utilizing tabular data. Please follow along with the step-by-step instructions to learn how to read data from a Microsoft Excel workbook that includes employee information, add a transformer to filter for active employees, and then write the filtered data to a new worksheet in the same workbook.



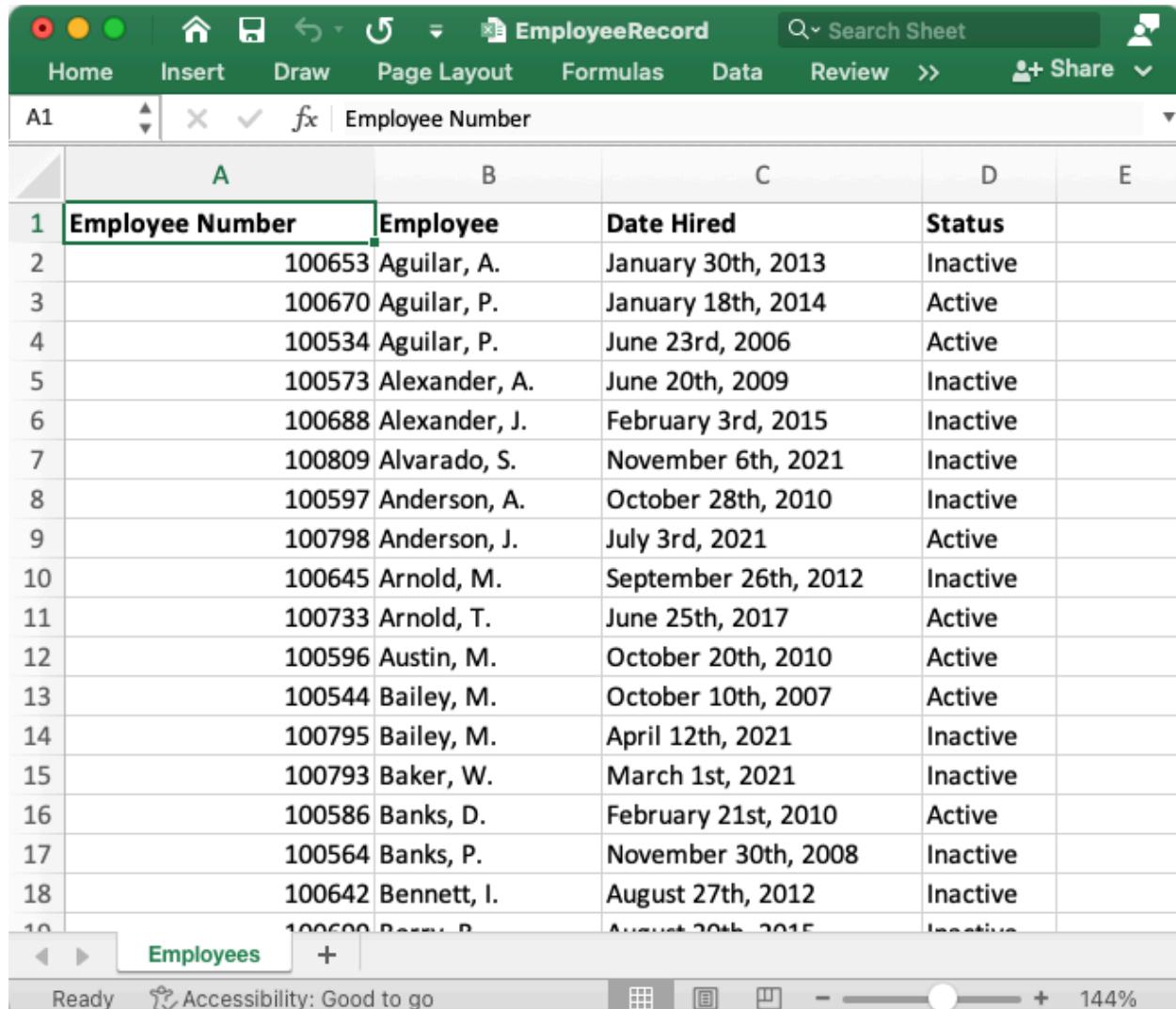
If you regularly use databases instead of spreadsheets, the same example can be completed by reading from a PostgreSQL database. See [Getting Started with FME Form: Working with Databases](#) for the instructions.

We rebranded FME Desktop to FME Form in 2023 and launched a rebranded interface in FME 2024.0. This tutorial can be used with any version of FME. The concepts are the same, but the screenshot appearances may differ.

Source Data

The source dataset is a Microsoft Excel workbook containing information about employees.

It is located on your Strigo machine at the following path: C:\FMEData\Resources\FMEUC25\Getting Started\FME Form\Data\EmployeeRecord.xlsx.



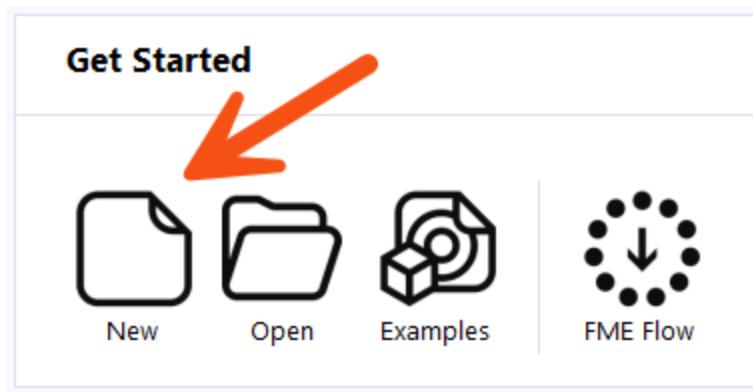
The screenshot shows a Microsoft Excel spreadsheet titled "EmployeeRecord". The table has columns labeled A, B, C, D, and E. Column A contains employee numbers from 1 to 20. Column B contains names, and Column C contains hire dates. Column D contains status information. The first row is a header. Row 10 is highlighted in green. The status column shows "Inactive" for several entries. The bottom of the screen shows the ribbon tabs (Home, Insert, Draw, Page Layout, Formulas, Data, Review, etc.), a search bar, and a share icon. The status bar at the bottom indicates the sheet is "Employees" and shows accessibility information and zoom settings.

A	B	C	D	E
1 Employee Number	Employee	Date Hired	Status	
2 100653	Aguilar, A.	January 30th, 2013	Inactive	
3 100670	Aguilar, P.	January 18th, 2014	Active	
4 100534	Aguilar, P.	June 23rd, 2006	Active	
5 100573	Alexander, A.	June 20th, 2009	Inactive	
6 100688	Alexander, J.	February 3rd, 2015	Inactive	
7 100809	Alvarado, S.	November 6th, 2021	Inactive	
8 100597	Anderson, A.	October 28th, 2010	Inactive	
9 100798	Anderson, J.	July 3rd, 2021	Active	
10 100645	Arnold, M.	September 26th, 2012	Inactive	
11 100733	Arnold, T.	June 25th, 2017	Active	
12 100596	Austin, M.	October 20th, 2010	Active	
13 100544	Bailey, M.	October 10th, 2007	Active	
14 100795	Bailey, M.	April 12th, 2021	Inactive	
15 100793	Baker, W.	March 1st, 2021	Inactive	
16 100586	Banks, D.	February 21st, 2010	Active	
17 100564	Banks, P.	November 30th, 2008	Inactive	
18 100642	Bennett, I.	August 27th, 2012	Inactive	
19 100600	Berry, B.	August 20th, 2015	Inactive	

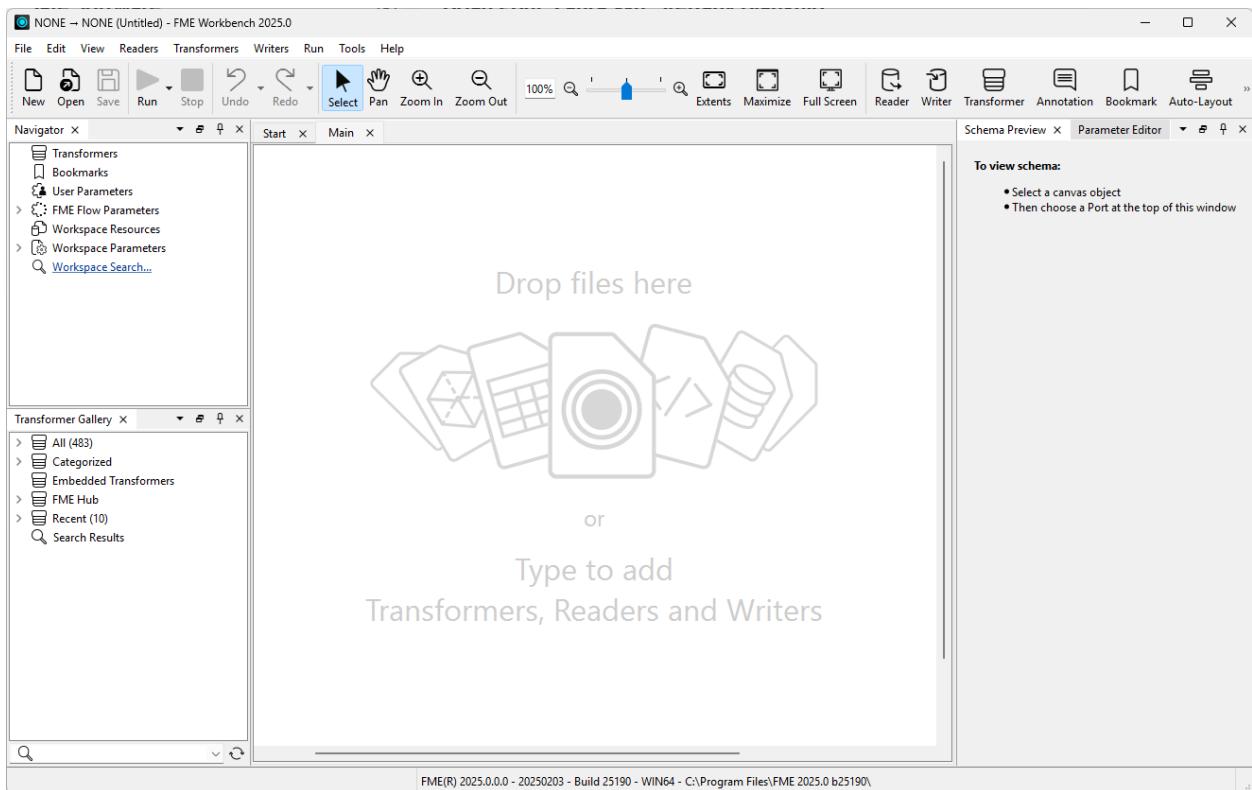
Step-by-step Instructions

1. Start a Blank Workspace

Start FME Workbench, then click the Blank Workspace button.

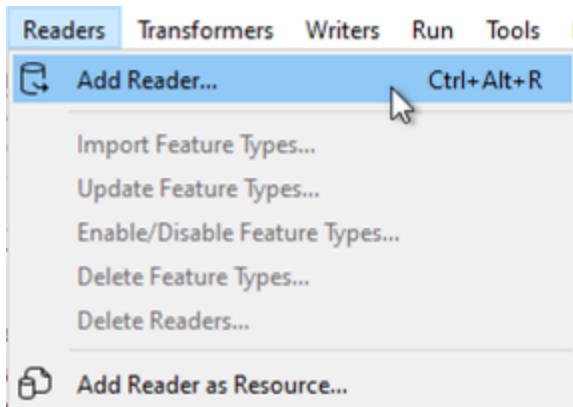


The FME Workbench canvas is where the workspace will be built using readers, writers, and transformers.

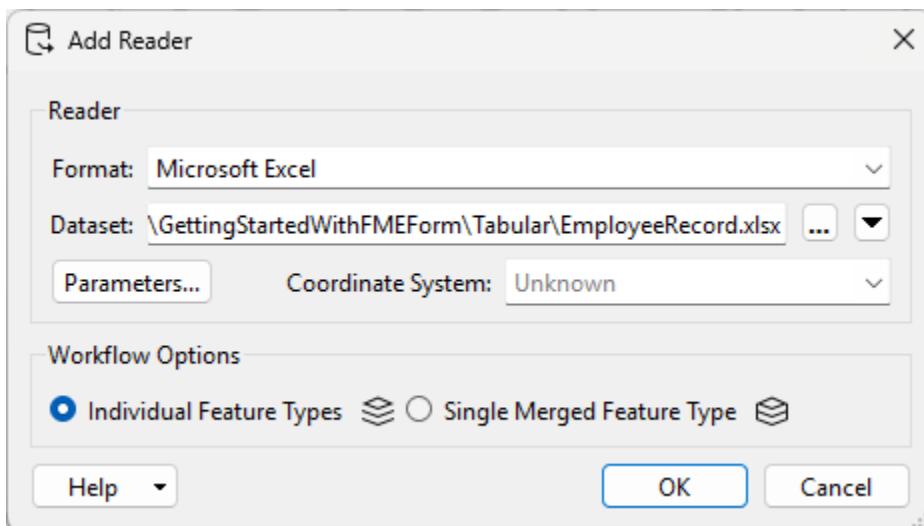


2. Add an Excel Reader

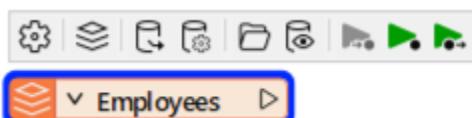
On the top menu bar, click Readers, then select Add Reader. A reader is an object in a workspace that reads a source dataset.



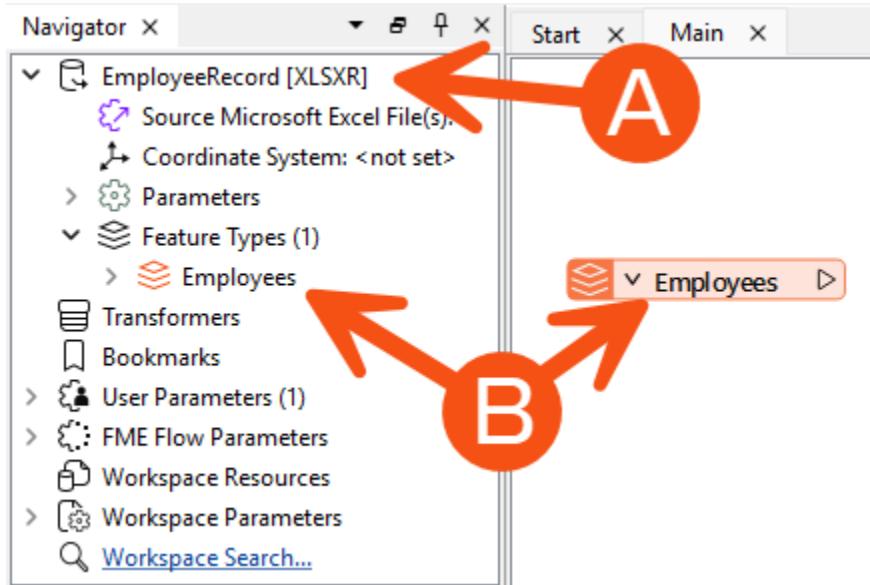
In the popup Add Reader dialog, type in Microsoft Excel as the Format. Then click the ellipsis [...] button next to Dataset and browse to the EmployeeRecord.xlsx sample dataset. It is located at C:\FMEData\Resources\FMEUC25\Getting Started\FME Form\Data\EmployeeRecord.xlsx. Other parameters are available, but you can leave them as default for this example. Click OK to add the reader to the workspace.



A reader feature type object has been added to the canvas and represents the Employees worksheet. Readers create a feature type for each table or layer in the source dataset you wish to read. In this case, the Excel workbook only had one worksheet, so there is a single feature type.



The Navigator is where readers can be found. The A) reader represents the dataset as a whole, such as the entire EmployeeRecord.xlsx workbook. The B) reader feature types represent each part of the dataset, in this case, the worksheets.



3. Add a Transformer

Transformers are the building blocks within a workspace to manipulate data, and each has a specific function. We will use a Tester transformer to filter the data.

Click on a blank space on the canvas, and start typing Tester to bring up the Quick Add dialog. The Quick Add dialog is where readers, writers, and transformers can be added. Double-click on the Tester under FME Transformers to add it to the workspace.

Search bar: tester

Filters: Transformer 20, Reader 99+, Writer 55, Official 99+, Verified, Community 15

Transformer list:

- Tester
- Tweeter
- AttributeExploder
- NoFeaturesTester
- Tiler
- Rotator
- GeoTIFF (Geo...at) [Reader]
- JPEG (Joint ...up) [Reader]
- Esri ASCII Grid [Reader]
- TIFF (Tagged...at) [Reader]
- PNG (Portabl...cs) [Reader]
- ER Mapper ECW [Reader]
- OGC WMS (We...e) [Reader]
- Esri Geodata...et) [Reader]
- CoG (Cloud-O...FF) [Reader]
- JPEG 2000 (G...P2) [Reader]

Tester

Official Publisher - Safe Software

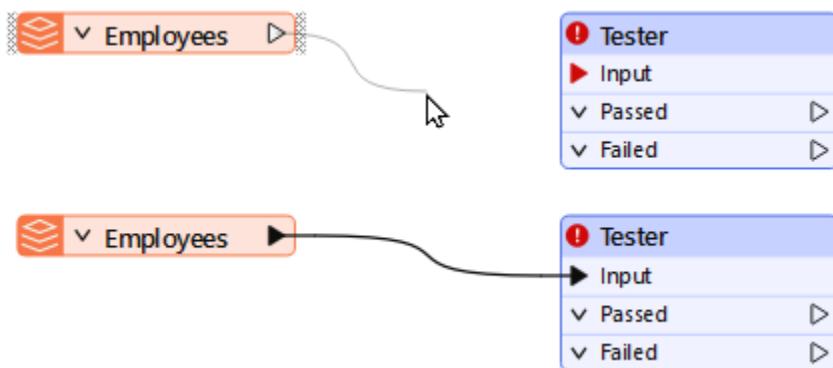
Category: Data Quality, Database, Filters and Joins
Rank: 3
Link: Help

Description: Evaluates one or more tests on a feature, and routes the feature according to the outcome of the test(s).

Related Transformers:

AttributeFilter	JSONValidator
AttributeRangeFilter	TestFilter
AttributeValidator	XMLValidator
GeometryValidator	

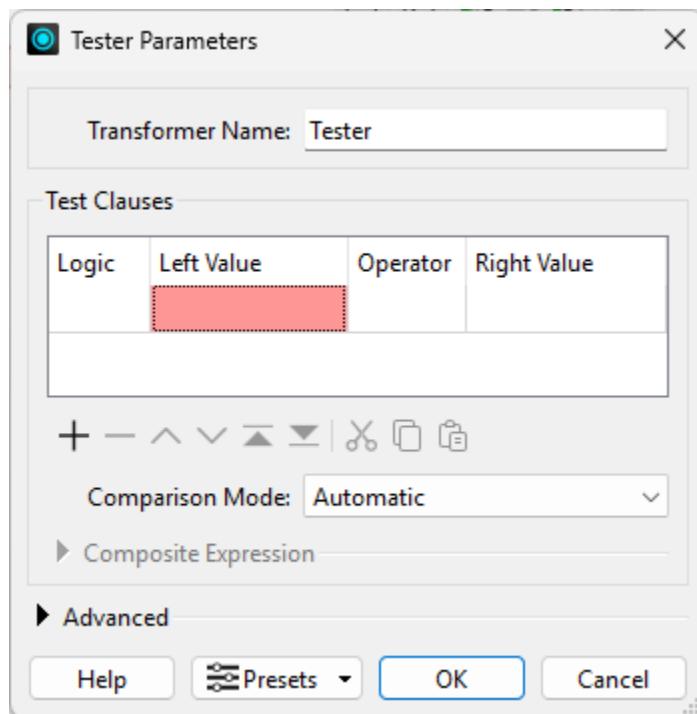
To access the data from within the transformer, it needs to be connected to the workflow. Click and drag from the arrow on the Employees reader feature type to the red arrow of the Tester transformer. This connection line sends data from the feature type into the transformer for processing.



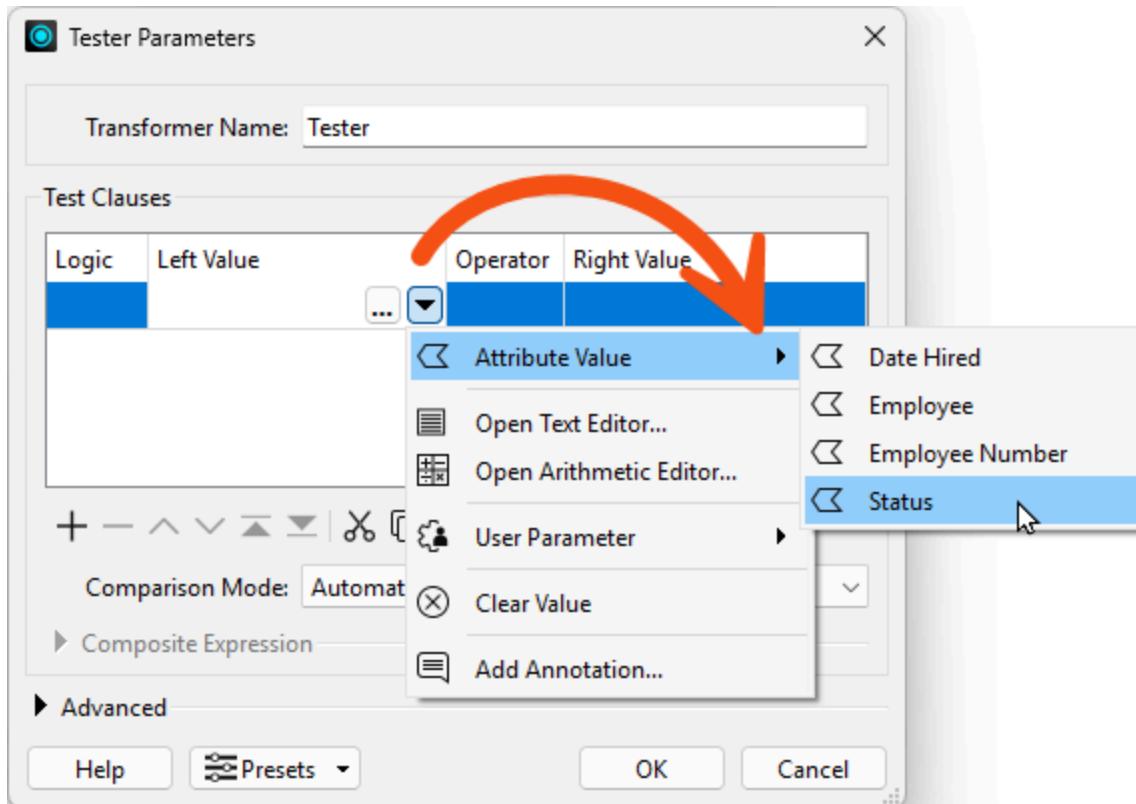
4. Modify Transformer Parameters

The Tester transformer filters data based on conditional statements. To filter for the employees who are still active at the company, a conditional statement of Status = Active will be created.

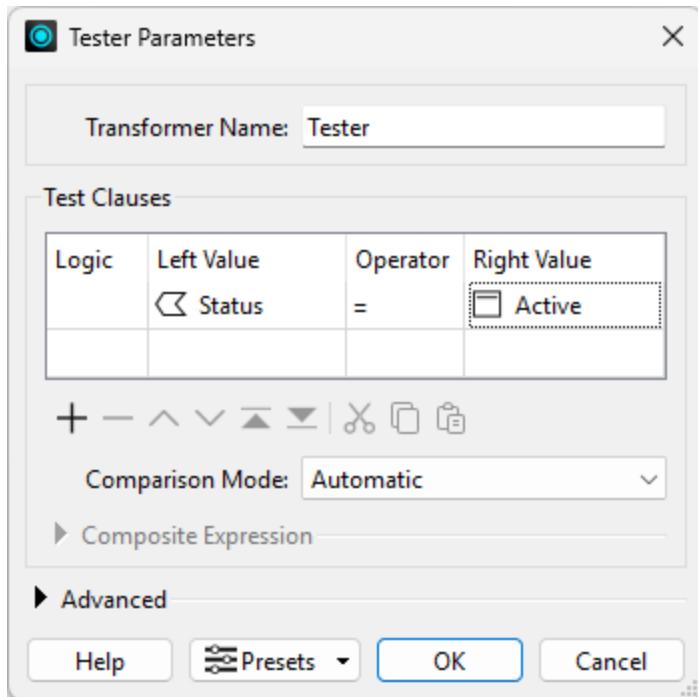
Double-click anywhere on the Tester transformer to open the parameters. Click in the red box below Left Value in the Tester parameters to expose the selection options.



After clicking in the box, an ellipsis button and a down (drop-down) arrow will appear. Click on the down arrow to open the drop-down menu, hover your mouse over Attribute Value to expand the menu, then click on Status. Status is the attribute where the Active and Inactive values are stored.

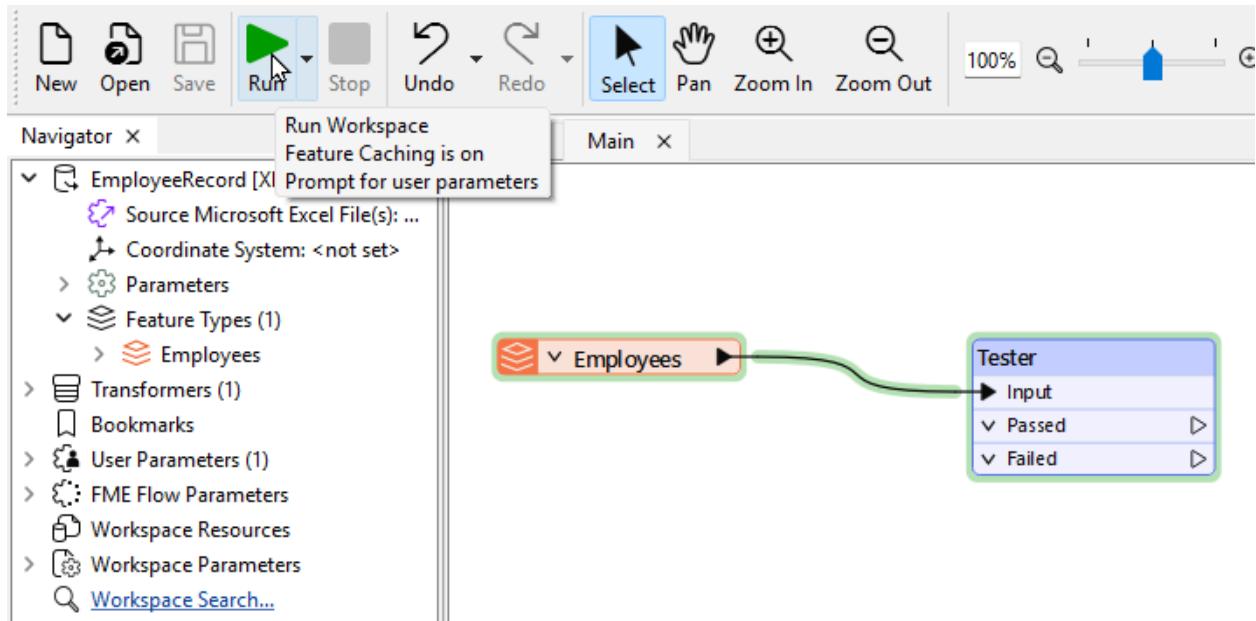


Next, click in the box under Right Value; the selection options will appear but can be ignored, as we will manually enter a value. In the Right Value box, type Active. Notice that after clicking in the Right Value box, the Operator changed to = (equals); this is the default operator. The Operator can be changed by clicking on the =, which will open a drop-down menu. The conditional test has been set up. Click OK to confirm the Tester parameters.

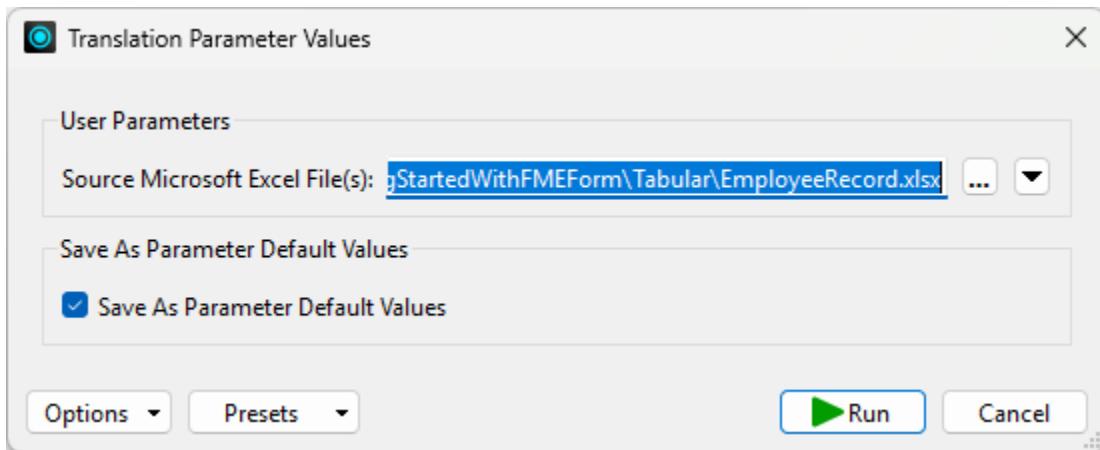


5. Run Workspace

We have authored the workspace to read the data and filter for the Active employees, but we still need to run the workspace. On the top toolbar (ribbon), click the green Run button. Clicking Run will trigger the workspace to read and process the data through any transformers.

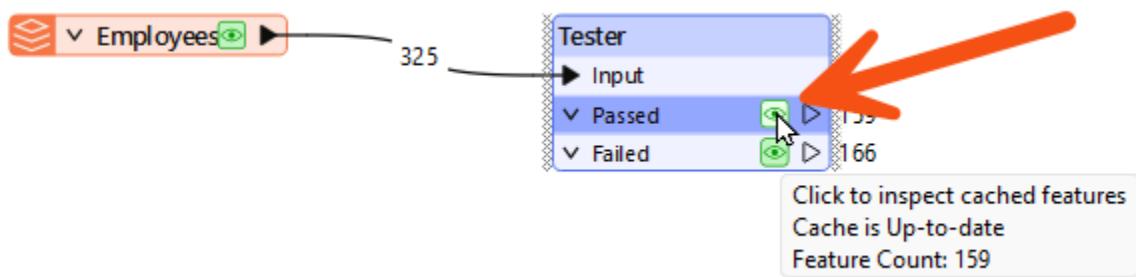


After clicking Run, a Translation Parameter Value dialog will pop up; this is where any user-defined parameters can be modified. We do not need to make any changes at this time; click Run to continue.

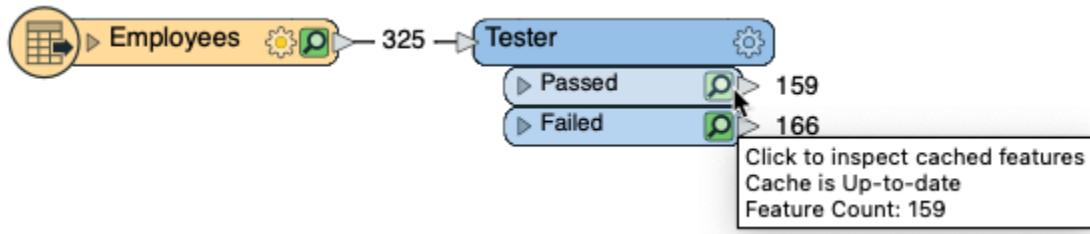


6. View Output Data in Visual Preview

After initiating the workspace to run, data will flow through the workspace. The numbers on the connection lines represent the number of features it is transporting, and the number on each output port is the number of features that is output. The Translation Log will also open; this can be ignored for now. A feature in FME is a single row in a table. Click on the green eye icon on the Tester Passed output port to open the data in the Visual Preview window. For more information on viewing data in FME, see [Data Inspection in FME](#).



In FME 2023.2 or prior, the inspect icon is a green magnifying glass.



Visual Preview is the data viewer within FME Workbench. There is also an external application called FME Data Inspector that allows users to view data. In the Visual Preview window, you will see the Tester_Passed table containing all of the employees with an Active status. Inspecting the Failed output port would display all of the inactive employees.

The screenshot shows the FME Workbench interface with the 'Main' tab selected. On the left, there's a 'Visual Preview' window showing a table titled 'Tester: Passed' with columns: Employee Number, Employee, Date Hired, and Status. The table contains four rows of data. To the right, the 'Feature Information' panel is open, showing the selected feature details. The 'Properties' section includes:

Property	Data Type	Value
Employee Number	number(6,0)	100670
Employee	varchar(14)	Aguilar, P.
Date Hired	varchar(20)	January 18th, 2014
Status	varchar(8)	Active

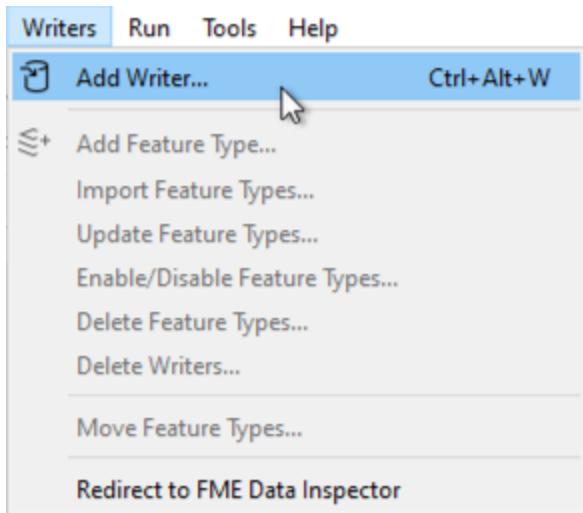
Below this, there are sections for 'Exposed Attributes', 'Unexposed Attributes', and 'FME Attributes'. The 'FME Attributes' section includes:

FME Attribute	Value
fme_feature_type	Employees
fme_geometry	fme_UNDEFINED
fme_type	fme_no_geom
multi_reader...	0
multi_reader...	0
multi_reader...	XLSXR_1
multi_reader...	XLSXR

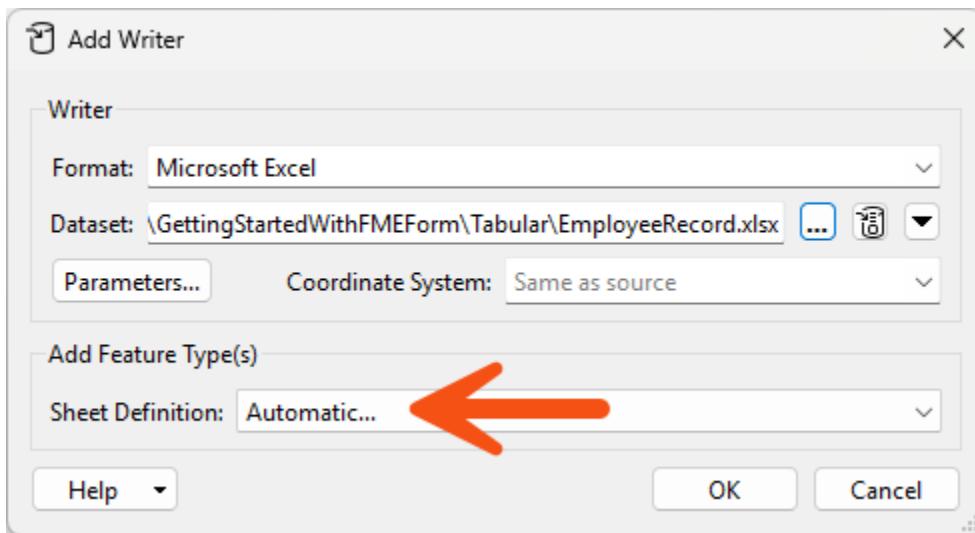
7. Add a Writer

The data viewed in Visual Preview is currently only contained within FME Workbench. We need to write the data out to store it for use later or for use within a different application. This is accomplished with a writer.

On the top menu bar, click on Writers to open the drop-down menu, then select Add Writer.



In the Add Writer popup dialog, select Microsoft Excel as the Format. Then for Dataset, click on the ellipsis and browse to the EmployeeRecord.xlsx dataset. C:\FMEData\Resources\FMEUC25\Getting Started\FME Form\Data\EmployeeRecord.xlsx. This is the same dataset that we read. FME can read and write the same file and create new files in any supported format. Ensure that Sheet Definition is set to Automatic. Click OK to finish adding the writer to the canvas.

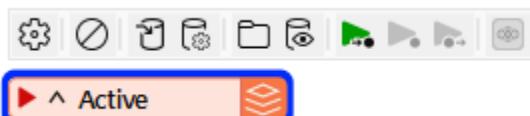
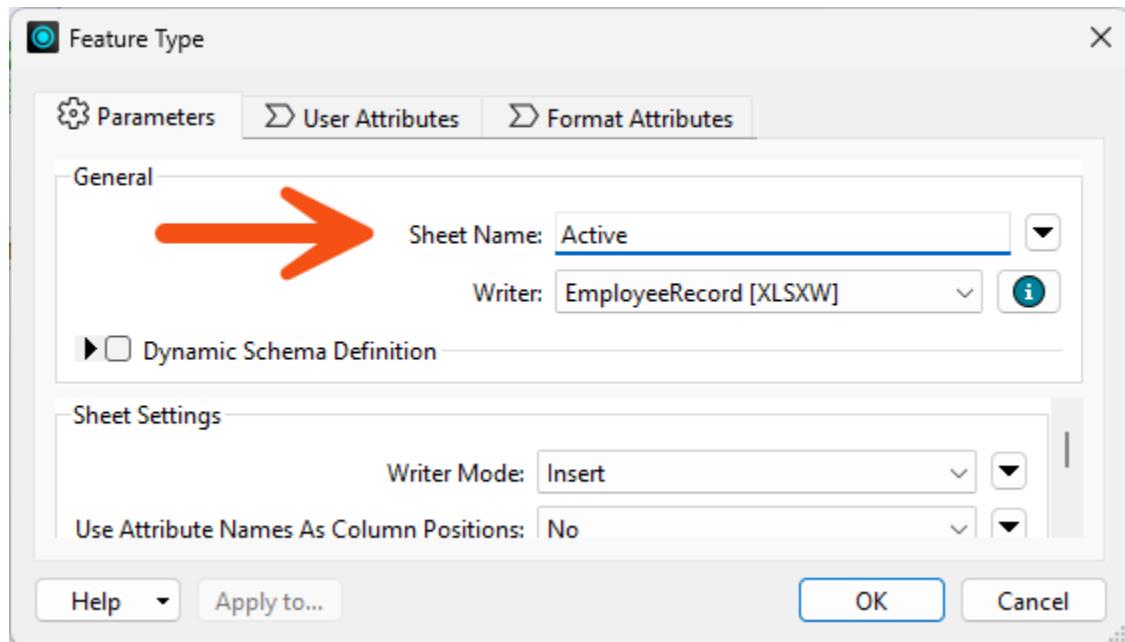


The default Sheet Definition parameter for FME 2023.2 and prior is Copy from Reader. Before clicking OK, change the Sheet Definition to Automatic. Then continue to the next step.

8. Modify the Writer Feature Type

The Sheet Definition was set to Automatic, which means the schema will be copied from the workflow when we connect the writer feature type. We can modify the name before we connect it.

In the Feature Type dialog, type Active for the Sheet Name, then click OK.



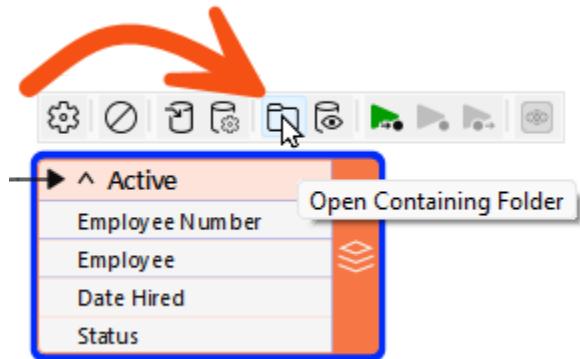
Click and drag from the arrow on the Tester Passed output port to the red arrow on the Active writer feature type to connect it.



9. Run the Workspace and View Output

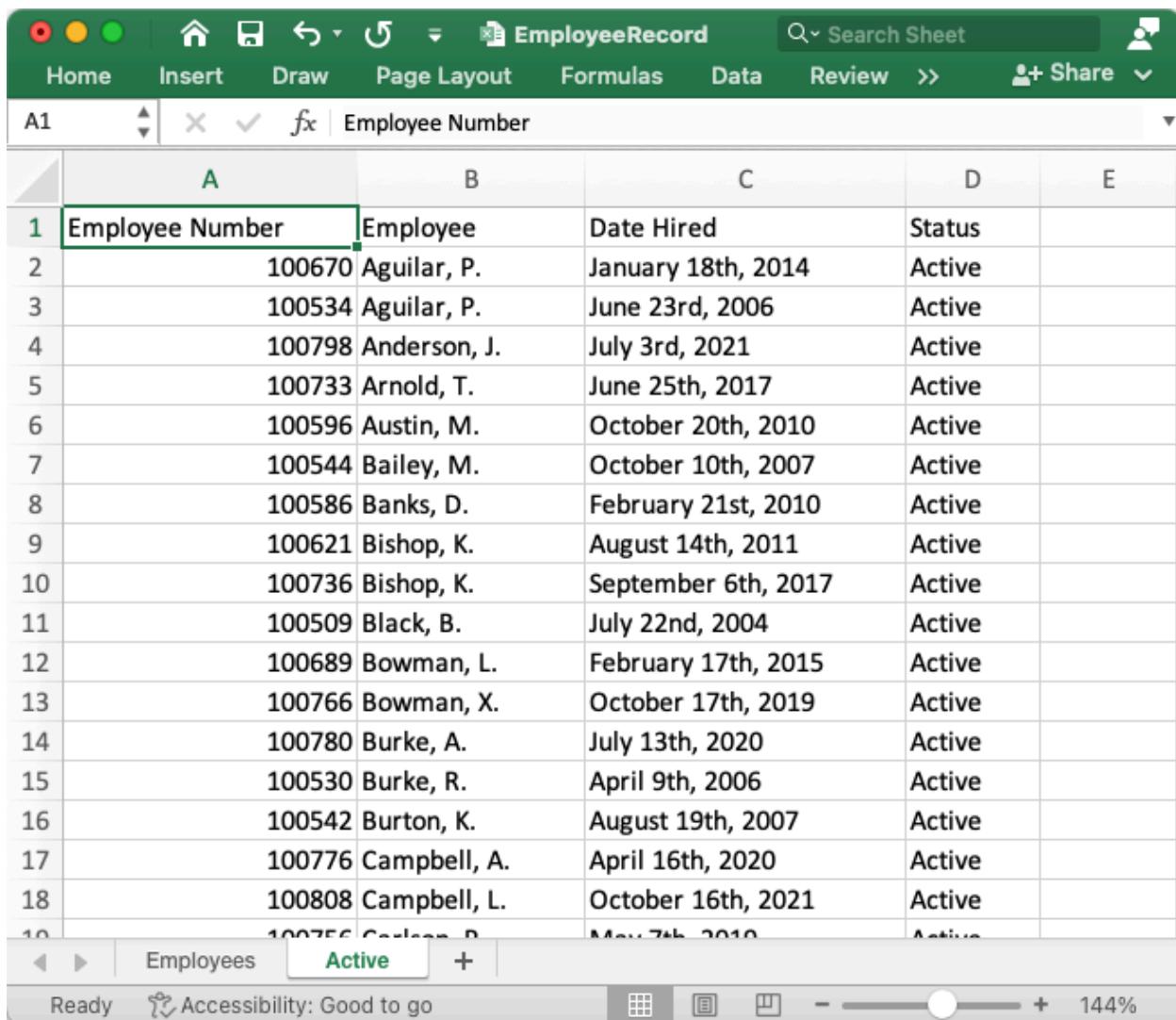
The final step is to run the entire workspace. Running the workspace with a writer connected will write the data out to disk. Click on the Run button again to run the entire workspace. The Translation Parameter Values dialog will reappear since we added a writer; click on Run.

Single-click on the Active writer feature type to open the popup menu. Click on the folder icon to browse to the folder containing the dataset.



In your File Browser, double-click on EmployeeRecord.xlsx to open the dataset in Open Office Calc

and view the newly added Active worksheet.



The screenshot shows a Microsoft Excel window titled "EmployeeRecord". The ribbon menu includes Home, Insert, Draw, Page Layout, Formulas, Data, Review, Share, and Search Sheet. The active cell is A1, labeled "Employee Number". The data starts at row 1 with columns A, B, C, D, and E. Column A contains employee numbers from 100670 to 100756. Column B contains names like Aguilar, P., Anderson, J., etc. Column C contains hire dates. Column D contains status, all of which are "Active". The bottom navigation bar shows tabs for Employees and Active, with Active selected. The status bar indicates the document is ready and accessibility is good to go.

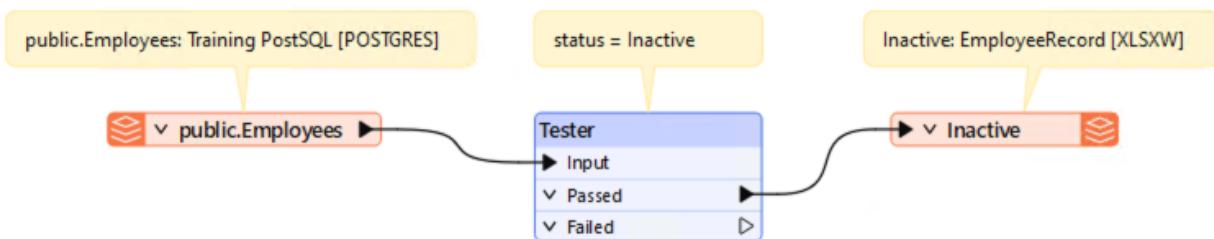
A	B	C	D	E
1 Employee Number	Employee	Date Hired	Status	
2 100670	Aguilar, P.	January 18th, 2014	Active	
3 100534	Aguilar, P.	June 23rd, 2006	Active	
4 100798	Anderson, J.	July 3rd, 2021	Active	
5 100733	Arnold, T.	June 25th, 2017	Active	
6 100596	Austin, M.	October 20th, 2010	Active	
7 100544	Bailey, M.	October 10th, 2007	Active	
8 100586	Banks, D.	February 21st, 2010	Active	
9 100621	Bishop, K.	August 14th, 2011	Active	
10 100736	Bishop, K.	September 6th, 2017	Active	
11 100509	Black, B.	July 22nd, 2004	Active	
12 100689	Bowman, L.	February 17th, 2015	Active	
13 100766	Bowman, X.	October 17th, 2019	Active	
14 100780	Burke, A.	July 13th, 2020	Active	
15 100530	Burke, R.	April 9th, 2006	Active	
16 100542	Burton, K.	August 19th, 2007	Active	
17 100776	Campbell, A.	April 16th, 2020	Active	
18 100808	Campbell, L.	October 16th, 2021	Active	
19 100756	Carlson, D.	May 24th, 2010	Active	

The default parameters in the Microsoft Excel writer are set to insert data every time the workspace is run. If the workspace were run a second time, this would result in a duplicate copy of the active employees being added to the newly created Active worksheet. To learn more about the Microsoft Excel writer, see [Excel Writer Parameters | Converting Excel to Excel](#).

Working with Databases

Introduction

In this article, you'll discover how to create a workspace in FME Workbench, the authoring application that accompanies FME Form, specifically emphasizing utilizing data from a database. Please follow along with the step-by-step instructions to learn how to create a database connection, read data from a PostgreSQL table that includes employee information, add a transformer to filter for active employees, and then write the filtered data to a Microsoft Excel workbook.



If you regularly use spreadsheets instead of databases, you can complete the same example by reading from a Microsoft Excel spreadsheet. See [Getting Started with FME Form: Working with Table/Tabular Data](#) for the instructions.

We rebranded FME Desktop to FME Form in 2023 and launched a rebranded interface in FME 2024.0. This tutorial can be used with any version of FME. The concepts are the same, but the screenshot appearances may differ.

Source Data

The source data is a table from the Safe Software provided training PostgreSQL database that contains a list of employees.

Query Query History Scratch Pad

```
1 SELECT * FROM public."Employees"
2
```

Data Output Messages Notifications

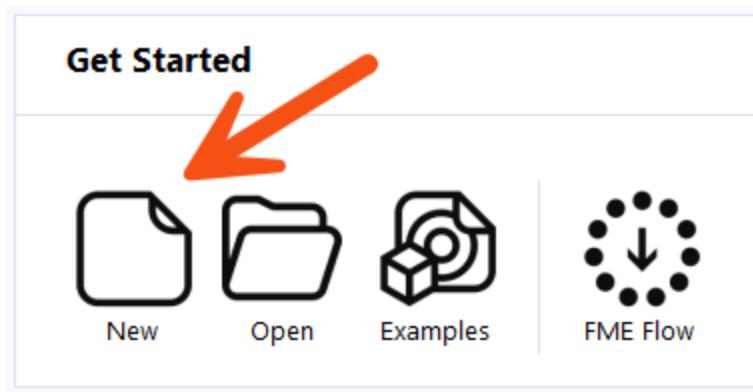
	employee_number integer	employee character varying (15)	date_hired character varying (21)	status character varying (9)
1	100653	Aguilar, A.	January 30th, 2013	Inactive
2	100670	Aguilar, P.	January 18th, 2014	Active
3	100534	Aguilar, P.	June 23rd, 2006	Active
4	100573	Alexander, A.	June 20th, 2009	Inactive
5	100688	Alexander, J.	February 3rd, 2015	Inactive
6	100809	Alvarado, S.	November 6th, 2021	Inactive
7	100597	Anderson, A.	October 28th, 2010	Inactive
8	100798	Anderson, J.	July 3rd, 2021	Active
9	100645	Arnold, M.	September 26th, 2012	Inactive
10	100733	Arnold, T.	June 25th, 2017	Active
11	100596	Austin, M.	October 20th, 2010	Active
12	100544	Bailey, M.	October 10th, 2007	Active
13	100795	Bailey, M.	April 12th, 2021	Inactive
14	100793	Baker, W.	March 1st, 2021	Inactive
15	100586	Banks, D.	February 21st, 2010	Active
16	100564	Banks, P.	November 30th, 2008	Inactive
17	100642	Bennett, I.	August 27th, 2012	Inactive
18	100699	Berry, B.	August 20th, 2015	Inactive
19	100792	Berry, R.	February 28th, 2021	Inactive

Total rows: 325 of 325 Query complete 00:00:00.632 Ln 1, Col 1

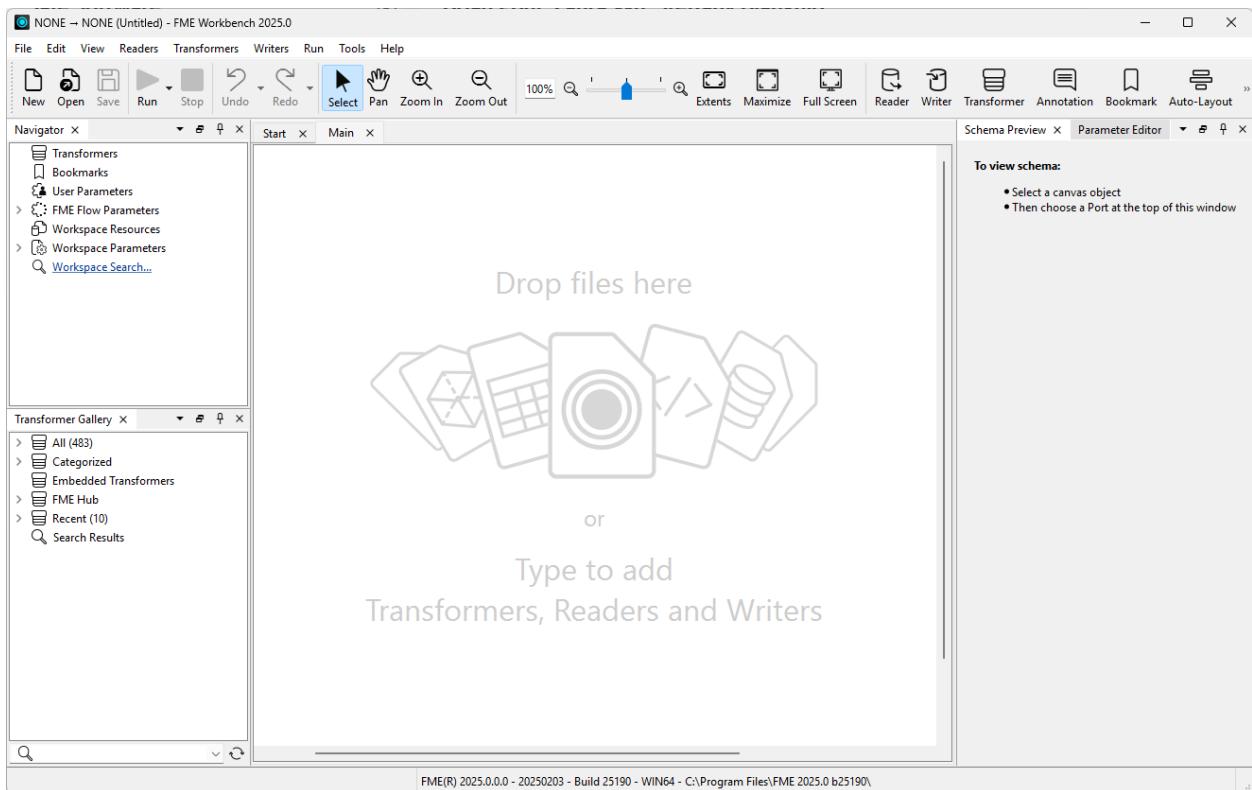
Step-by-step Instructions

1. Start a Blank Workspace

Start FME Workbench, then click the Blank Workspace button.

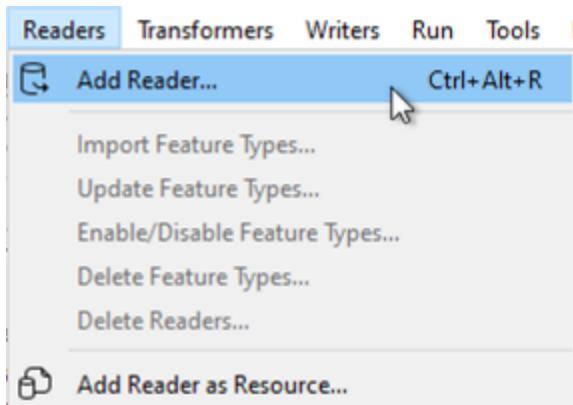


The FME Workbench canvas is where the workspace will be built using readers, writers, and transformers.

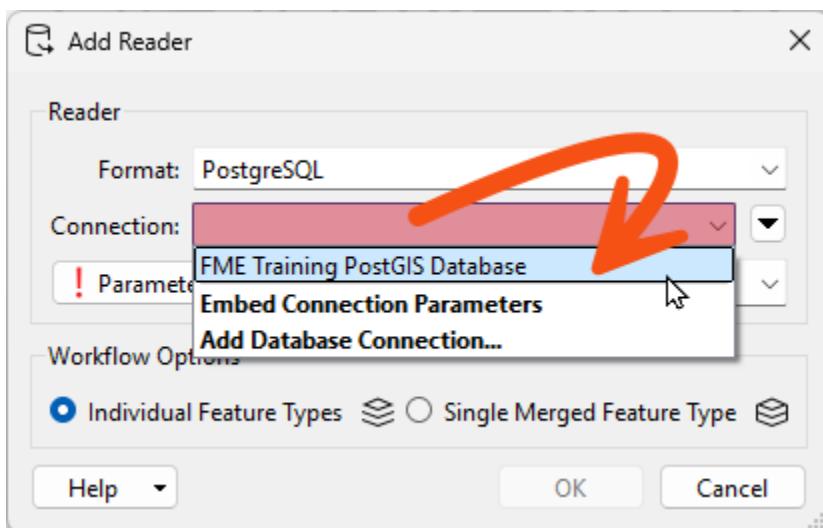


2. Add a PostgreSQL Reader - Create a Database Connection

On the top menu bar, click Readers, then select Add Reader. A reader is an object in a workspace that reads a source dataset.



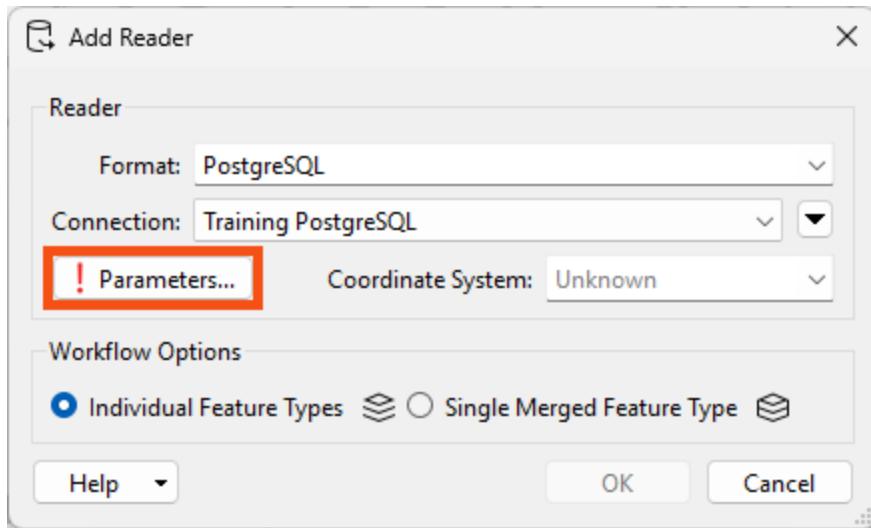
In the popup Add Reader dialog, type in PostgreSQL as the Format. Then click the red drop-down arrow next to Connection and select FME Training PostGIS Database.



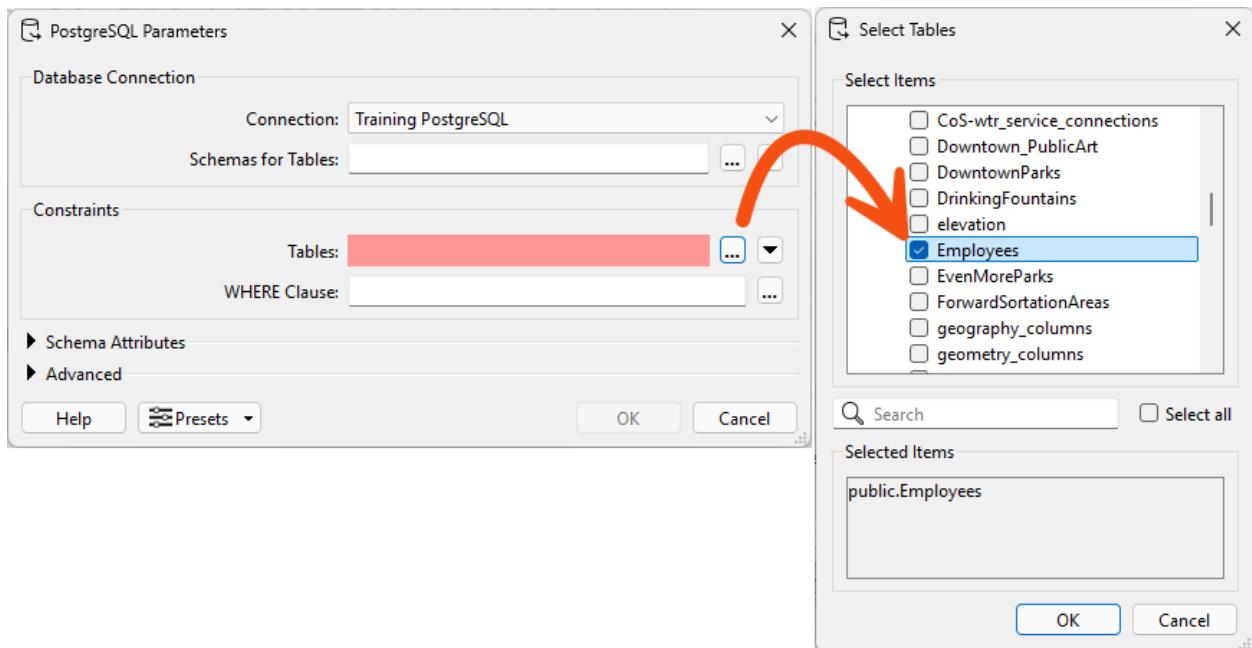
Note: screenshots below refer to "Training PostgreSQL," but your screen will say "FME Training PostGIS Database." We are just using a slightly different connection name.

3. PostgreSQL Reader Parameters

With the database connection created, we can now access the database tables. Still in the Add Reader dialog, click on Parameters.

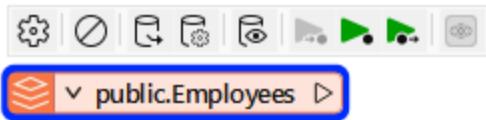


In the parameters, click on the ellipsis [...] next to Tables, then expand Public and select Employees. Click OK three times to finish adding the reader to the workspace.

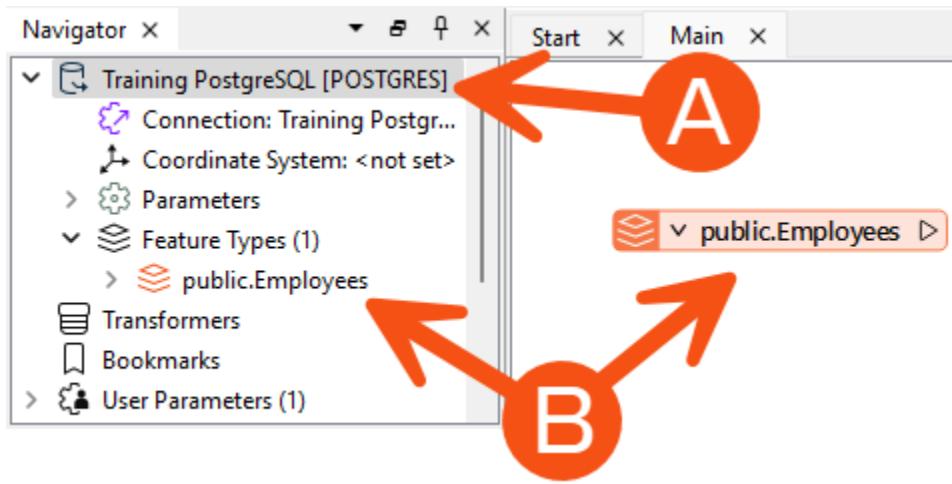


If you cannot find the Employee table in the Safe Software provided PostgreSQL training database, double-check that the Format in the reader is set to PostgreSQL and not PostGIS. The Employee table does not contain any geometry and cannot be read in with the PostGIS reader.

A reader feature type object has been added to the canvas and represents the Employees table. Readers create a feature type for each table or layer in the source dataset you wish to read.



The Navigator is where readers can be found. The A) reader represents the dataset/database as a whole, such as the entire PostgreSQL Public database. The B) reader feature type(s) represent each part of the dataset, in this case, the Employees table.



4. Add a Transformer

Transformers are the building blocks within a workspace to manipulate data, and each has a specific function. We will use a Tester transformer to filter the data.

Click on a blank space on the canvas, and start typing Tester to bring up the Quick Add dialog. The Quick Add dialog is where readers, writers, and transformers can be added. Double-click on the Tester under FME Transformers to add it to the workspace.

tester

Transformer 20 Reader 99+ Writer 55 Official 99+ Verified Community 15

Tester

Tweeter

AttributeExploder

NoFeaturesTester

Tiler

Rotator

GeoTIFF (Geo...at) [Reader]

JPEG (Joint ...up) [Reader]

Esri ASCII Grid [Reader]

TIFF (Tagged...at) [Reader]

PNG (Portabl...cs) [Reader]

ER Mapper ECW [Reader]

OGC WMS (We...e) [Reader]

Esri Geodata...et) [Reader]

CoG (Cloud-O...FF) [Reader]

JPEG 2000 (G...P2) [Reader]

Tester

Official Publisher - Safe Software

Category Data Quality, Database, Filters and Joins

Rank 3

Link [Help](#)

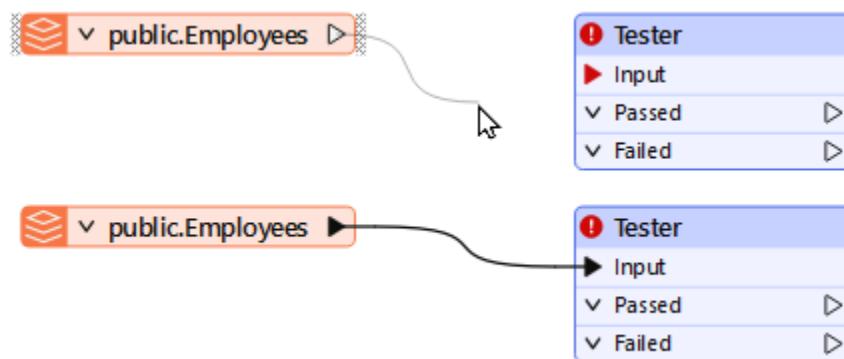
Description

Evaluates one or more tests on a feature, and routes the feature according to the outcome of the test(s).

Related Transformers

AttributeFilter	JSONValidator
AttributeRangeFilter	TestFilter
AttributeValidator	XMLValidator
GeometryValidator	

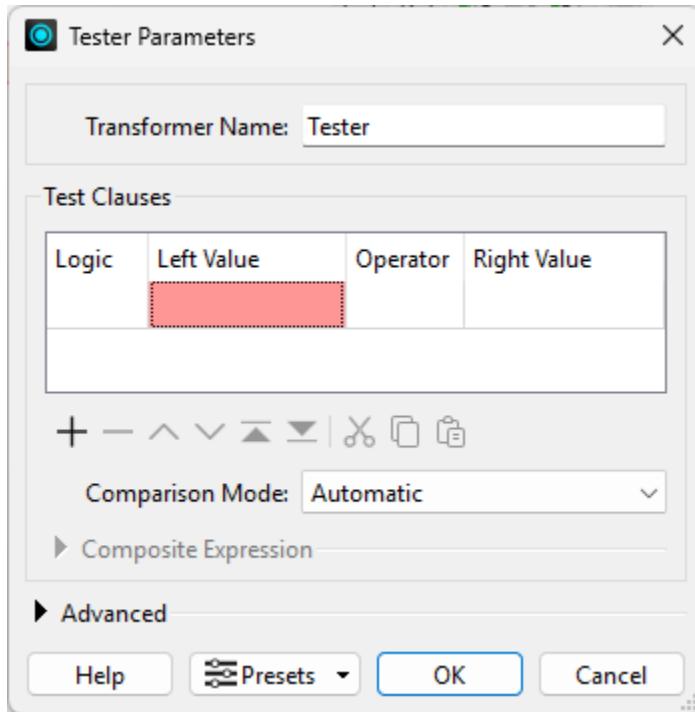
To access the data from within the transformer, it needs to be connected to the workflow. Click and drag from the arrow on the public.Employees reader feature type to the red arrow of the Tester transformer. This connection line sends data from the feature type into the transformer for processing.



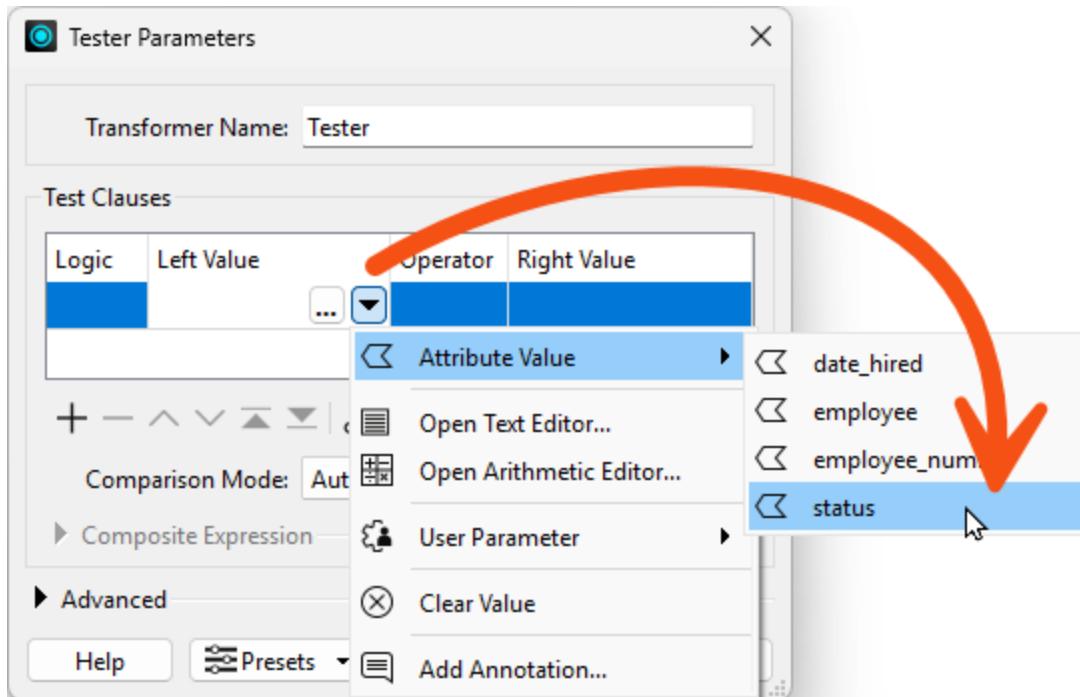
5. Modify Transformer Parameters

The Tester transformer filters data based on conditional statements. A conditional statement of status = Inactive will be created to filter for the inactive employees at the company.

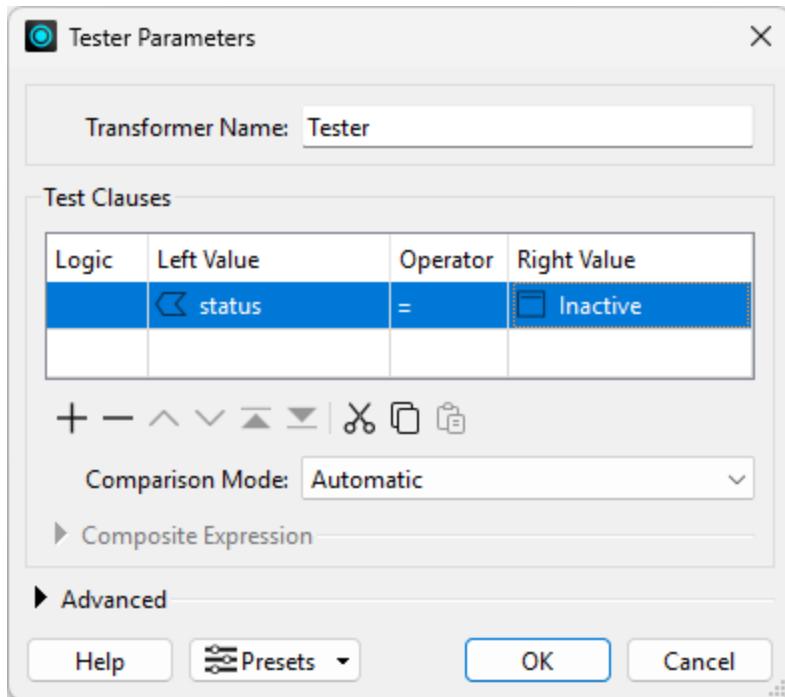
Double-click anywhere on the Tester transformer to open the parameters. Click in the red box below Left Value in the Tester parameters to expose the selection options.



After clicking in the box, an ellipsis button and a down (drop-down) arrow will appear. Click on the down arrow to open the drop-down menu, hover your mouse over Attribute Value to expand the menu, then click on status. Status is the attribute where the Active and Inactive values are stored.

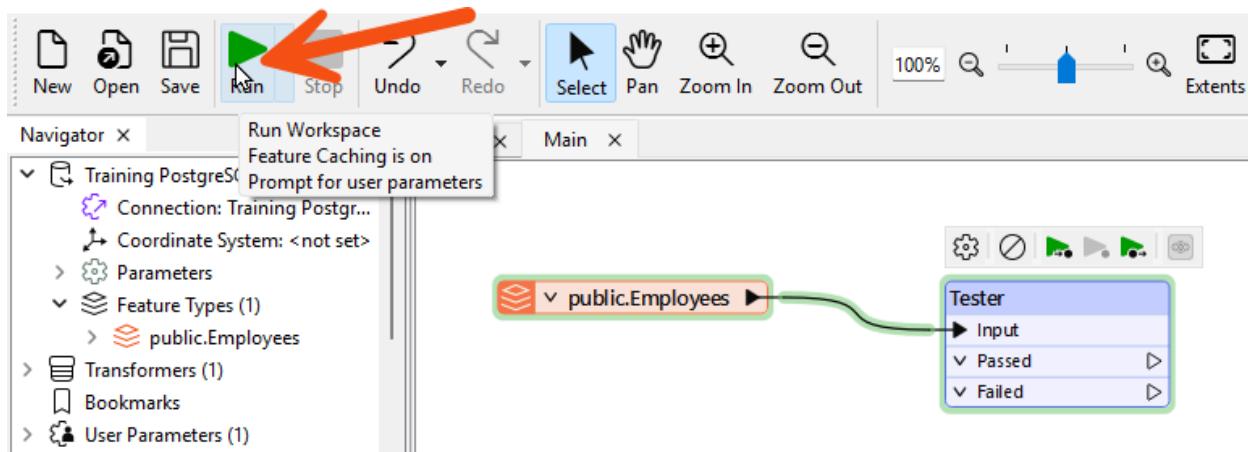


Next, click in the box under Right Value; the selection options will appear but can be ignored, as we will manually enter a value. In the Right Value box, type Inactive. Notice that after clicking in the Right Value box, the Operator changed to = (equals); this is the default operator. The Operator can be changed by clicking on the =, which will open a drop-down menu. The conditional test has been set up. Click OK to confirm the Tester parameters.

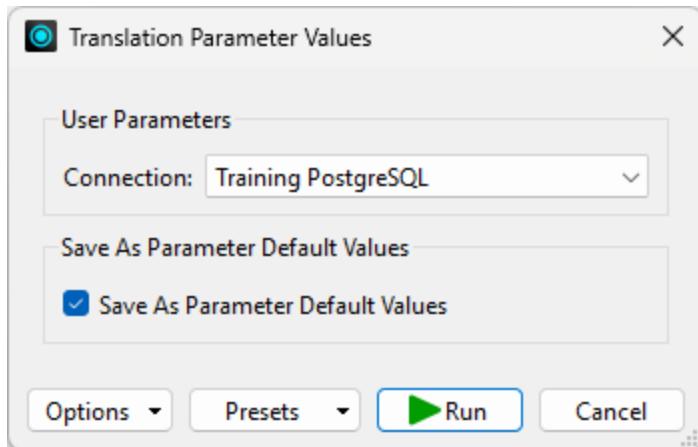


6. Run Workspace

We have authored the workspace to read the data and filter for Inactive employees, but we still need to run the workspace. On the top toolbar (ribbon), click the green Run button. Clicking Run will trigger the workspace to read and process the data through any transformers.

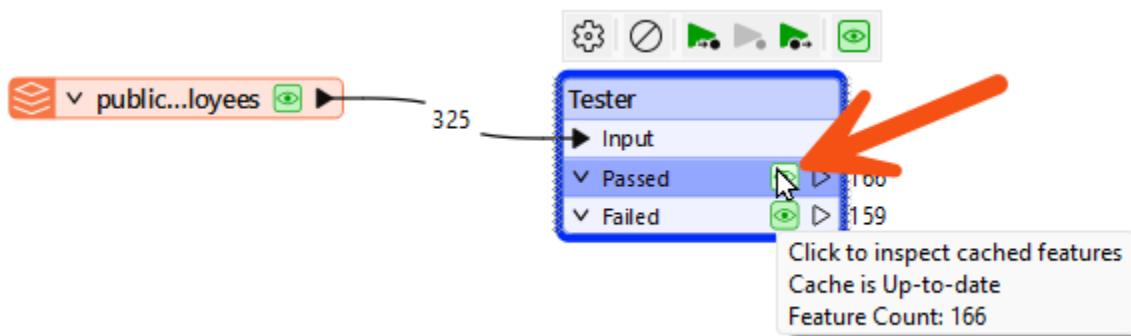


After clicking Run, a Translation Parameter Value dialog will pop up; this is where any user-defined parameters can be modified. We do not need to make any changes at this time; click Run to continue.

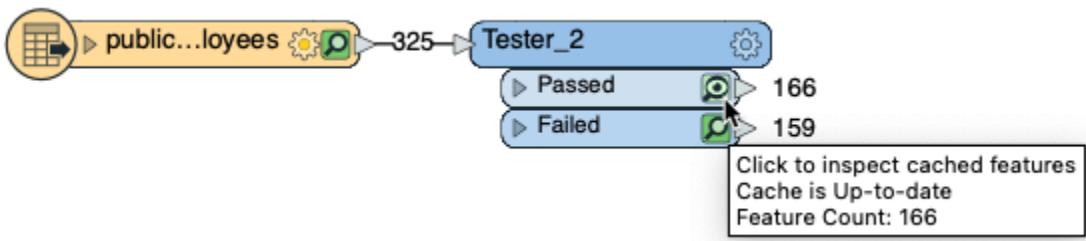


7. View Output Data in Visual Preview

After initiating the workspace to run, data will flow through the workspace. The numbers on the connection lines represent the number of features it is transporting, and the number on each output port is the number of features that is output. The Translation Log will also open; this can be ignored for now. A feature in FME is a single row in a table. Click on the green eye icon on the Tester Passed output port to open the data in the Visual Preview window. To learn more about viewing data in FME, see [Data Inspection in FME](#).



In FME 2023.2 or prior, the inspect icon is a green magnifying glass.



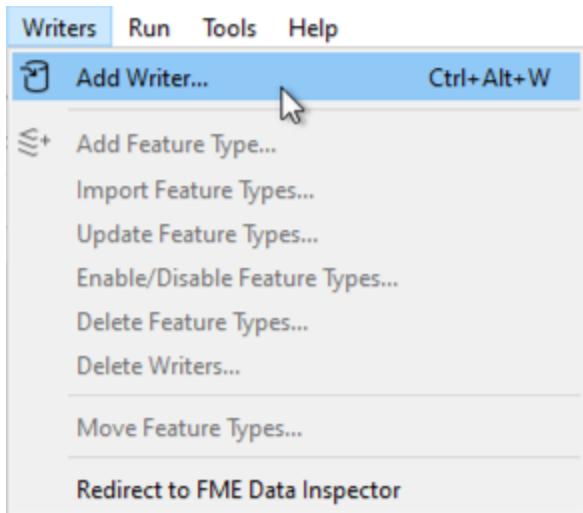
Visual Preview is the data viewer within FME Workbench. There is also an external application called FME Data Inspector that allows users to view data. In the Visual Preview window, you will see the Tester_Passed table containing all employees with an Inactive status. Inspecting the Failed output port would display all of the Active employees.

	employee_number	employee	date_hired	status
1	100653	Aguilar, A.	January 30th, 2013	Inactive
2	100573	Alexander, A.	June 20th, 2009	Inactive
3	100688	Alexander, J.	February 3rd, 2013	Inactive
4	100809	Alvarado, S.	November 6th, 2012	Inactive
5	100597	Anderson, A.	October 28th, 2012	Inactive
6	100645	Arnold, M.	September 26th, 2012	Inactive

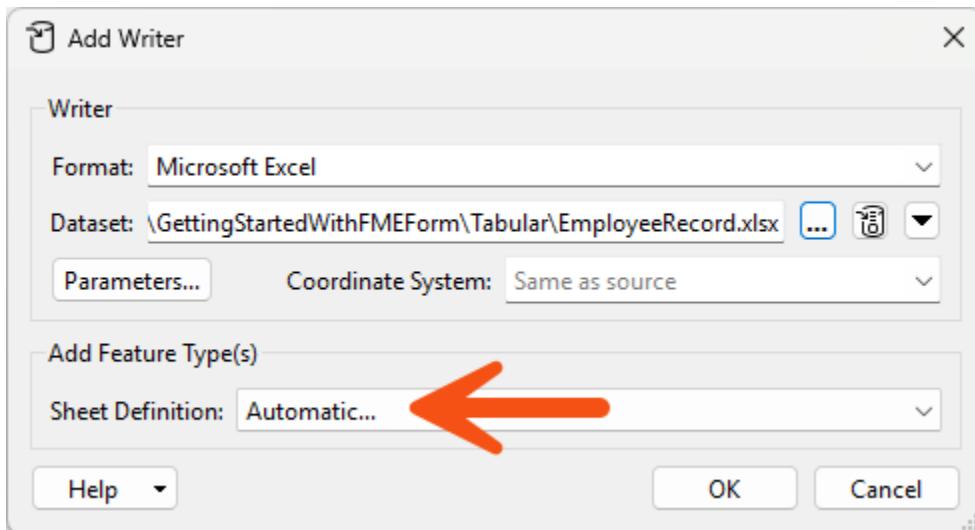
8. Add a Writer

The data viewed in Visual Preview is currently only contained within FME Workbench. To store the data for later use or for use within a different application, we need to write it out. This is accomplished with a writer.

On the top menu bar, click on Writers to open the drop-down menu, then select Add Writer.



In the Add Writer popup dialog, select Microsoft Excel as the Format. For Dataset, click on the ellipsis, browse to a folder, and then type in EmployeeRecords.xlsx. Ensure that Sheet Definition is set to Automatic. Click OK to finish adding the writer to the canvas.

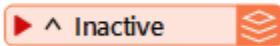
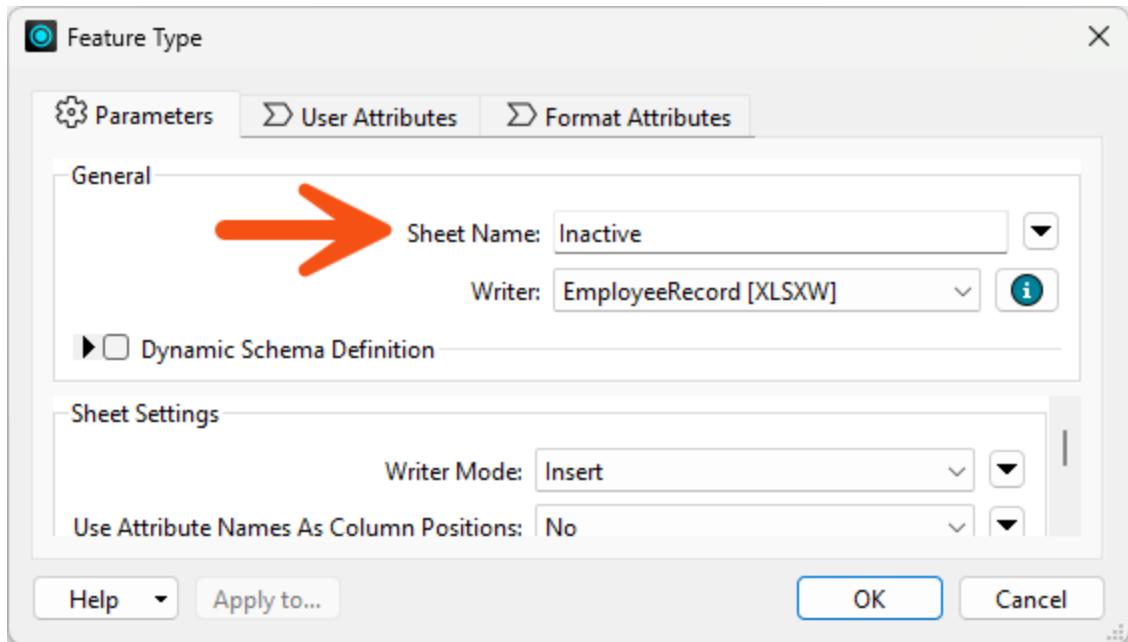


The default Sheet Definition parameter for FME 2023.2 and prior is Copy from Reader. Before clicking OK, change the Sheet Definition to Automatic. Then continue to the next step.

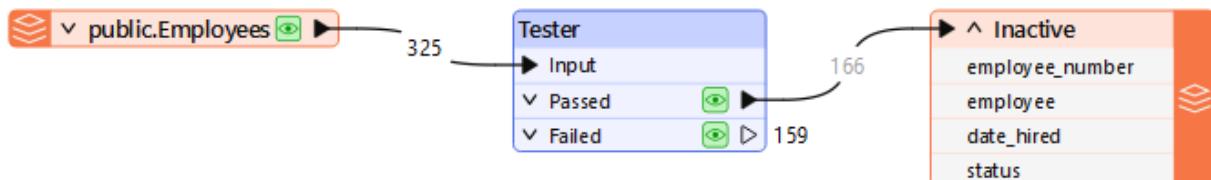
9. Modify Writer Parameters

The Sheet Definition was set to Automatic, which means the schema will be copied from the workflow when we connect the writer feature type. We can modify the name before we connect it.

In the Feature Type dialog, type Inactive for the Sheet Name, then click OK.



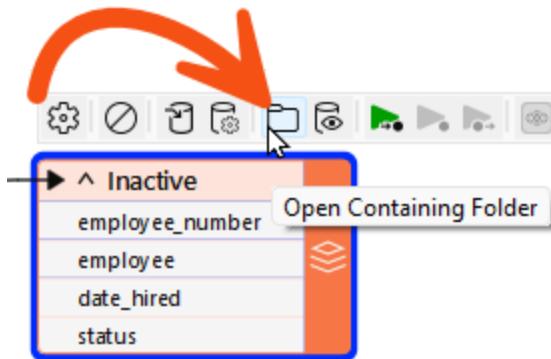
Click and drag from the arrow on the Tester Passed output port to the red arrow on the Inactive writer feature type to connect it.



10. Run the Workspace and View Output

The final step is to run the entire workspace. Running the workspace with a writer connected will write the data out to disk. Click on the Run button to run the entire workspace; click Run in the Translation Parameters dialog.

To quickly navigate to the folder containing the EmployeeRecords.xlsx dataset, single-click on the Inactive writer feature type to open the popup menu, then click on the folder icon.



In the file explorer, open EmployeeRecords.xlsx in Open Office Calc.

	A	B	C	D	E
1	employee_number	employee	date_hired	status	
2	100653	Aguilar, A.	January 30th, 2013	Inactive	
3	100573	Alexander, A.	June 20th, 2009	Inactive	
4	100688	Alexander, J.	February 3rd, 2015	Inactive	
5	100809	Alvarado, S.	November 6th, 2021	Inactive	
6	100597	Anderson, A.	October 28th, 2010	Inactive	
7	100645	Arnold, M.	September 26th, 2012	Inactive	
8	100795	Bailey, M.	April 12th, 2021	Inactive	
9	100793	Baker, W.	March 1st, 2021	Inactive	
10	100564	Banks, P.	November 30th, 2008	Inactive	
11	100642	Bennett, I.	August 27th, 2012	Inactive	
12	100699	Berry, B.	August 20th, 2015	Inactive	
13	100792	Berry, R.	February 28th, 2021	Inactive	
14	100796	Bishop, B.	April 23rd, 2021	Inactive	
15	100622	Bishop, G.	August 19th, 2011	Inactive	
16	100770	Bishop, J.	January 2nd, 2020	Inactive	
17	100623	Bryant, M.	October 15th, 2011	Inactive	
18	100593	Carpenter, M.	October 16th, 2010	Inactive	
19	100696	Carter, C.	June 25th, 2015	Inactive	
20	100513	Castro, E.	January 20th, 2005	Inactive	

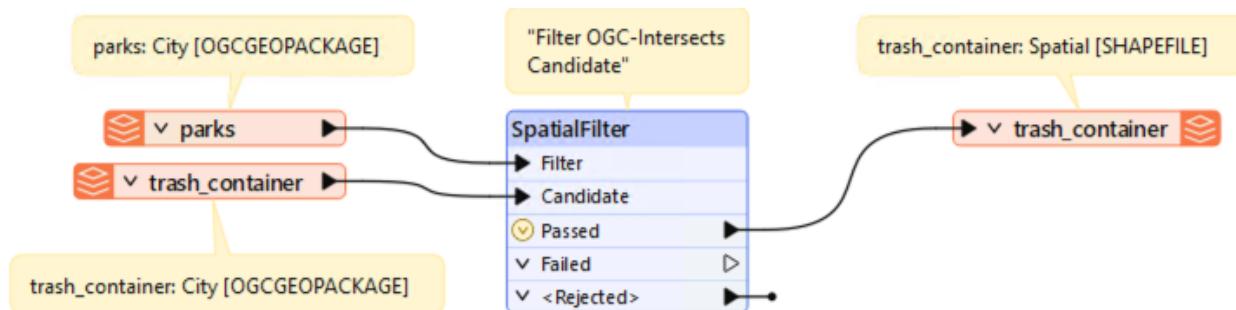
The default parameters in the Microsoft Excel writer are set to insert data every time the workspace is run. If the workspace was run a second time, a duplicate copy of the inactive employees would be

added. To learn more about the Microsoft Excel writer, see [Excel Writer Parameters | Converting Excel to Excel](#).

Working with Spatial Data

Introduction

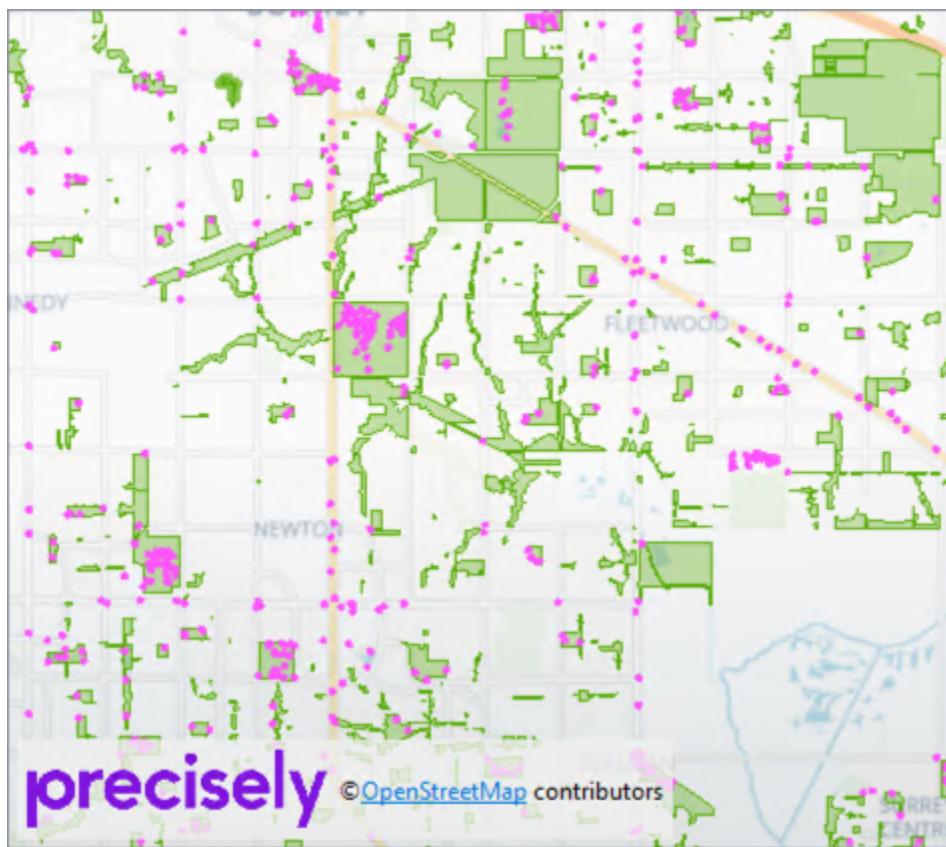
In this article, you'll discover how to create a workspace in FME Workbench, the authoring application accompanying FME Form, specifically emphasizing utilizing spatial (GIS) data. Follow along with the step-by-step instructions to learn how to read data from an OGC GeoPackage that includes points of trash containers and polygons of parks, add a transformer to spatially filter for trash containers within the parks, and then write the filtered data to an Esri Shapefile.



We rebranded FME Desktop to FME Form in 2023 and launched a rebranded interface in FME 2024.0. This tutorial can be used with any version of FME. The concepts are the same, but the screenshot appearances may differ.

Source Data

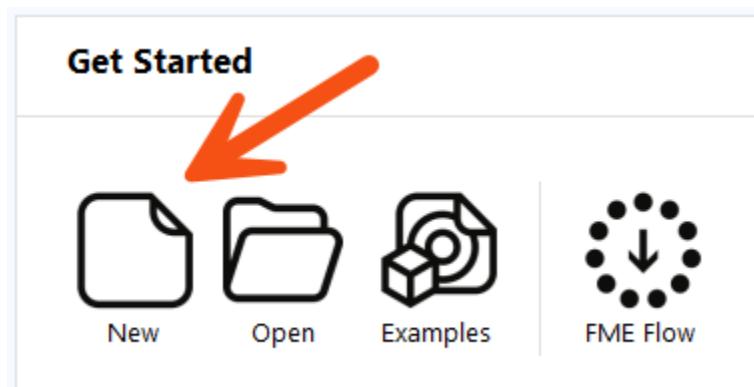
The source dataset is an OGC GeoPackage containing trash container points and park polygons.



Step-by-step Instructions

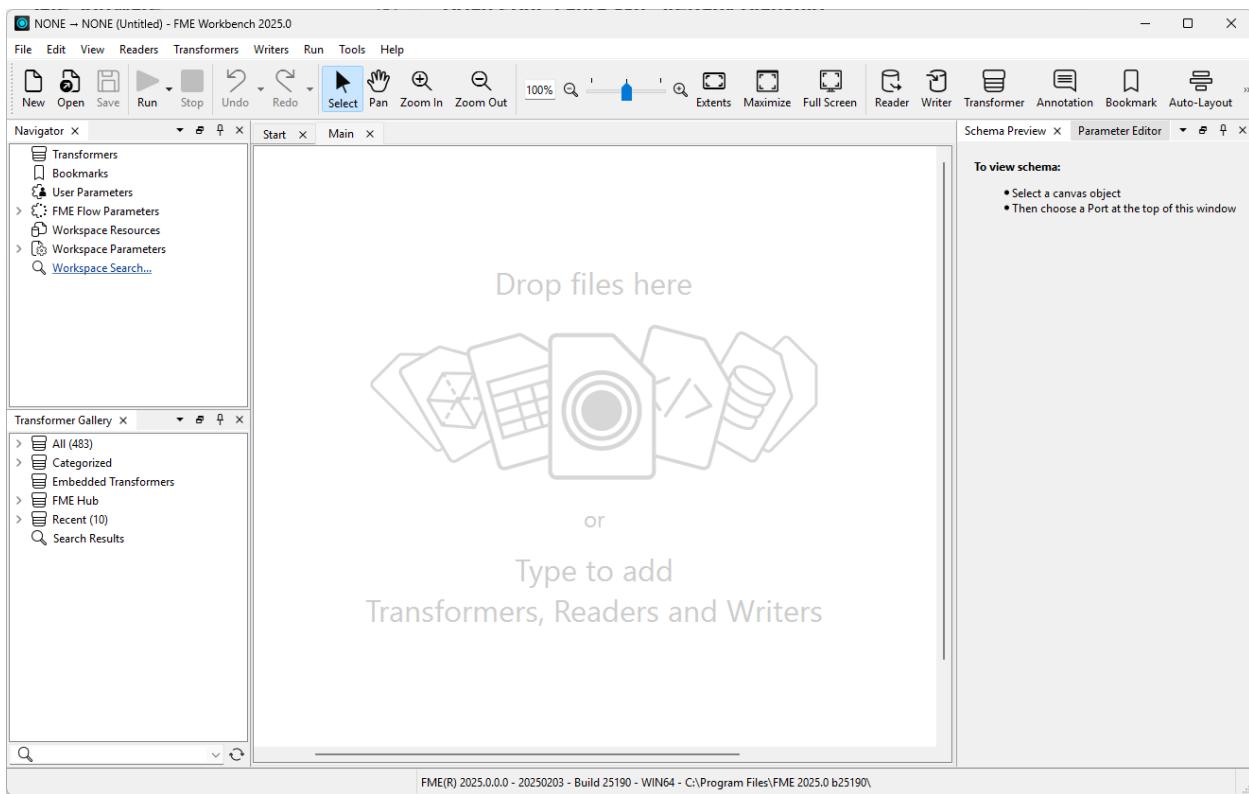
1. Start a Blank Workspace

Start FME Workbench, then click the Blank Workspace button.



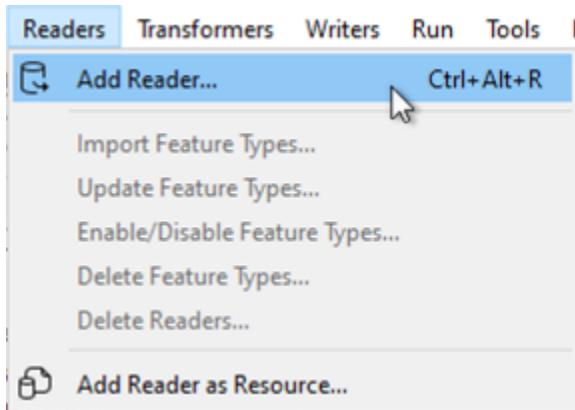
The FME Workbench canvas is where the workspace will be built using readers, writers, and

transformers.



2. Add an OGC GeoPackage Reader

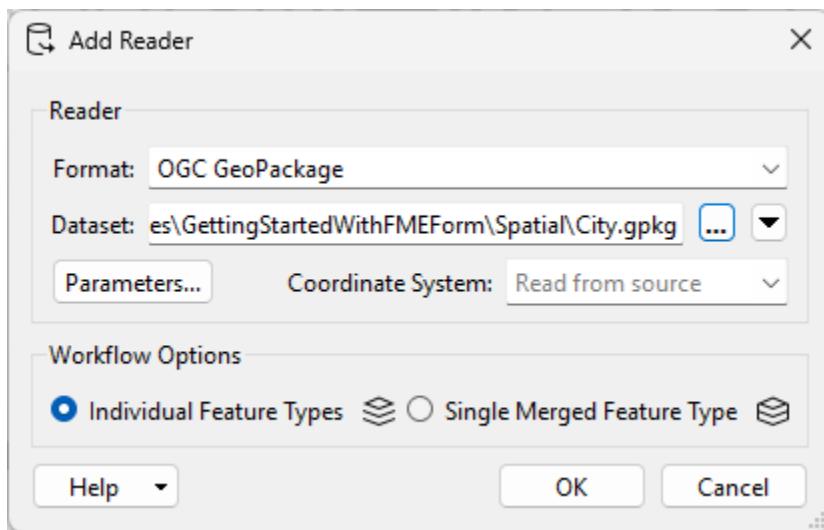
On the top menu bar, click Readers, then select Add Reader. A reader is an object in a workspace that reads a source dataset.



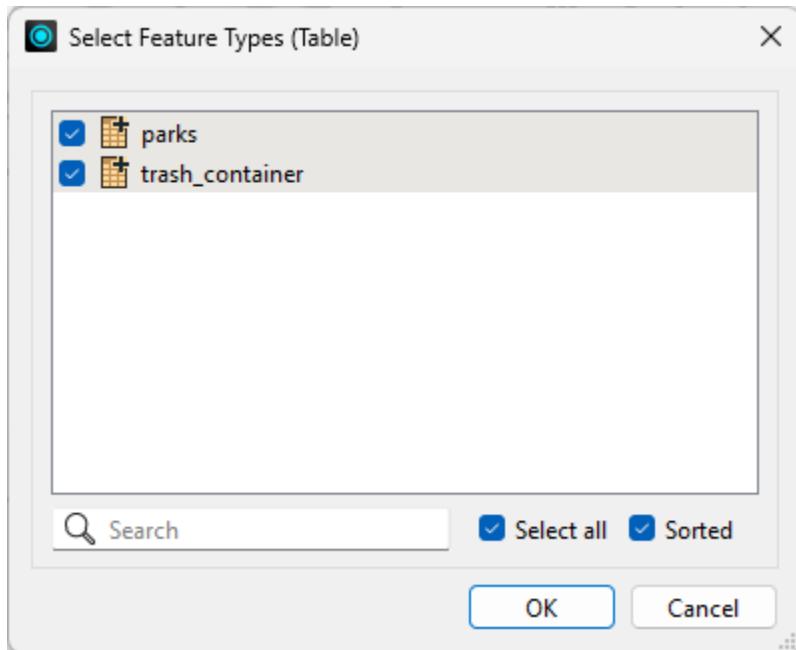
In the popup Add Reader dialog, type in OGC GeoPackage as the Format. Then click the ellipsis [...] button next to Dataset and browse to the City.gpkg sample dataset.

C:\FMEData\Resources\FMEUC25\Getting Started\FME Form\Data\City.gpkg. Other parameters are available, but you can leave them as default for this example. Click OK to add the reader to the

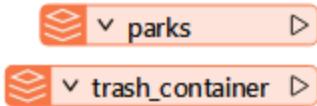
workspace.



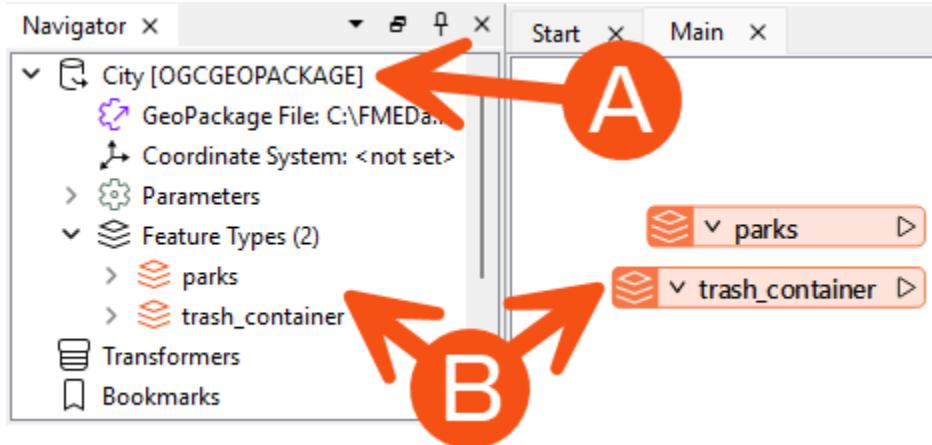
Since this dataset has multiple tables, you will be prompted to Select Feature Types (Table). We need both tables, click OK; both tables should be selected by default.



Readers create a feature type for each table or layer in the source dataset you wish to read. In this case, two reader feature type objects have been added to the canvas and represent each table in the GeoPackage.



The Navigator is where readers can be found. The A) reader represents the dataset as a whole, such as the entire City.gpkg dataset. The B) reader feature types represent each part of the dataset, in this case, the parks and trash_container layers.



3. Add a Transformer

Transformers are the building blocks within a workspace to manipulate data, and each has a specific function. We will use a SpatialFilter transformer to filter the trash_containers to only the containers that intersect a park.

Click on a blank space on the canvas, and start typing SpatialFilter to bring up the Quick Add dialog. The Quick Add dialog is where readers, writers, and transformers can be added. Double-click on the SpatialFilter under FME Transformers to add it to the canvas.

Search bar: spatialfilter

Category buttons: Transformer 4, Reader 1, Writer 1, Official 5, Verified, Community 1

SpatialFilter transformer details:

- SpatialFilter**
- SpatialSorter**
- SpatiaLite [Reader]**
- SpatialRelator**
- SpatiaLite [Writer]**
- ParityFilter**

SpatialFilter

Official Publisher - Safe Software

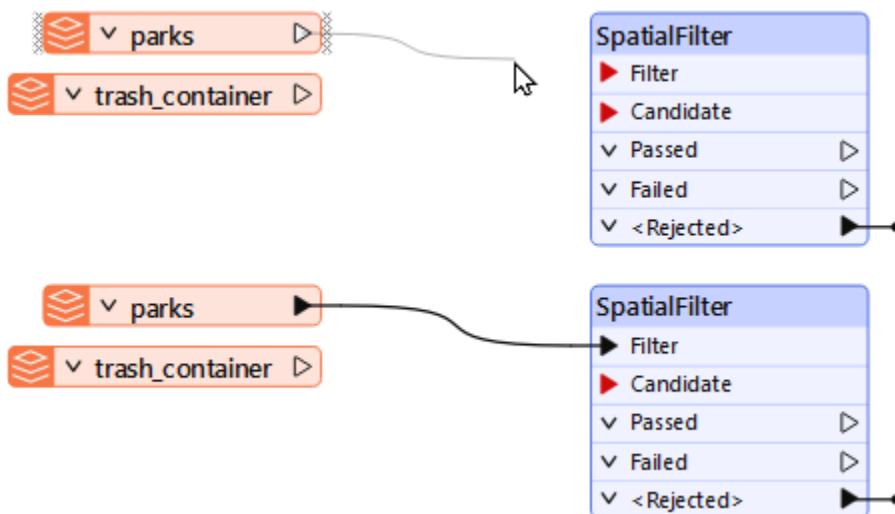
Category: Data Quality, Database, Filters and Joins, Spatial Analysis
Rank: 28
Link: Help

Description: Filters point, line, area, and text features based on spatial relationships.

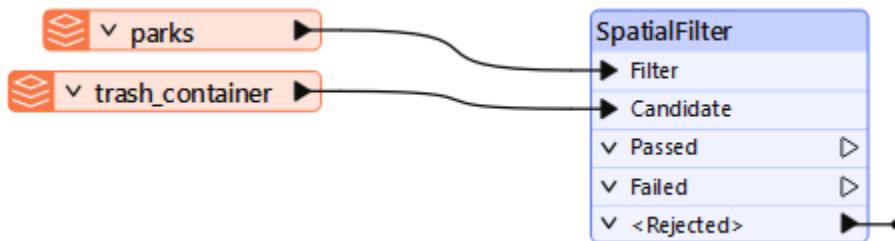
Related Transformers:

AreaOnAreaOverlayer	NeighborFinder
Bufferer	PointOnAreaOverlayer
Clipper	PointOnLineOverlayer
Intersector	PointOnPointOverlayer
LineOnAreaOverlayer	SpatialRelator
LineOnLineOverlayer	TopologyBuilder

To access the data from within the transformer, it needs to be connected to the workflow. Click and drag from the arrow on the parks reader feature type to the red arrow of the Filter input port on the SpatialFilter transformer. This connection line sends data from the feature type into the transformer for processing.

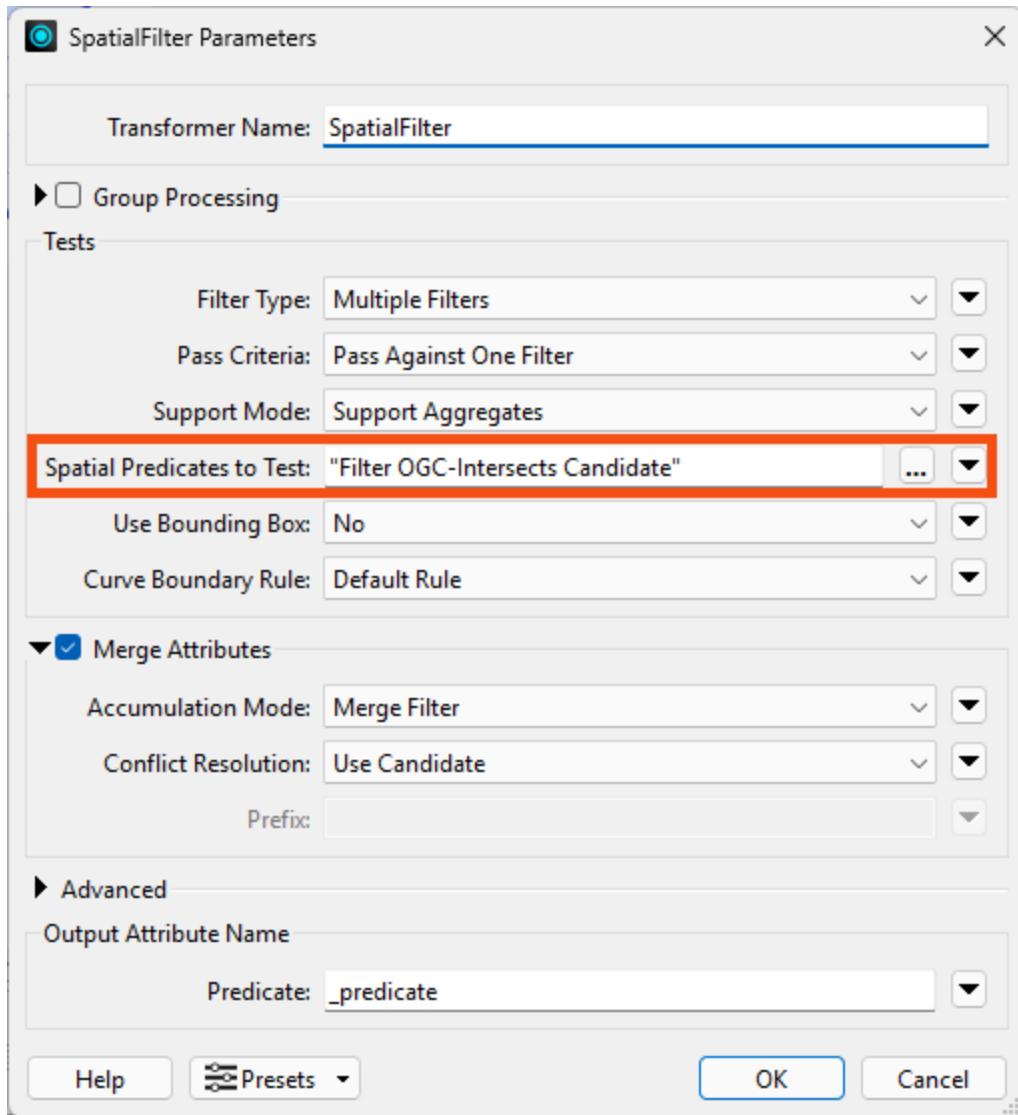


Next, connect the trash_container reader feature type to the Candidate input port on the SpatialFilter.



4. Review Transformer Parameters

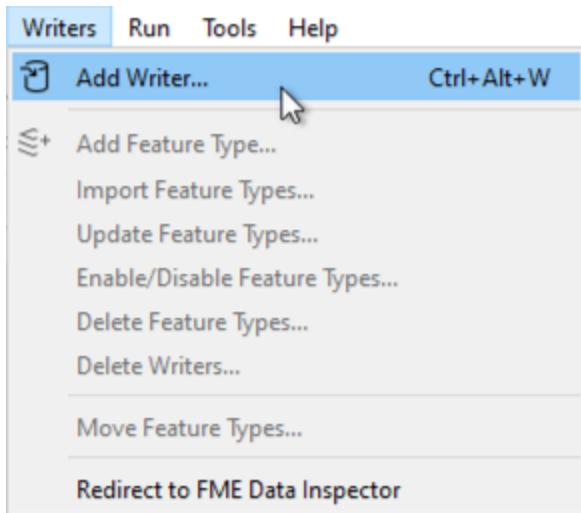
The SpatialFilter uses spatial predicates as filters. The test we will need to perform is Filter OGC (trash_containers) - Intersects Candidate (parks). Double-click anywhere on the SpatialFilter to open the parameters. By default, the SpatialFilter is already set to Filter OGC - Intersects Candidate. Since we do not need to change the Spatial Predicate to Test parameter, we can click OK or Cancel to accept the default parameters.



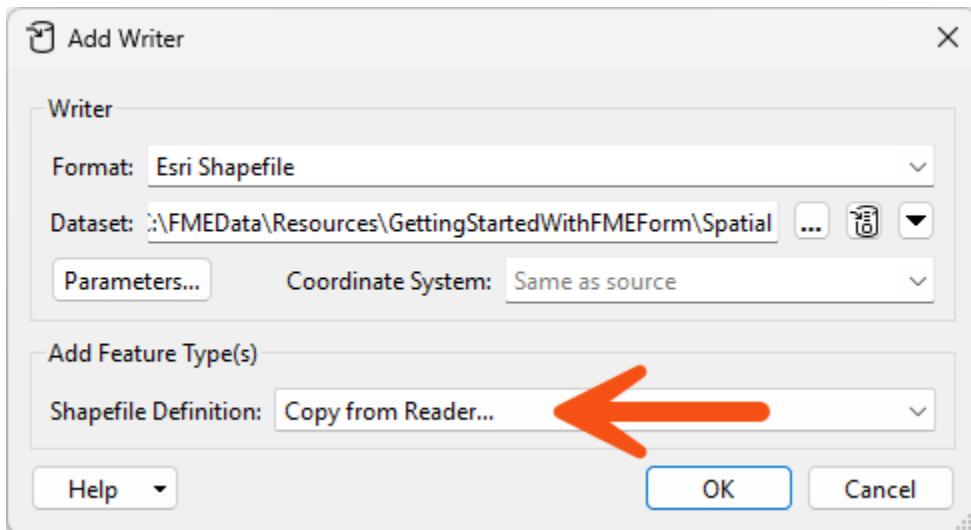
5. Add a Writer

So far, we have only created instructions for what FME Workbench should do. To store the resulting data to use later or for use within a different application, we need to write it out. This is accomplished with a writer.

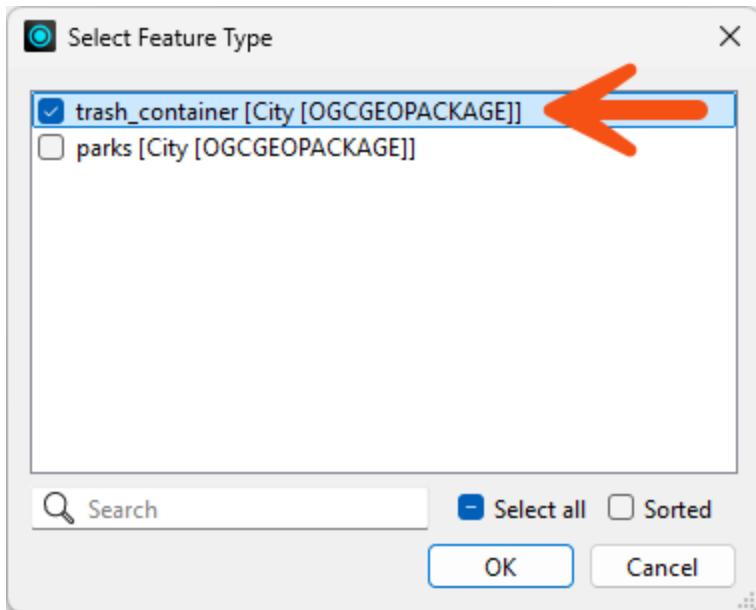
On the top menu bar, click on Writers to open the drop-down menu, then select Add Writer.



In the Add Writer popup dialog, select Esri Shapefile as the Format. Then for Dataset, click on the ellipsis and browse to a folder to store the shapefile. C:\FMEData\Resources\FMEUC25\Getting Started\FME Form\Data. FME can read and write the same file and create new files in any supported format. Ensure that Shapefile Definition is set to Copy from Reader. Click OK to finish adding the writer to the canvas.



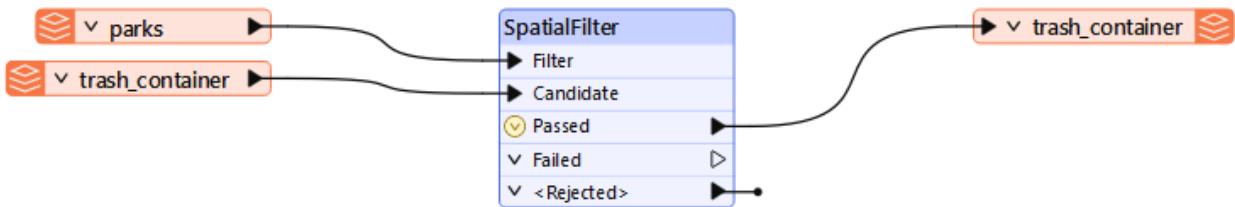
We used the Copy from Reader Shapefile Definition; this parameter will copy the schema from one of the reader feature types. Since our output will be the filtered trash_containers, select trash_containers as the reader feature type to copy. Click OK.



Since we copied the schema from the trash_container reader feature type, the writer feature type has the same attributes and point geometry that the input had.

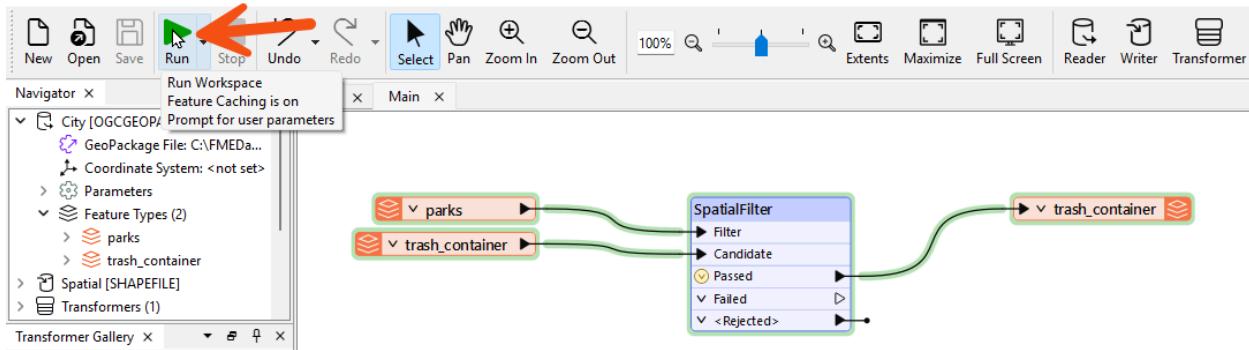


The writer feature type needs to be connected to the workflow. Click and drag from the SpatialFilter Passed output port arrow to the red arrow on the trash_container writer feature type.

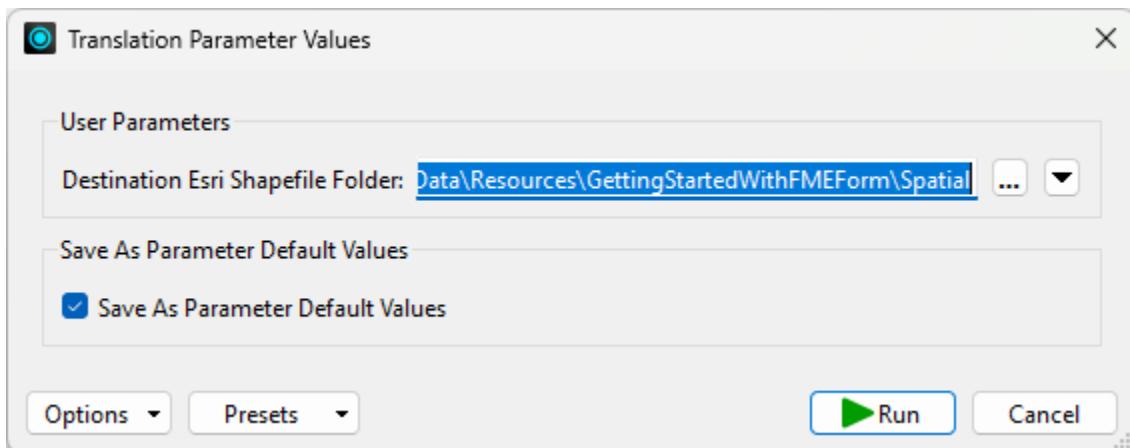


6. Run the Workspace

The workspace will read the data and filter for the trash_containers intersecting parks and then write the filtered trash_containers to an Esri Shapefile, but we still need to run the workspace. Running the workspace with a writer connected will write the data out to disk. On the top toolbar (ribbon), click the green Run button. Clicking Run will trigger the workspace to read the data, process it through any transformers, and then write it out.



After clicking Run, a Translation Parameter Value dialog will pop up; this is where any user-defined parameters can be modified. We do not need to make any changes at this time; click Run to continue.

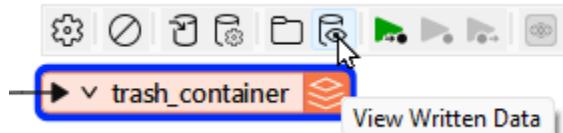


After initiating the workspace to run, data will flow through the workspace. The numbers on the connection lines represent the number of features it is transporting, and the number on each output port is the number of features that is output. A feature in FME is a single row in a table or a single piece of geometry with associated attributes.

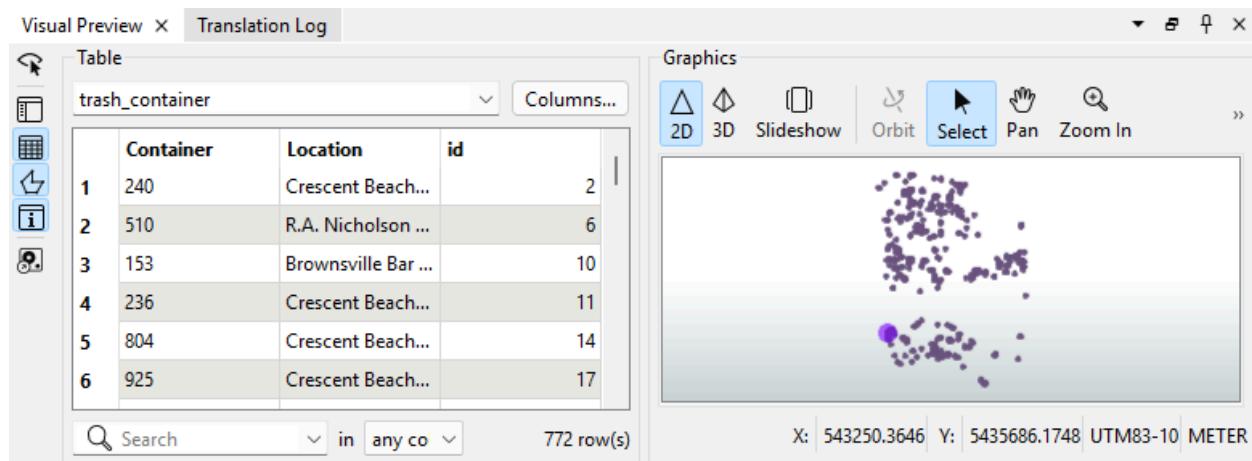
7. View Output

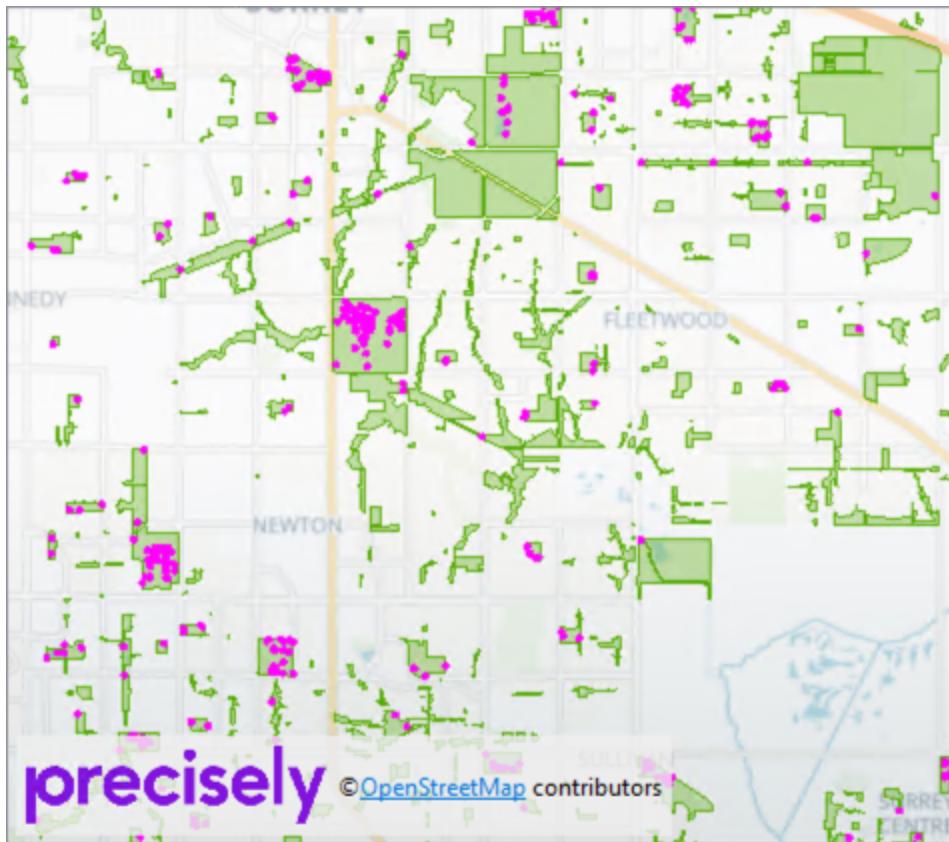
After running the workspace, if feature caching is enabled, green eye icons appear on any of the output ports that have features. These icons represent cached data and can be used to view data at any part of the workspace. To learn more about feature caching or other methods of viewing data, see [Data Inspection in FME](#).

Since our data was written to disk, we need to view the final output. Single-click on the trash_container writer feature type to open the popup menu. Then click on the View Written Data button to open the data in Visual Preview.



Visual Preview is the data viewer within FME Workbench. There is also an external application called FME Data Inspector that allows users to view data. In the Visual Preview window, you will see only the trash_containers that intersect parks.



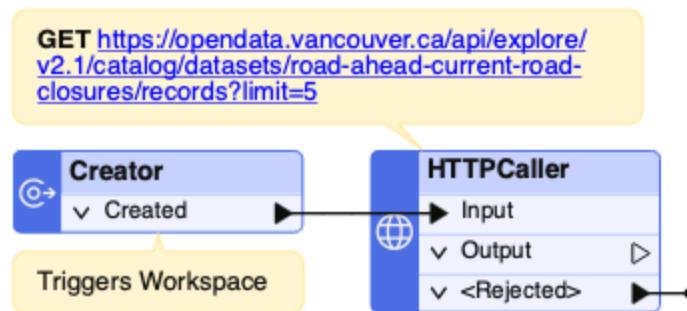


Note that the above screenshot contains a background map and the park polygons. For more information on viewing data and background maps, see the [documentation](#).

Working with Web Data

Introduction

In this article, you'll discover how to create a workspace in FME Workbench, the authoring application that accompanies FME Form, with a specific emphasis on utilizing web data. Follow along with the step-by-step instructions to learn how to trigger a workspace with a Creator transformer, get data from an API using the HTTPCaller, and then view the data in a human-readable format in Visual Preview.



FME Desktop was rebranded to FME Form in 2023. FME 2024.0 features a new interface. This tutorial can be used with any version of FME. The concepts are the same, but the screenshot appearances may differ.

Source Data

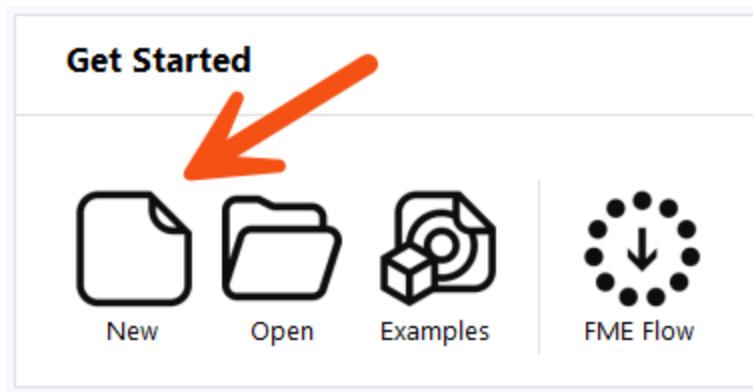
The source dataset is a road closure dataset that can be retrieved via an API.

```
{"total_count": 14, "results": [{"project": "Bidwell St from Robson St to Alberni St", "street": null, "location": "Bidwell St from Robson St to Alberni St", "comp_date": "2024-03-15", "url_link": "http://vanmapp1.vancouver.ca/roadahead/events/details/1be5b1a8-70e9-4961-891d-985d7fdb46ce", "geom": {"type": "Feature", "geometry": {"coordinates": [[[[-123.13334550478977, 49.290816262614726], [-123.13387654160667, 49.2904643964082]], [[[-123.13281447344144, 49.29116785649603], [-123.13334550478977, 49.290816262614726]]], "type": "MultiLineString"}, "properties": {}, "geo_point_2d": {"lon": -123.13334553845034, "lat": 49.29081617314391}, {"project": "Both sides of the street of 3400-3500 Block of E 48th Ave, from West PL 3471 E 4", "street": null, "location": "Both sides of the street of 3400-3500 Block of E 48th Ave, from West PL 3471 E 4", "comp_date": "2024-02-29", "url_link": "http://vanmapp1.vancouver.ca/roadahead/events/details/60076aa6-1746-42a8-a285-f6932820e91e", "geom": {"type": "Feature", "geometry": {"coordinates": [[[[-123.03024951642473, 49.22525753714197], [-123.02967250910905, 49.22524439927474]], "type": "LineString"}, "properties": {}, "geo_point_2d": {"lon": -123.02996101276688, "lat": 49.22525096820836}, {"project": "E 54th Av from Fraser St to Ross St", "street": null, "location": "E 54th Av from Fraser St to Ross St", "comp_date": "2024-02-29", "url_link": "http://vanmapp1.vancouver.ca/roadahead/events/details/cc9ec01b-54be-4029-9359-b013727238bb6", "geom": {"type": "Feature", "geometry": {"coordinates": [[[[-123.09090931443181, 49.22064884379233], [-123.0902380680358, 49.22064884379233]]], "type": "MultiLineString"}, "properties": {}, "geo_point_2d": {"lon": -123.09090931443181, "lat": 49.22064884379233}]}]}]
```

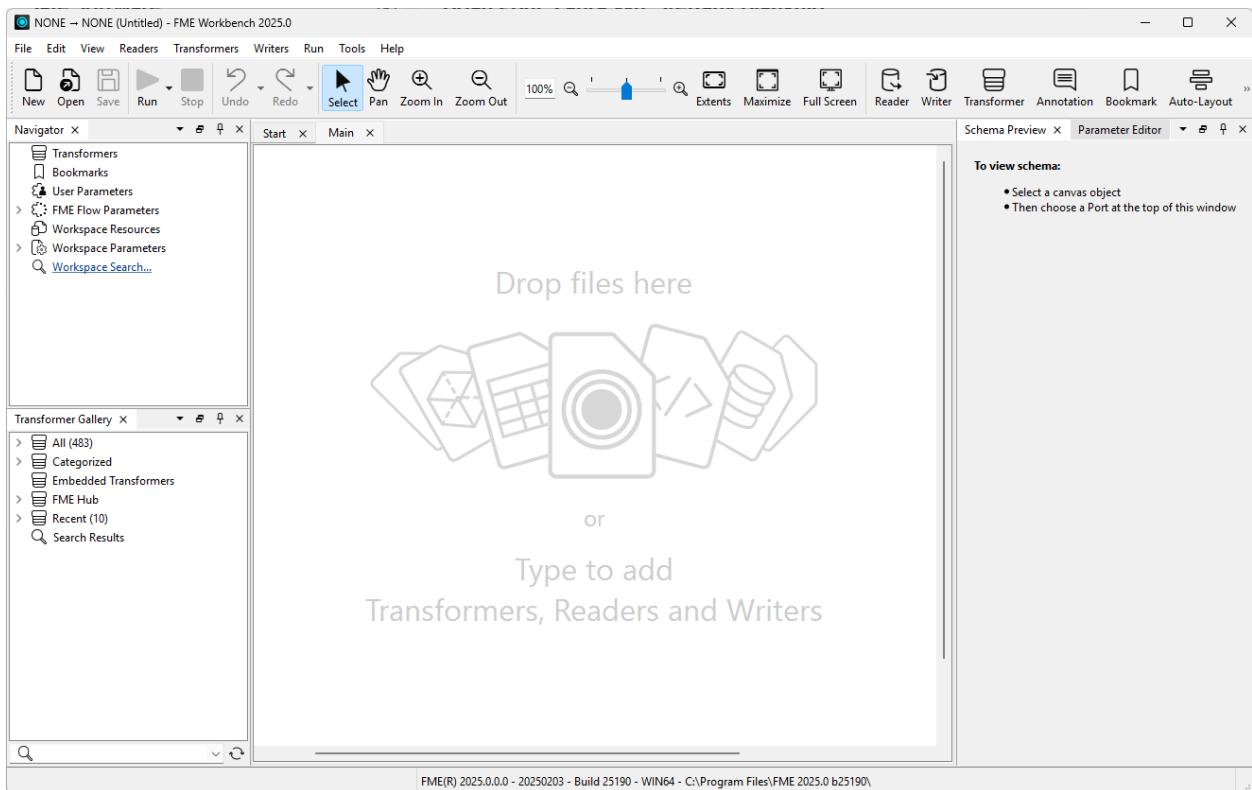
Step-by-step Instructions

1. Start a Blank Workspace

Start FME Workbench, then click the Blank Workspace button.



The FME Workbench canvas is where the workspace will be built using readers, writers, and transformers.



2. Start (Trigger) the Workflow

Normally, the first step when building a workspace is adding a reader component, which triggers the flow of data, but interacting with the web is different. The workspace still needs an initial trigger to initiate the flow of data, so instead of a reader, we will add a Creator transformer to the canvas.

Transformers are the building blocks within a workspace to manipulate data, and each has a specific function. Click on the canvas and then start typing Creator to bring up the Quick Add dialog. The Quick Add dialog is where readers, writers, and transformers can be added. Double-click on the Creator under FME Transformers to add it to the workspace.

The screenshot shows the FME Workbench interface. At the top, there is a search bar containing the text "creator". Below the search bar are several filter buttons: "Transformer 99+", "Reader", "Writer", "Official 20", "Verified 5", and "Community 81".

The main pane displays a list of transformers under the category "FME Transformers". The "Creator" transformer is highlighted with a gray background. Other listed transformers include AttributeCreator, VertexCreator, RasterRGBCreator, RasterNumericCreator, SQLCreator, TempPathnameCreator, PythonCreator, 2DGridCreator, IFCPropertyS...itionCreator, PointCloudCreator, IFCQuantityS...itionCreator, CenterPointReplacer, LabelPointReplacer, Extruder, and FaceReplacer.

To the right of the list, a detailed view of the "Creator" transformer is shown:

- Creator** (Official Publisher - Safe Software)
- Category**: 3D, Workflows
- Rank**: 25
- Link**: [Help](#)
- Description**: Creates features using the parameters supplied, and sends them into the workspace for processing.
- Related Transformers**: 2DGridCreator, RasterNumericCreator, PointCloudCreator, RasterRGBCreator

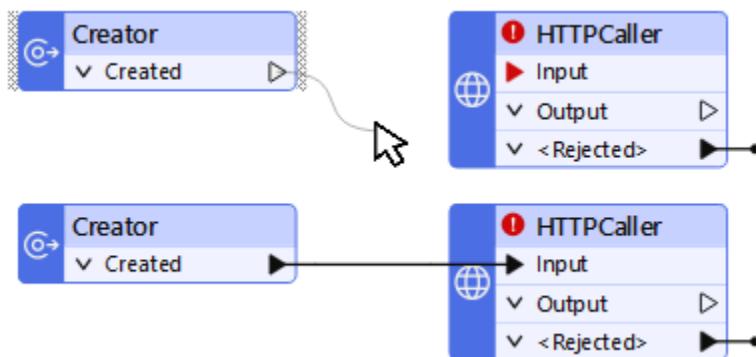
Below the search bar and filter buttons, there is a toolbar with various icons. The first icon in the toolbar is highlighted with a blue border, indicating it is selected. The selected icon is labeled "Creator" and has a sub-node "Created" below it. There are also other nodes in the canvas, such as "HTTPCaller" and "HTTPResponse", which are not currently selected.

3. Add an HTTPCaller and Connect Workflow

To make a call to a URL within FME, an HTTPCaller transformer is used. Add an HTTPCaller to the canvas the same way the Creator was added.

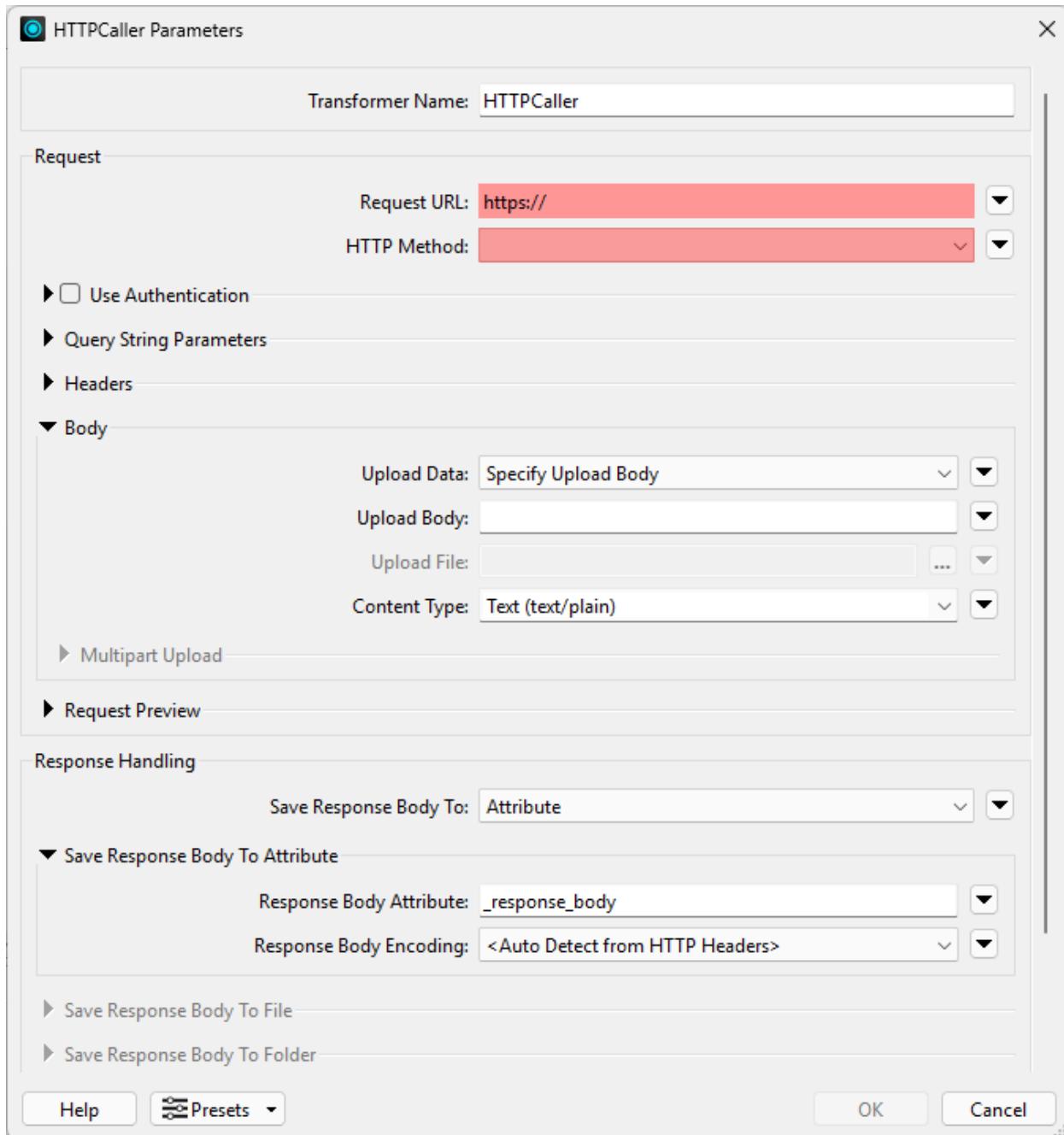


When the workspace is run (initiated) in a later step, the Creator will send out a null feature to trigger the workspace. For the Creator to trigger the HTTPCaller, they need to be connected. Click and drag from the arrow on the Creator to the red arrow on the HTTPCaller. This connection line sends data from the Creator into the transformer for processing.



4. Modify Transformer Parameters

The 'HTTPCaller' transformer can access content from a URL, such as an API. In this example, we will get road closure information from an API. Double-click anywhere on the 'HTTPCaller' transformer to open the parameters.



Copy the following URL, and then paste it into the red box next to Request URL.

<https://opendata.vancouver.ca/api/explore/v2.1/catalog/datasets/road-ahead-current-road-closures/records?limit=5>

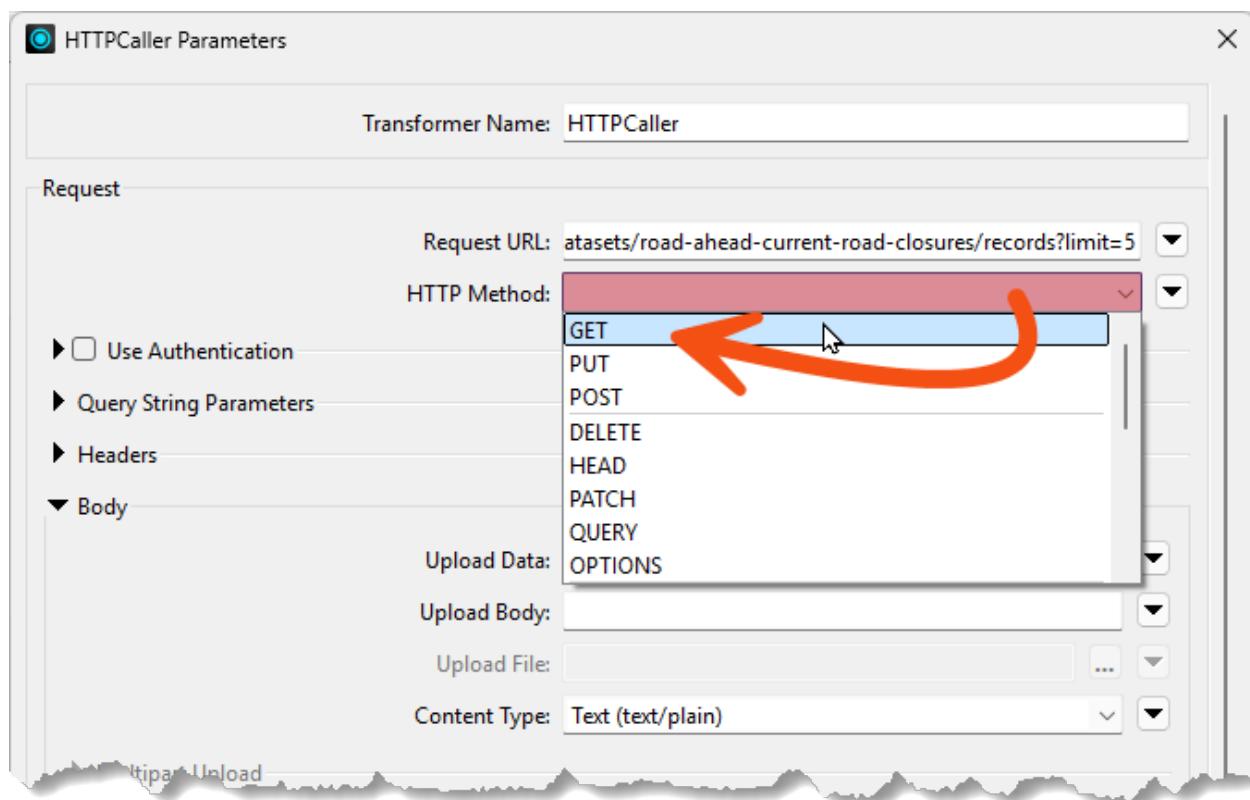
If for some reason the API is down, here is a backup URL:

<https://s3.amazonaws.com/FMEData/FMEData/Resources/FMEUC25/Getting%20Started/FME%20Form/Data/records.json>

The API will pull five of today's road closures for Vancouver, British Columbia, Canada.

In FME 2023.2 and prior, the example API was for weather, but that API has since gone offline. Please use the above road closures API. The steps are the same.

Next, since we want to retrieve (GET) information from the API, we need to set the HTTP Method. Click on the drop-down arrow inside of the red box next to HTTP Method to open the menu, then select GET.



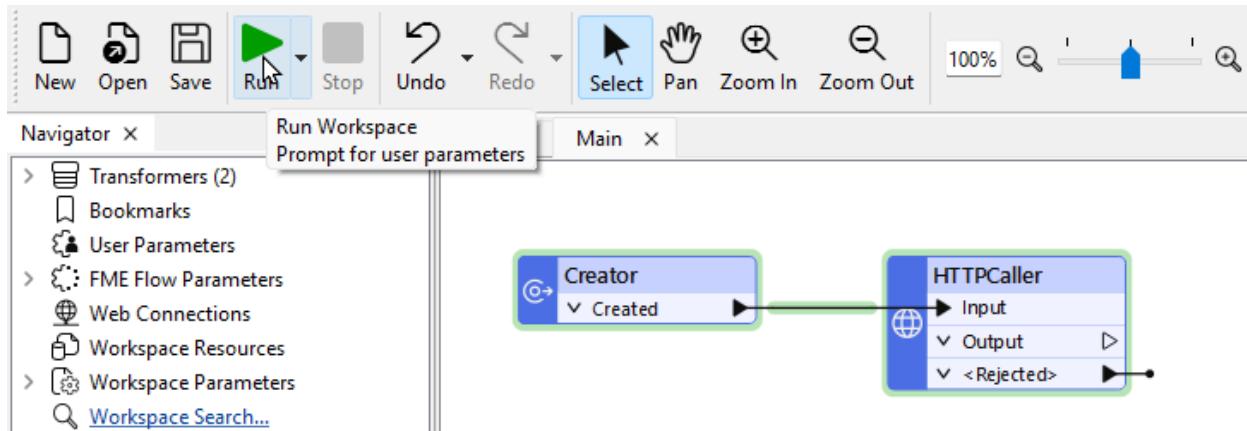
There are other parameters that can be set, such as query string, headers, and authorization.

However, for this example, we will leave them as the default. Click OK to save the HTTPCaller parameters and close the dialog.

5. Run the Workspace

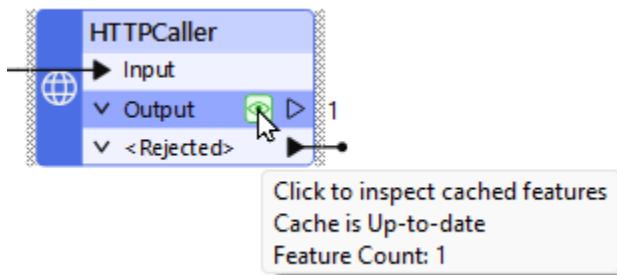
We can now run the workspace, which will GET the response from the road closure API. Click on the green Run button on the top toolbar (ribbon). Clicking Run will trigger the Creator to create a single

null feature, and the HTTPCaller will send out a single GET call, then the response received back will be stored in a new attribute created by the HTTPCaller called _response_body.

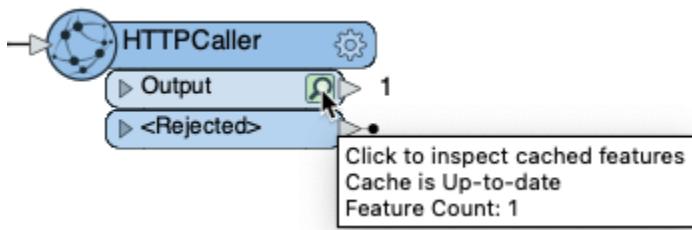


6. View Response

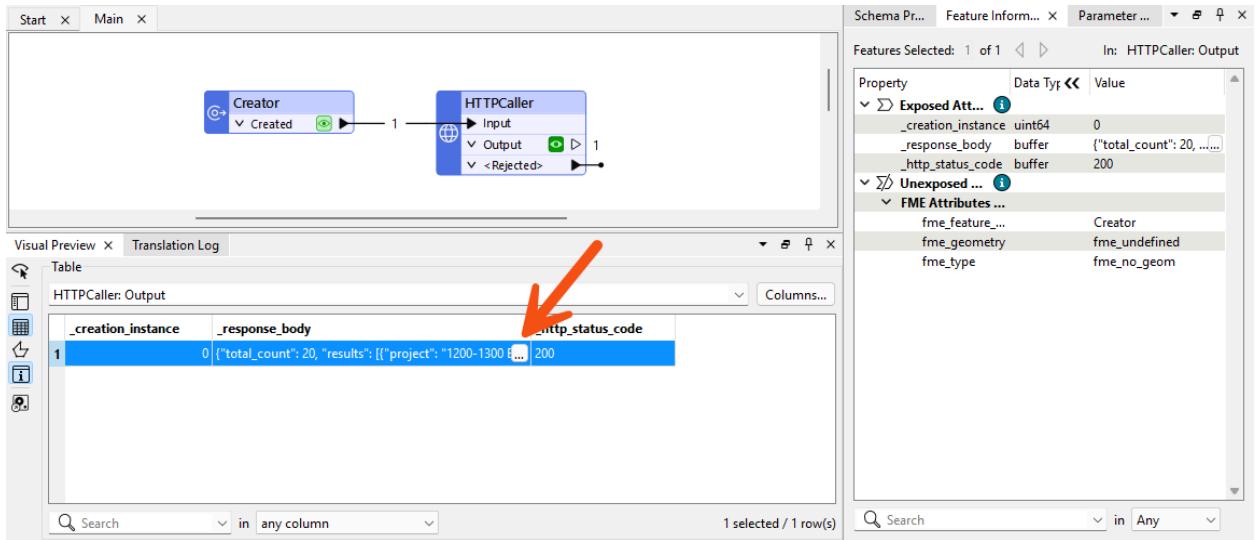
The response from the API can be viewed in Visual Preview, which is the data viewer within FME Workbench. Click on the green eye icon on the HTTPCaller Output port to view the response.



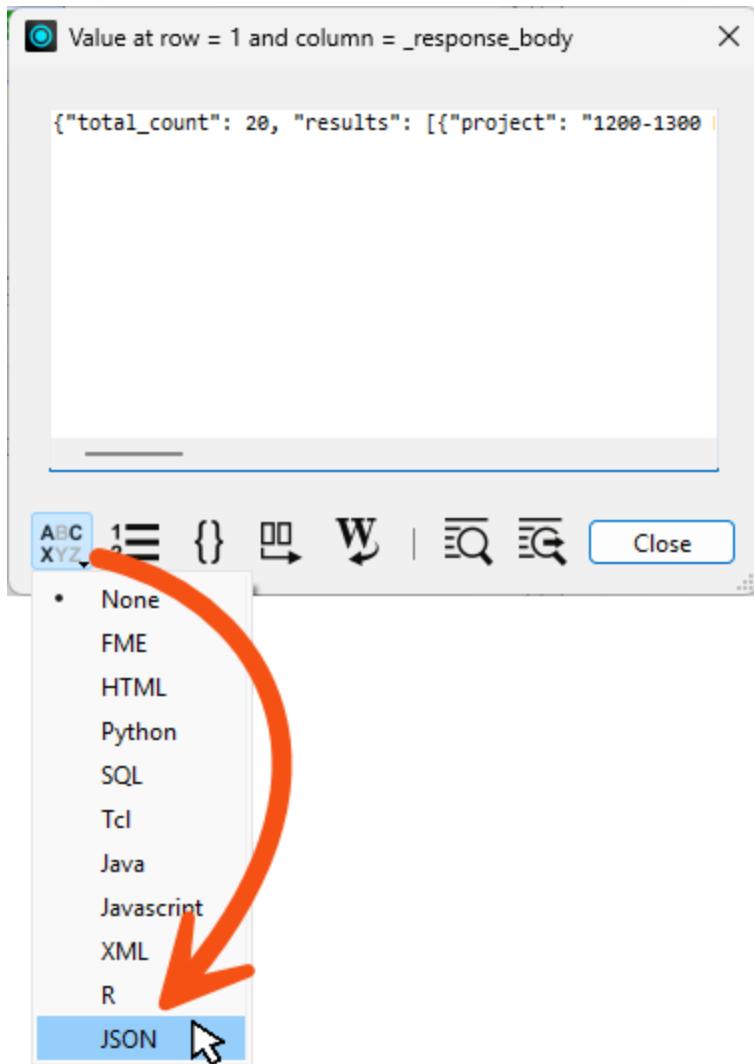
In FME 2023.2 and prior, the cache icon is a magnifying glass.



In the Visual Preview window, you will see a table of attributes. When working with web data, the _response_body contains the response back from the URL that was accessed, and the _http_status_code will return the status of the call. Double-click on the cell below _response_body to open the response in a larger window.



In the larger window, we can change the syntax highlighting to make the response more human-readable. In the bottom left corner, click on the ABCXYZ button and select JSON from the drop-down.



Now we can easily see five road closures in Vancouver, British Columbia.

Value at row = 1 and column = _response_body

```
[{"results": [{"comp_date": "2025-04-05", "geo_point_2d": {"lat": 49.285405394020884, "lon": -123.14151401919105}, "geom": {"geometry": {"coordinates": [[[[-123.14278256797127, 49.284562816914985], [-123.14024547041082, 49.286247971126784]]]}], "type": "LineString"}, "properties": {}}, {"type": "Feature"}, "location": "1200-1300 Block of Bidwell b/w Beach & Davie.", "project": "1200-1300 Block of Bidwell b/w Beach & Davie.", "street": null, "url_link": "https://vancouver.ca/streets-transportation/improving-bus-stops.aspx"}]}
```

ABC
XYZ 1≡ {} ⟳ W | 🔍 🔎

Close

For more information on viewing data, see [Data Inspection in FME](#).

7. Continue Workflow

Since web data varies greatly in both structure and format, the next steps after the HTTPCaller will be different.

This API returned data as JSON, so the next step is to flatten the JSON. See [Transforming JSON using the JSONExtractor, JSONFlattener, and JSONFragmenter](#).

Publish a Workspace to FME Flow and Run It

Introduction

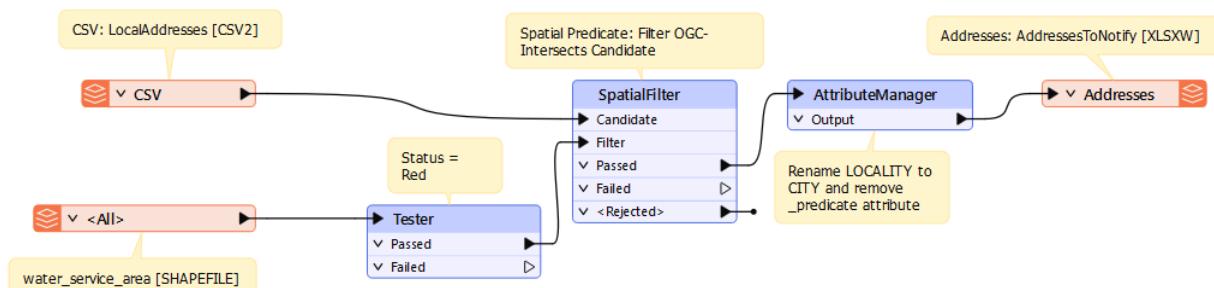
Welcome to the first tutorial in the Getting Started with FME Flow (formerly FME Server) series. In this tutorial, we will publish a workspace to FME Flow from FME Form (formerly FME Desktop) using FME Workbench. After it is published, we will move to FME Flow, where we will run the workspace and download the results.

Step-by-Step Instructions

Part 1: Publish a Workspace from FME Workbench to FME Flow

1. Open FME Workbench

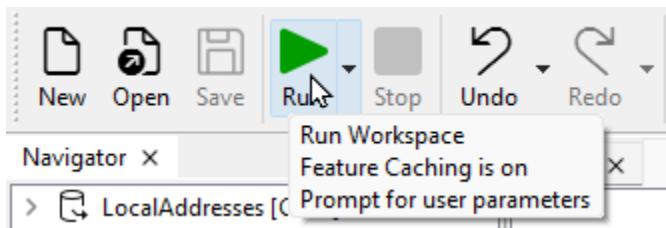
Open the AddressesToNotify.fmw workspace. C:\FMEData\Resources\FMEUC25\Getting Started\FME Flow\PublishWorkspace\AddressesToNotify.fmw.



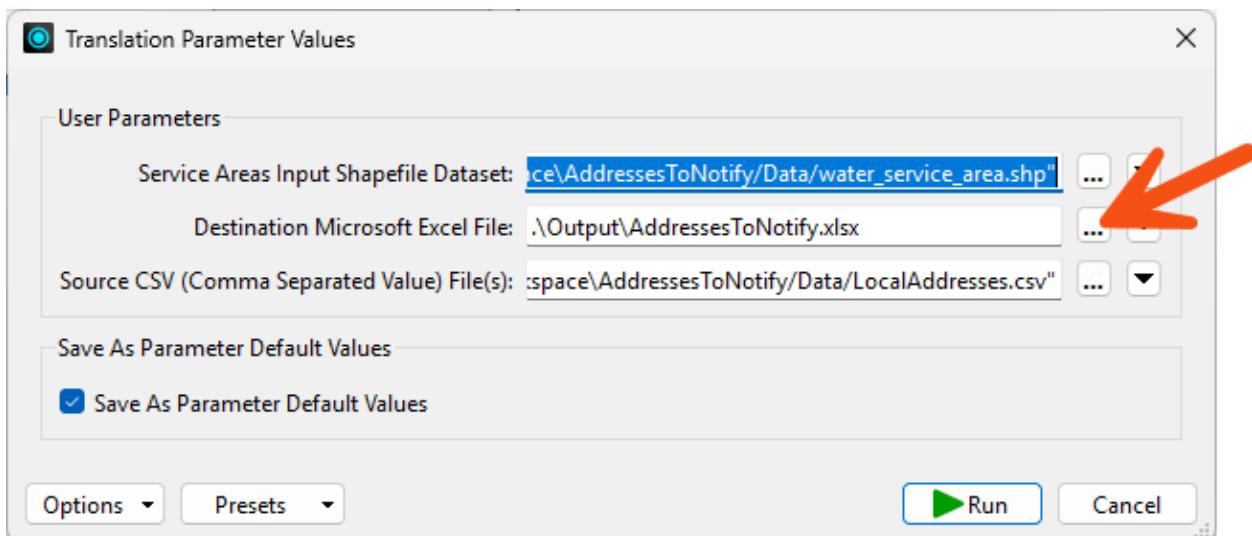
This workspace compiles a list of customers affected by a water pump failure to notify. It reads a CSV containing information about local addresses in the city of Surrey, BC, as well as a shapefile containing a polygon area of interest where water service maintenance will occur.

2. Run the Workspace

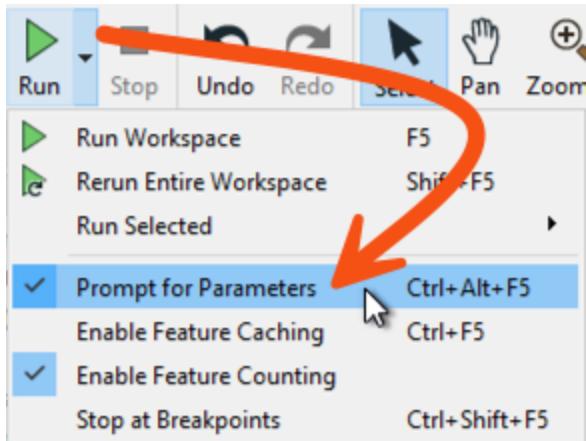
It is a good idea to run a workspace in FME Workbench before publishing it to FME Flow because, typically, if it doesn't run in FME Workbench, it won't run in FME Flow. Click on the green Run button to run the workspace.



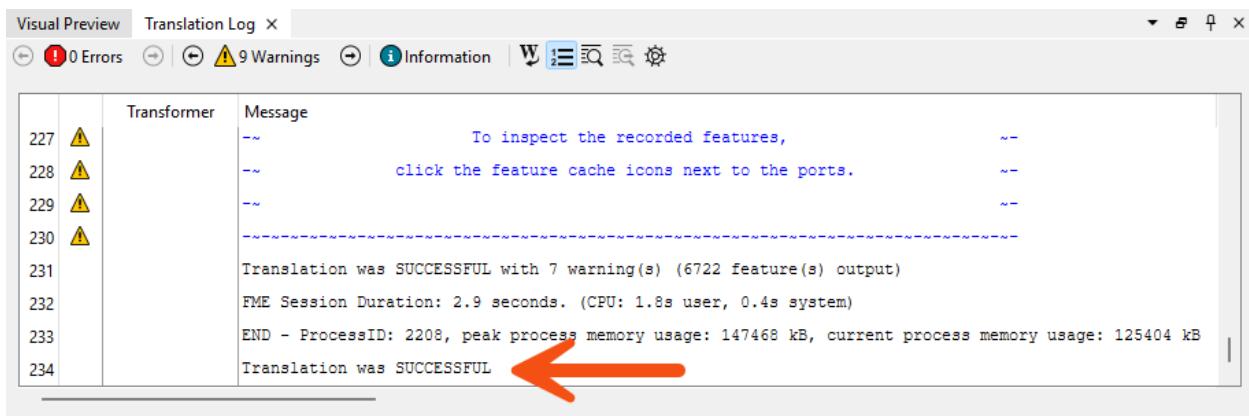
In the Translation Parameter Values dialog that appears, confirm the output location for the Destination Microsoft Excel File parameter. This will save the file to the same folder as the template workspace. If you want a different file destination, click the ellipsis [...] button (or file icon) and select a new folder. Click Run to finish running the workspace.



If the Translation Parameter Values dialog does not appear, you need to turn on Prompt for Parameters, which is accessed by the drop-down arrow next to the Run Button. After enabling Prompt for Parameters, click the Run button. The Translation Parameter Values dialog should appear, then follow the steps above to change the destination file location.

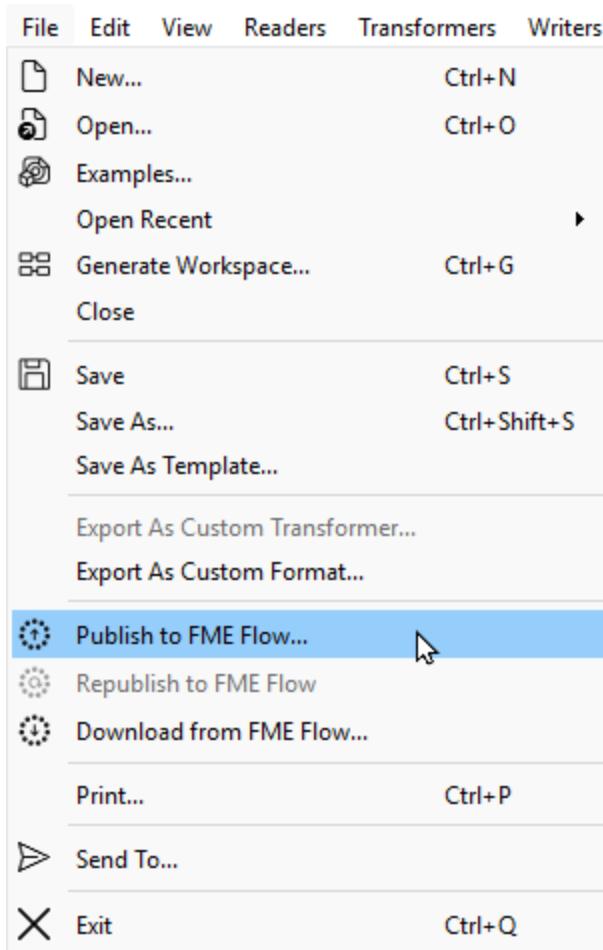


After running the workspace, review the Translation Log for the Translation was SUCCESSFUL message. If you did not receive this message, review the translation log for any red error messages and resolve them.



3. Publish Workspace to FME Flow

Now that we have confirmed the workspace works, we can publish it to FME Flow. With the workspace open, go to File > Publish to FME Flow on the top menu bar (FME 2022.2 or older: Publish to FME Server).



a. Confirm Web Connection

In the Publish to FME Flow wizard, you need to specify the connection to FME Flow. Your machine already has the Training FME Flow web connection available and this dialog should have automatically detected it. Ensure it is selected with a green checkmark:



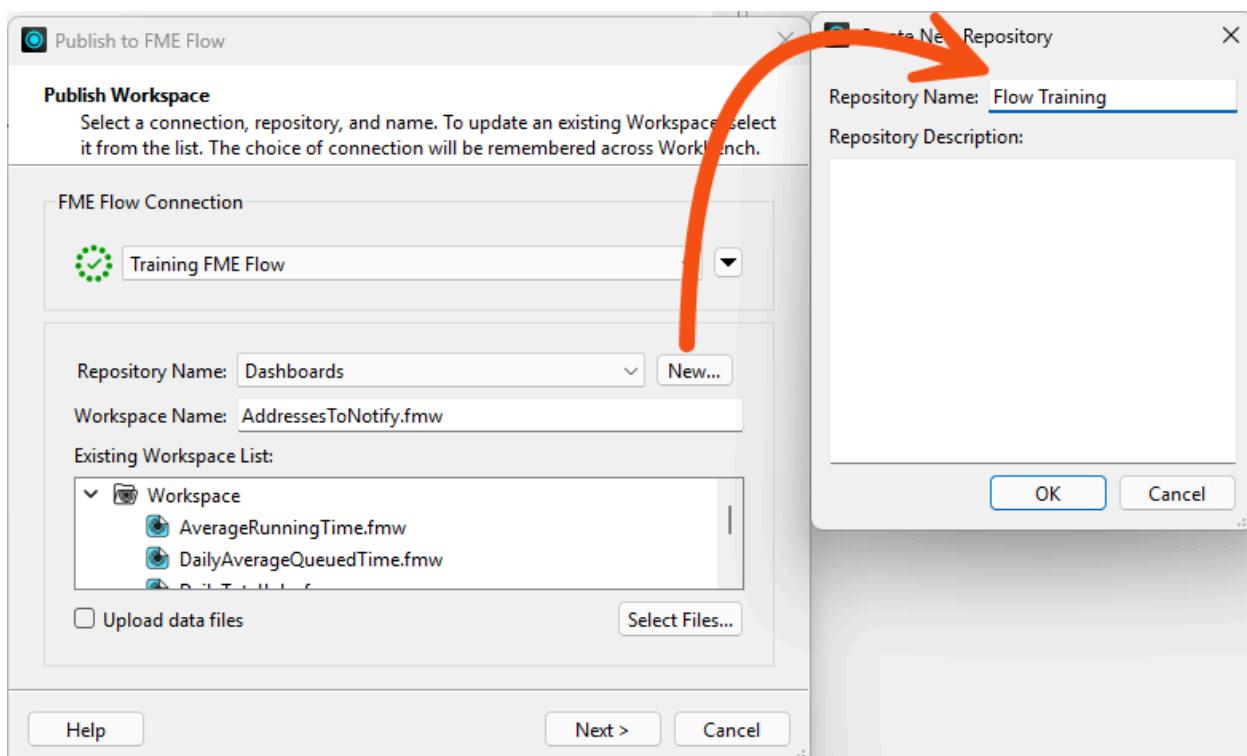
If you don't have a green checkmark, try to click the drop-down under FME Flow Connection and select Training FME Flow. If your checkmark is still red, FME Flow did not start successfully on your machine. Click the Windows Start menu, then find FME Flow in the list of programs. Click the folder to open it and choose Restart FME Flow. A command prompt window will appear. Wait a few minutes while FME Flow restarts, then try to connect again. If you are still having trouble, please

contact a TA.

b. Create Repository

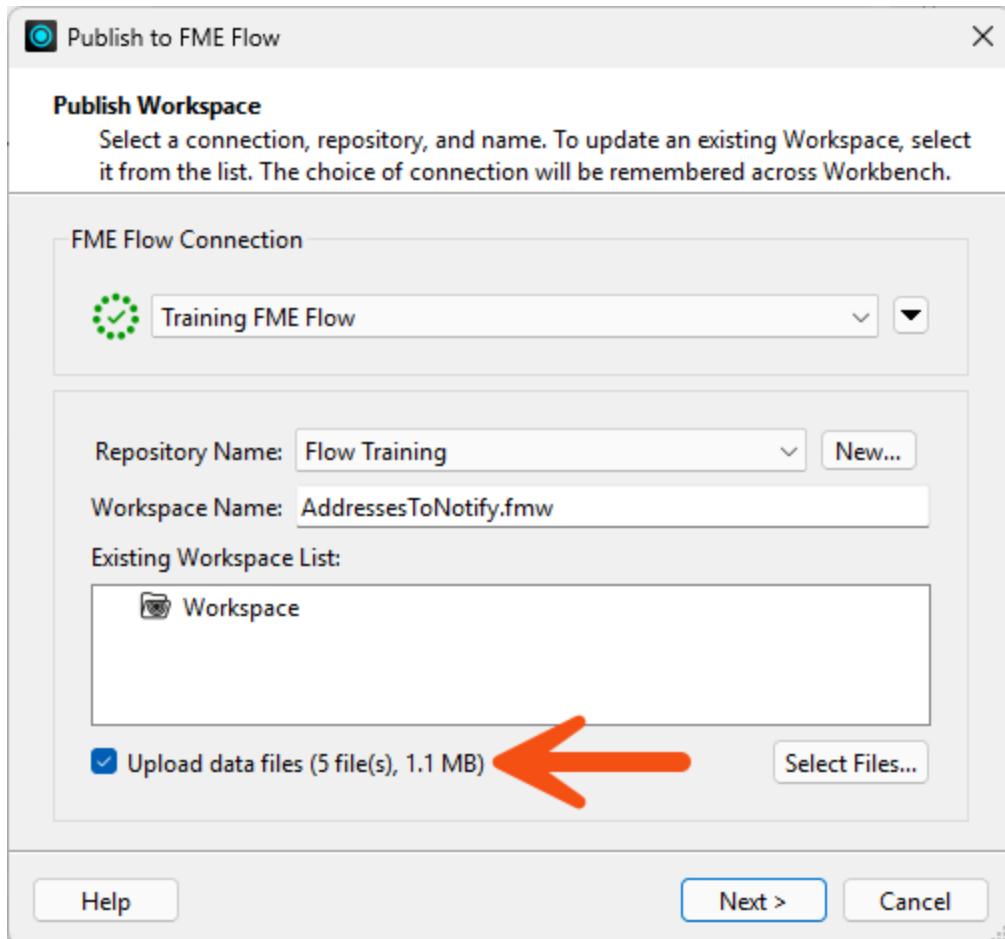
Now, we need to create a new repository to contain our workspace. In FME 2022.2 or older, you will need to click Next to move to the next dialog.

Next to Repository Name, click the New button to create a new repository. Enter Flow Training for the name, and you can optionally add a description. Click OK to close the Create New Repository dialog.



c. Upload Files

For our workspace to run correctly, we need to upload the files. Enable Upload data files at the bottom of the dialog. After enabling it, it should state 5 files for upload. Then click Next.



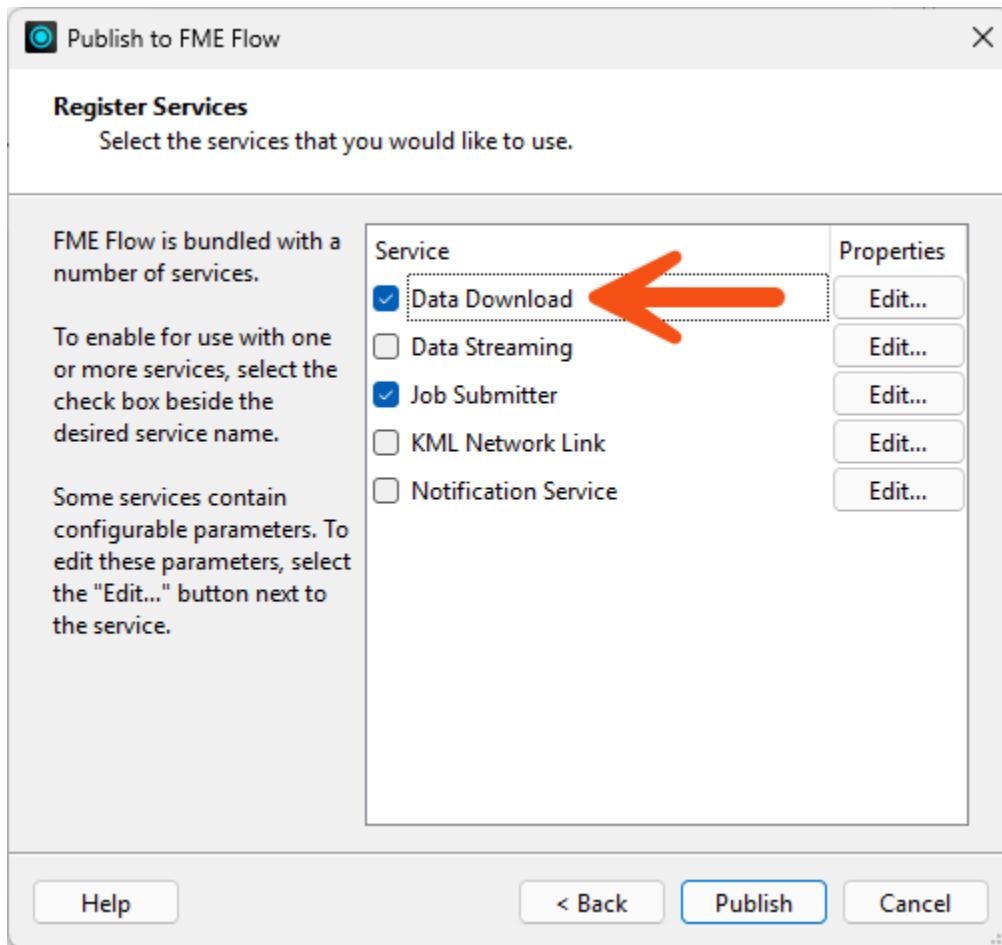
When files are uploaded this way, they are stored within the repository. If you want to upload folder files (such as geodatabases) or specify where you want the files stored, the Select Files button allows you to do that. See the [documentation](#) for more information.

d. Register Services

One last step before we can publish the workspace is to register it with a service. A service will control how the data is output after the workspace is run.

- The services return results in slightly different forms:
- The Data Download Service returns results as a downloadable zip file
- The Data Streaming Service returns results as a data stream
- The Job Submitter Service accepts and runs workspace job requests
- The KML Network Link returns a KML Network Link that can be used in Google Earth
- The Notification Service allows for event-driven messaging

We want to download our data after we run the workspace, so we will register with the Data Download Service. Ensure the Data Download Service is enabled (you can leave the Job Submitter enabled). Once enabled, click Publish.



To confirm whether or not the workspace was published successfully, check the Translation Log. The Translation log will show which repository you published to, which files were included, and a quick link to run the workspace.

```

=====
          Publish Summary
=====
FME Flow URL      : http://localhost
Username           : admin
Repository         : Flow Training
Name               : AddressesToNotify.fmw
Direct Link        : http://localhost/fmeserver/#/workspaces/run/Flow%20Training/AddressesToNotify.fmw

```

Part 2: Run the Workspace in FME Flow

1. Open the FME Flow Web Interface.

Log in to the FME Flow Web Interface. It should already be open in Firefox. If it's not just open Firefox using the button in the toolbar and then type localhost in the URL bar and hit enter.

Login using these credentials (they should be saved):

Username: admin

Password: FMElearnings

2. Run the Workspace

Click on Run Workspace on the side menu. On the Run Workspaces page, click on the drop-down arrows for each section to select the workspace:

- Repository: Flow Training
- Workspace: AddressesToNotify.fmw
- Service: Data Download

The screenshot shows the FME Flow interface. On the left is a dark sidebar with white text and icons, listing various workspace management options: Automations, Streams, Flow Apps, Schedules, Jobs, Workspaces, Projects, Connections & Parameters, and Resources. The 'Workspaces' option is currently selected, indicated by a blue arrow icon next to it. To the right of the sidebar is a light-colored main content area. At the top of this area is a title bar with the FME Flow logo on the left, a back arrow in the center, and a help/question icon and user profile icon on the right. Below the title bar is a button labeled 'Workspace Actions ▾'. The main content area has a header 'Run Workspace' and a sub-header 'Workspace'. It contains several configuration fields: 'Repository*' dropdown set to 'Flow Training'; 'Workspace*' dropdown set to 'AddressesToNotify.fmw' (with a yellow star icon); 'Service*' dropdown set to 'Data Download'; and a 'Email Results To' field which is empty.

If there are any published parameters in the workspace, they can be set on the Run Workspace page. For this example, we can leave the Published Parameters as the default values. Click Run to run the workspace in FME Flow.

Published Parameters [Reset Values](#)

Service Areas Input Shapefile Dataset*

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

[Browse Resources](#)

Selected Items (1)

[+ Enter URL/Path](#)

\$(FME_MF_DIR)water_service_area.shp

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

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

[Browse Resources](#)

Selected Items (1)

[+ Enter URL/Path](#)

\$(FME_MF_DIR)LocalAddresses.csv

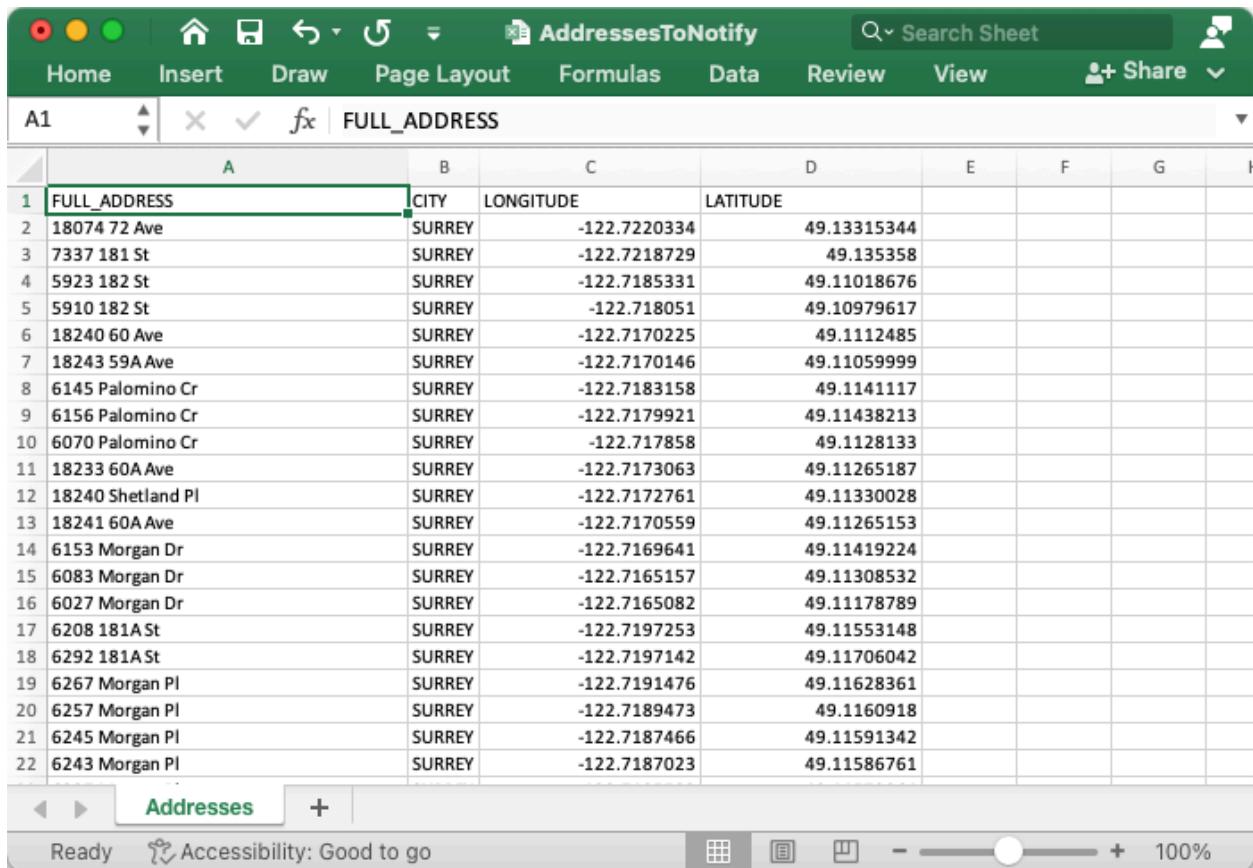
3. Review the Results Page

After the workspace has been run, there should be a successful translation with some summary information and a data download URL.

The screenshot shows a workspace run summary. At the top, it says "Run Workspace > Job #1". Below that, the workspace name is "AddressesToNotify.fmw" with a star icon. A subtitle reads "Addresses to Notify - Getting Started with FME Flow". The status is "COMPLETED" with a green checkmark icon. The message "Translation Successful" is displayed. There are two buttons: "View Details" (blue) and "Run Again" (outline). Below the status, it shows "JOB ID 1 FEATURES WRITTEN 6722". At the bottom, it provides a "DATA DOWNLOAD URL" link: [http://\[REDACTED\]/fmadatadownload/results/FME_141E0F65_1738963262185_25200.zip](http://[REDACTED]/fmadatadownload/results/FME_141E0F65_1738963262185_25200.zip).

Click on the URL to download the zip file. Open the zip file to confirm that it contains a Microsoft Excel file.

Optional: Open the file in Open Office Calc or in FME Data Inspector to review the output.



	A	B	C	D	E	F	G	H
1	FULL_ADDRESS	CITY	LONGITUDE	LATITUDE				
2	18074 72 Ave	SURREY	-122.7220334	49.13315344				
3	7337 181 St	SURREY	-122.7218729	49.135358				
4	5923 182 St	SURREY	-122.7185331	49.11018676				
5	5910 182 St	SURREY	-122.718051	49.10979617				
6	18240 60 Ave	SURREY	-122.7170225	49.1112485				
7	18243 59A Ave	SURREY	-122.7170146	49.11059999				
8	6145 Palomino Cr	SURREY	-122.7183158	49.1141117				
9	6156 Palomino Cr	SURREY	-122.7179921	49.11438213				
10	6070 Palomino Cr	SURREY	-122.717858	49.1128133				
11	18233 60A Ave	SURREY	-122.7173063	49.11265187				
12	18240 Shetland Pl	SURREY	-122.7172761	49.11330028				
13	18241 60A Ave	SURREY	-122.7170559	49.11265153				
14	6153 Morgan Dr	SURREY	-122.7169641	49.11419224				
15	6083 Morgan Dr	SURREY	-122.7165157	49.11308532				
16	6027 Morgan Dr	SURREY	-122.7165082	49.11178789				
17	6208 181A St	SURREY	-122.7197253	49.11553148				
18	6292 181A St	SURREY	-122.7197142	49.11706042				
19	6267 Morgan Pl	SURREY	-122.7191476	49.11628361				
20	6257 Morgan Pl	SURREY	-122.7189473	49.1160918				
21	6245 Morgan Pl	SURREY	-122.7187466	49.11591342				
22	6243 Morgan Pl	SURREY	-122.7187023	49.11586761				

Creating Parameters and Uploading Data for Self-Serve Access

Introduction

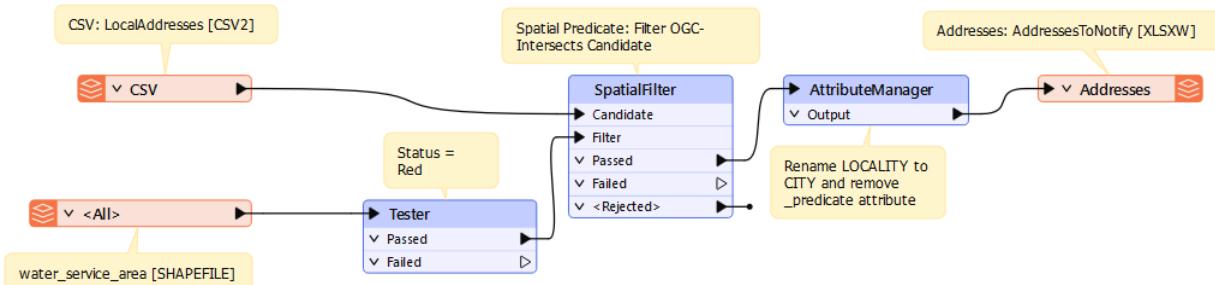
Welcome to the second tutorial in the Getting Started with FME Flow (formerly FME Server) series. In this tutorial, we will modify the workspace from the previous tutorial to add published parameters, which, when published to FME Flow, allows for self-serve data access.

Step-by-Step Instructions

Part 1: Create User Parameters in FME Workbench

1. Open FME Workbench

Open the AddressesToNotify.fmw workspace.

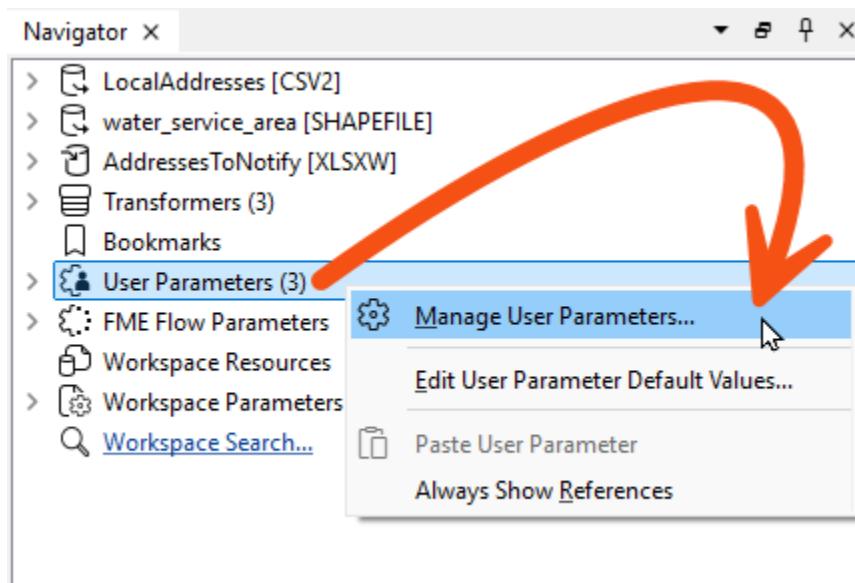


This workspace is compiling a list of customers to notify that were affected by a water pump failure. The workspace is reading a CSV containing information about local addresses in the city of Surrey, BC, as well as a shapefile containing a polygon area of interest where water service maintenance will occur.

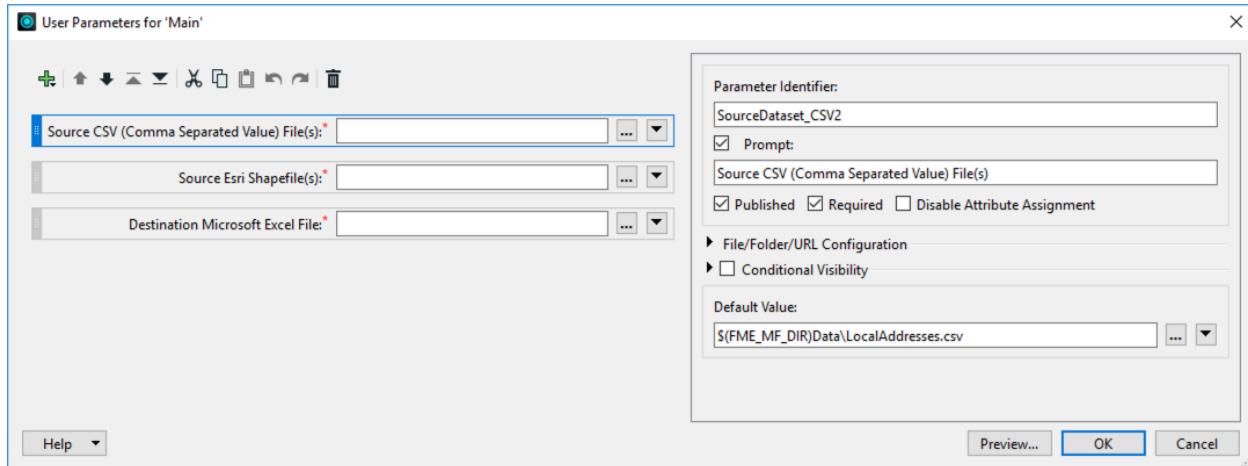
If you have completed [Publish a Workspace to FME Flow and Run It](#), this is the same workspace.

2. Open the Parameter Manager

In the Navigator window, right-click on User Parameters and select Manage User Parameters.



The Parameter Manager contains all of the user parameters in a workspace. This workspace only has the default parameters from when a reader and writer are added. Since we want to provide the user an option to upload a new water_service_area file, we should clean these parameters up. For more information on the Parameter Manager, see the [Using the Parameter Manager](#) article.



3. Remove the Parameter

When a workspace is run on FME Flow, the user can edit any of the published parameters. We want the CSV file of addresses to stay the same, so let's remove that parameter. Click on the Source CSV parameter on the left-hand side (1) to select it, and then click on the trash icon at the top to remove the parameter (2).

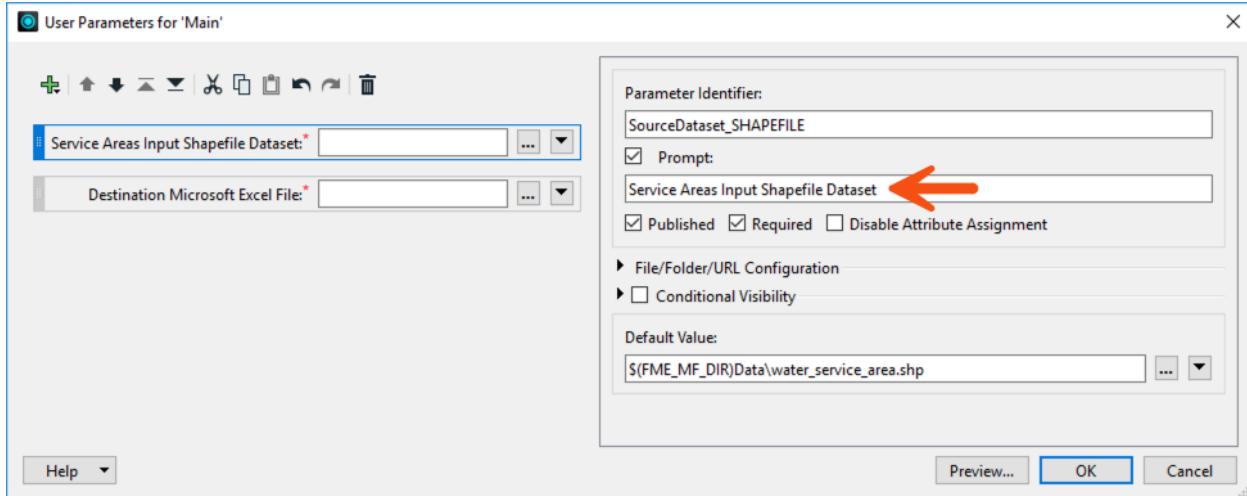


4. Modify the Source Parameter

Now, we can modify the prompt of the Source Esri ShapefileSelect so the user understands what

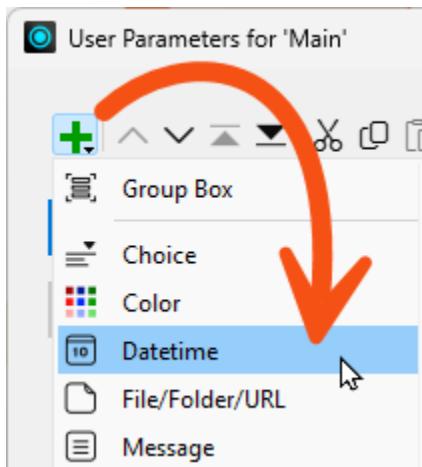
they should upload. Click on the Source Esri Shapefile parameter to select it, then on the right-hand side, edit the Prompt to be:

Service Areas Input Shapefile Dataset



5. Create New Parameter

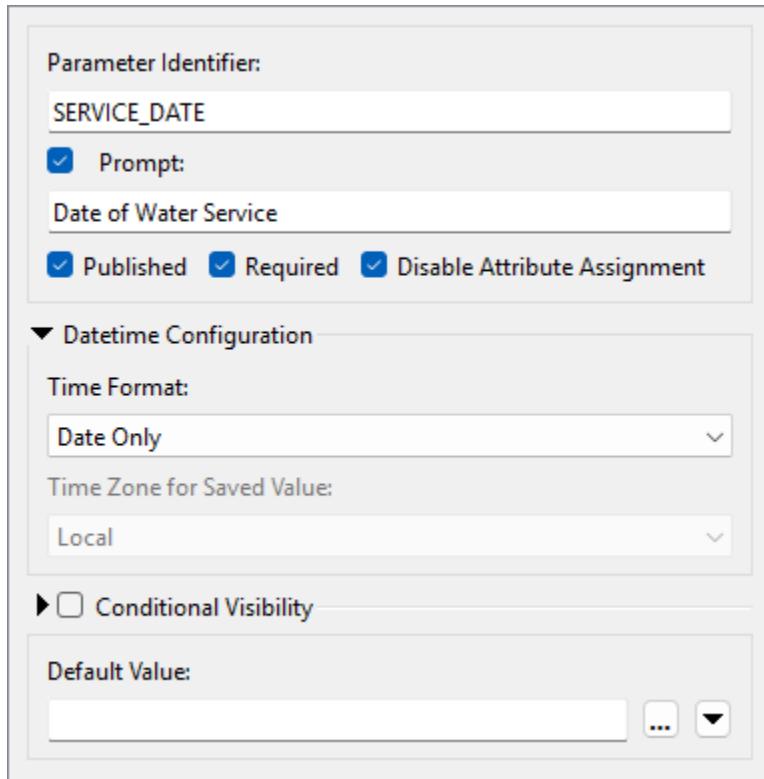
While we're in the Parameter Manager, let's create a parameter for the service date. The user will set this when the workspace is run and will be attached to the AddressesToNotify.xlsx spreadsheet. Click on the green plus sign (+) in the top left and select Datetime.



Then on the right-hand side, enter the following parameter properties:

- Parameter Identifier: SERVICE_DATE
- Prompt: Date of Water Service
- Published: Enabled
- Required: Enabled

- Disable Attribute Assignment: Enabled
- Time Format: Date Only
- Conditional Visibility (2023.0 and newer): Disabled
- Default Value: <blank>

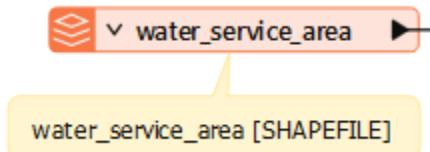


Click OK to close with the Parameter Manager.

6. Modify the Shapefile Reader

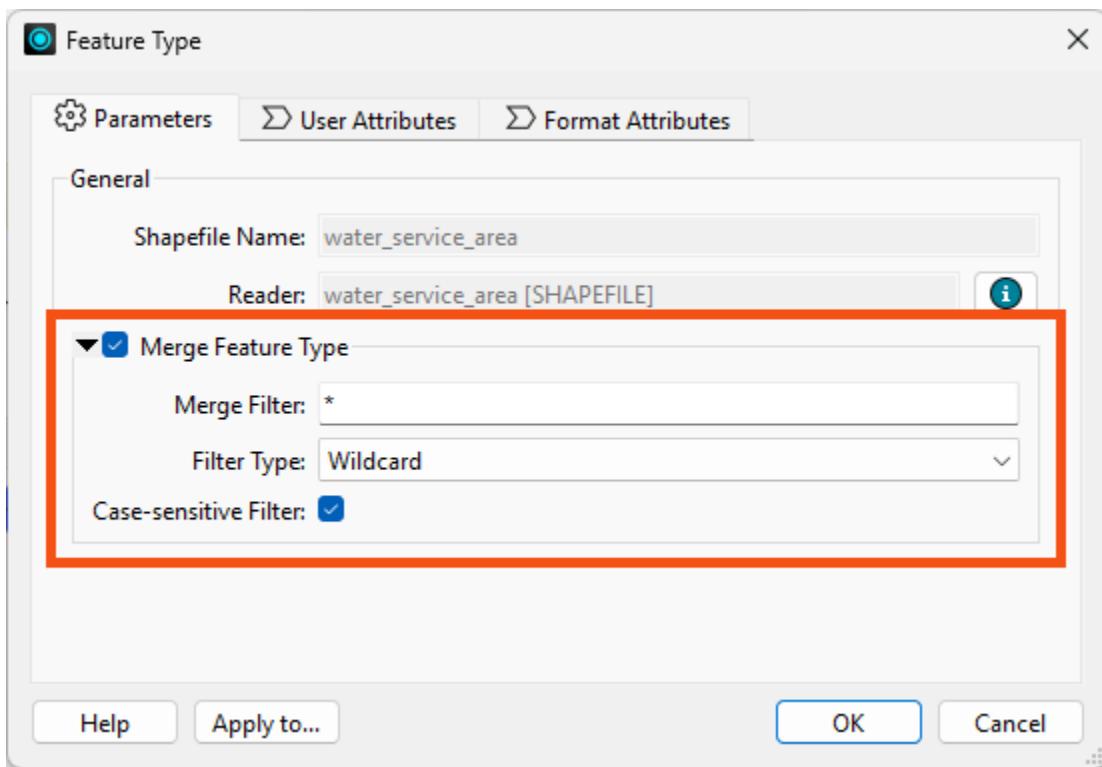
Since we won't know if the filename of the updated file will be different, let's change our shapefile reader to accept all filenames with the same schema.

Double-click on the water_service_area reader feature type to open the parameters.

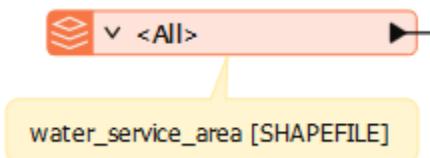


In the parameters, enable Merge Feature Type and leave the other parameters set at the default, then

click OK.

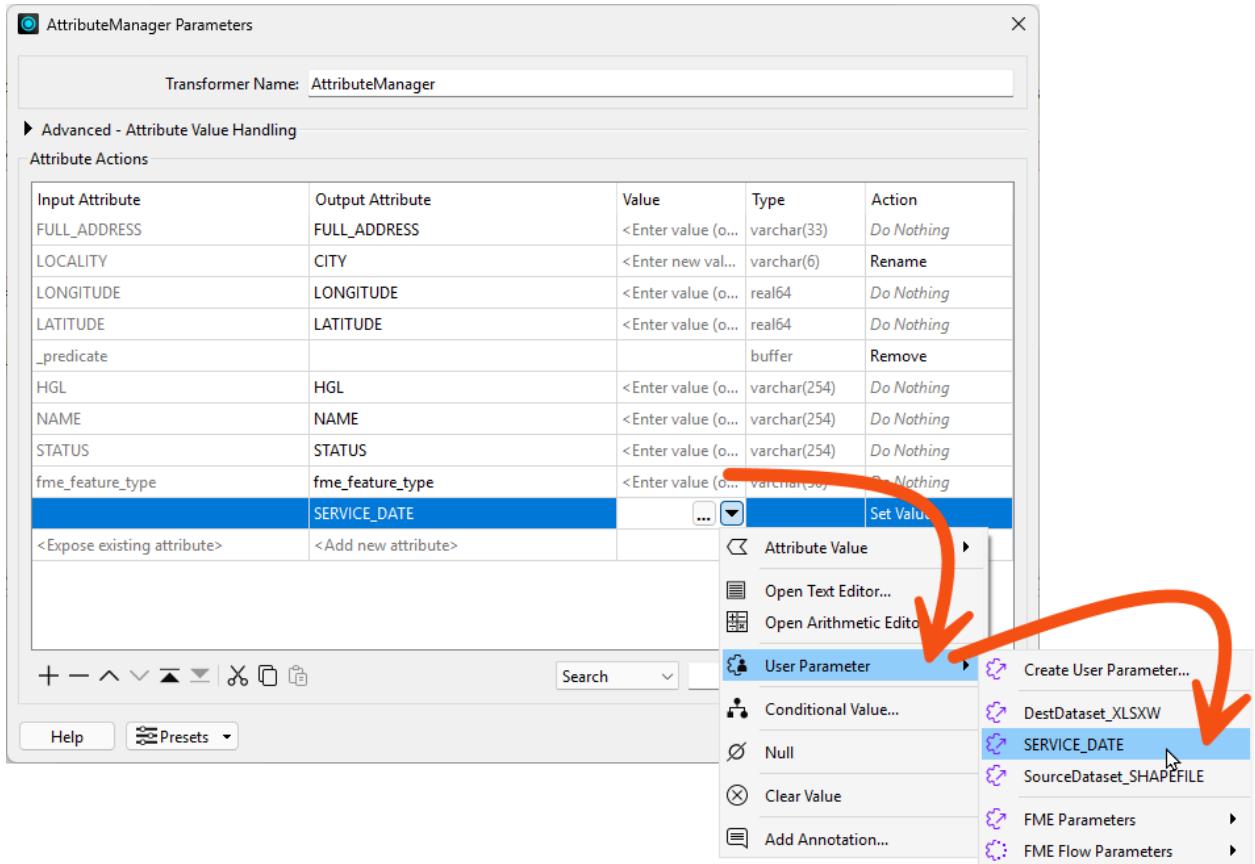


The reader feature type will now display <All>, which means that any shapefile can be accepted into the reader as long as the schema is the same.

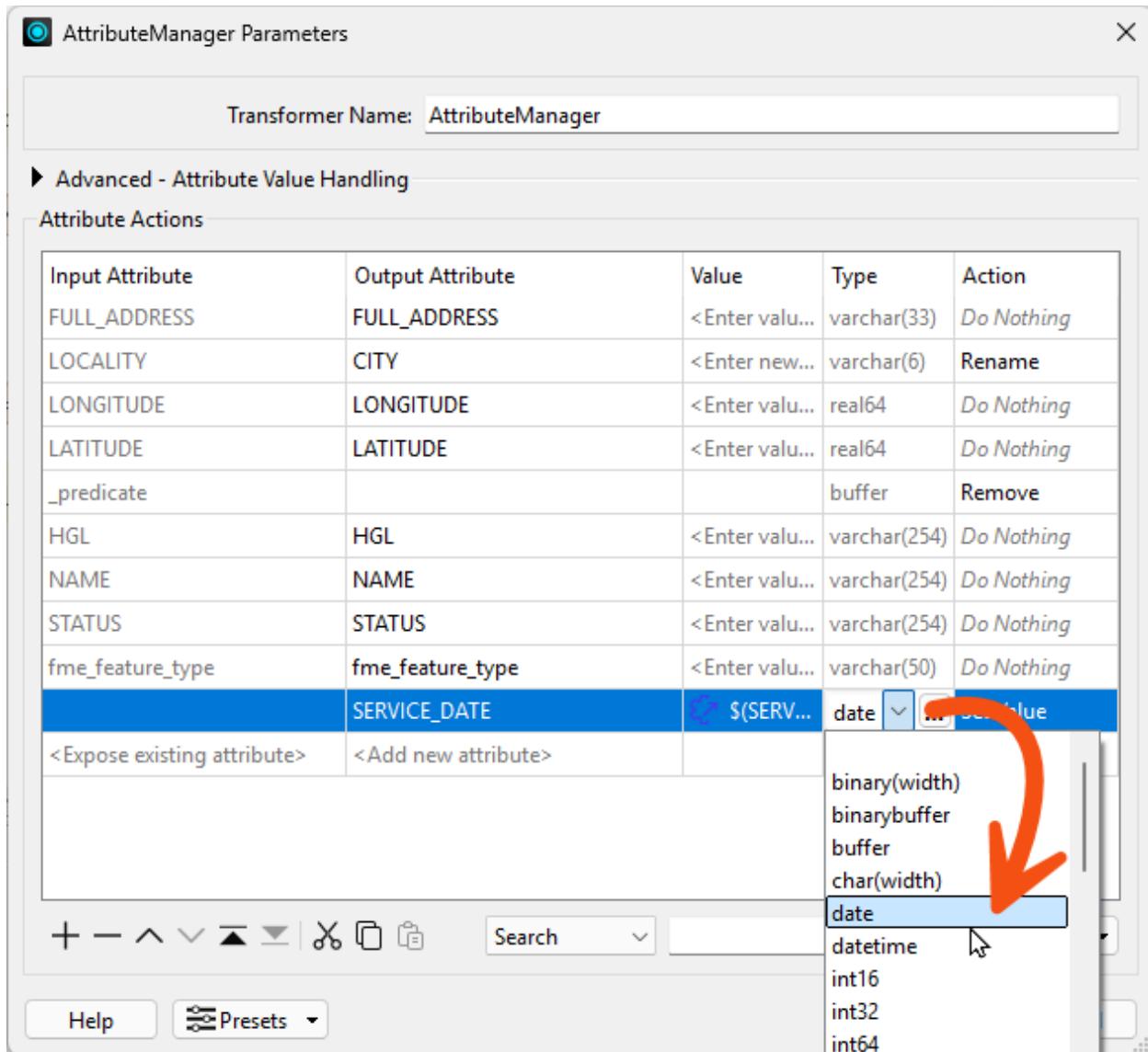


7. Link Published Parameter to Service Date Attribute

Now that we have a SERVICE_DATE parameter, we need to create an attribute to utilize it in the workspace. Double-click on the AttributeManager transformer to open the parameters. In the parameters, click in the <Add new attribute> box and then type in SERVICE_DATE as a new attribute. Next, click in the box for Value next to SERVICE_DATE to show the drop-down button. Click on the drop-down button and expand User Parameter, then select SERVICE_DATE.

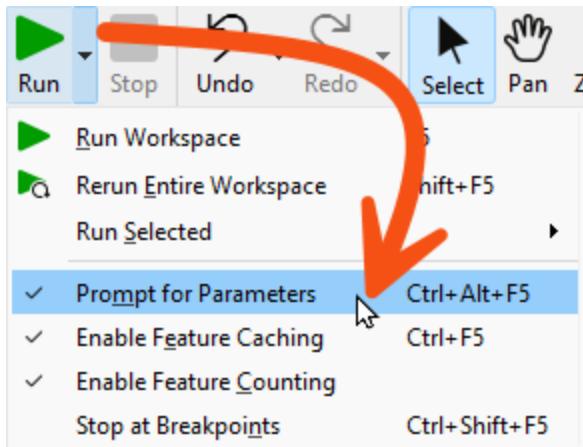


For FME 2023.0 and newer, click in the box for Type and select date as the data type. Click OK to confirm the AttributeManager parameters.



8. Run the Workspace

If you run the workspace immediately, it will use the original input shapefile. However, we want to test with the updated shapefile. Click on the drop-down arrow next to the Run button and ensure that Prompt for Parameters is enabled.

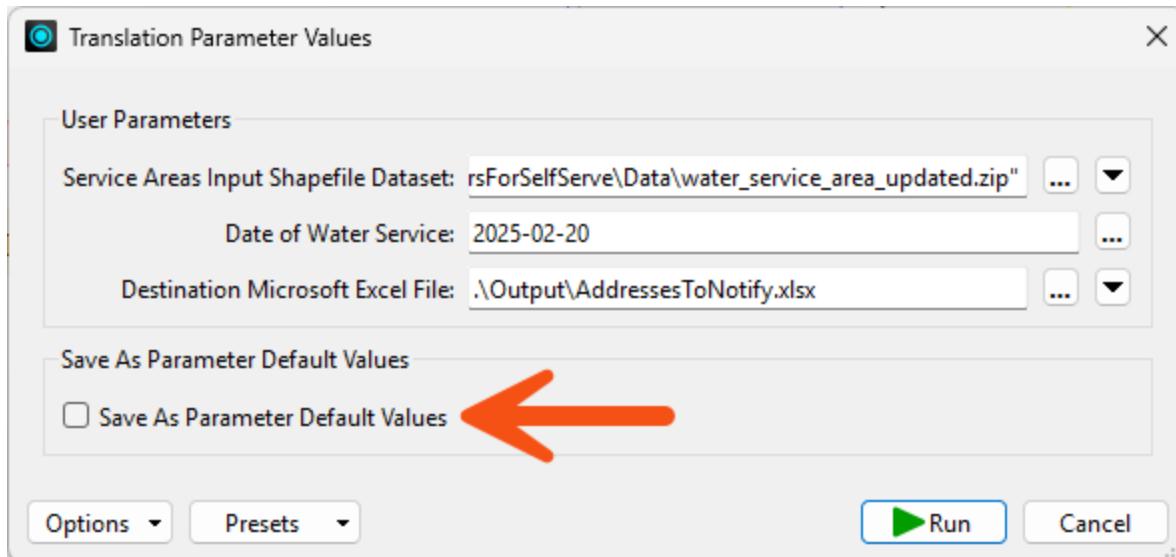


Now, click the Run button to run the workspace. A User Parameter Value dialog will appear. Click the ellipsis (or file icon) next to the Service Areas Input Shapefile Dataset and select `C:\FMEData\Resources\FMEUC25\GettingStarted\FME Flow\CreatingParametersForSelfServe\Data\water_service_area_updated.zip`.

This zip file contains all of the sidecar shapefile files and has a new service area that customers will have to be notified about. In the File Browser, change the Shapefiles (*.shp) drop-down to All File(s) to see the zip file.

Next, set the Date of Water Service to a date within the next week by clicking on the drop-down arrow to display the calendar. For the Destination Microsoft Excel File parameter, confirm the output location. If you want a different file destination, click the ellipsis [...] button (or file icon) and select a new folder.

Finally, disable the Save As User Parameter Default Values before clicking Run. We don't want these parameters to be saved as the default because this is just a test run to ensure the workspace is working correctly.



After running the workspace, review the Translation Log for the Translation was SUCCESSFUL message. If you did not receive this message, review the translation log for any red error messages and resolve them.

Part 2: Publish to FME Flow and Run Workspace

If you do not have a connection to FME Flow created, please complete Part 1 of Publish a Workspace to FME Flow and Run It prior to continuing.

1. Publish to FME Flow

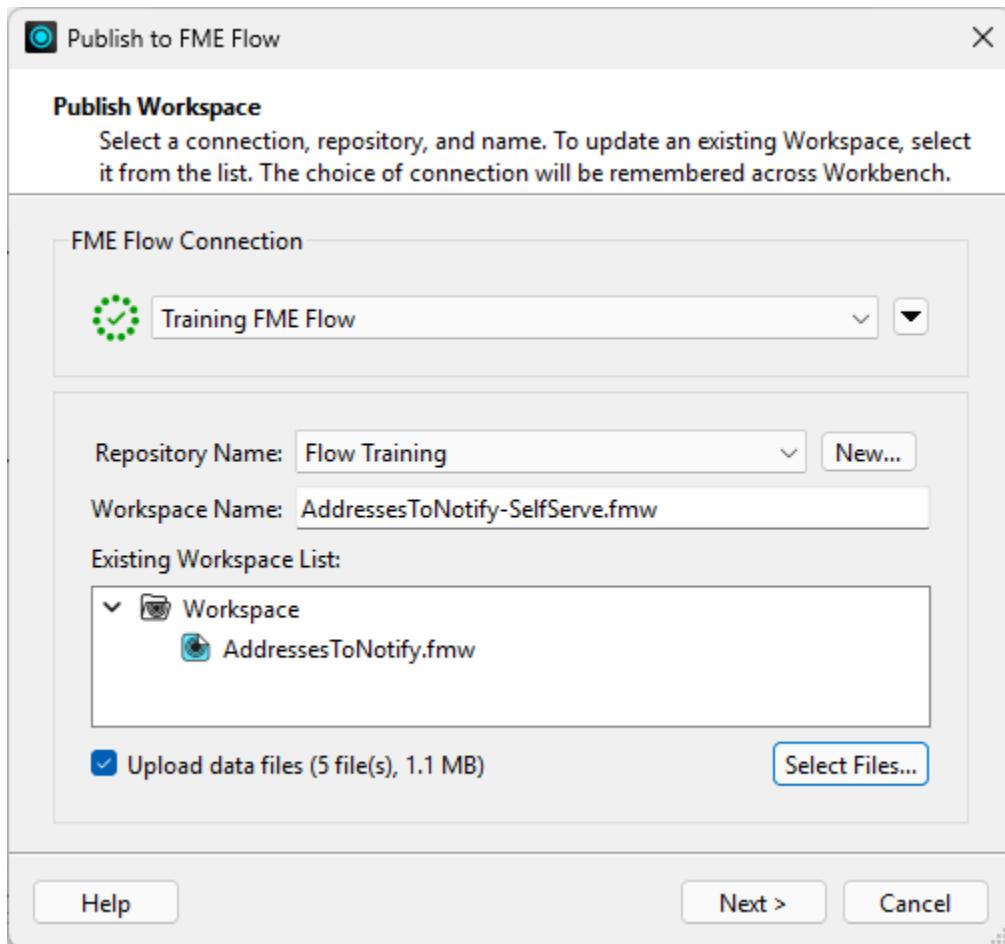
Now that we have the parameters set up and confirmed that the workspace runs correctly, we can publish it to FME Flow.

Before publishing, save the workspace. Once saved, go to File > Publish to FME Flow on the top menu bar.

Select an FME Flow connection, then select the Flow Training repository created in the previous tutorial or create a new repository. To differentiate between the workspace uploaded from the previous tutorial, add -SelfServe to the end of the workspace file name:

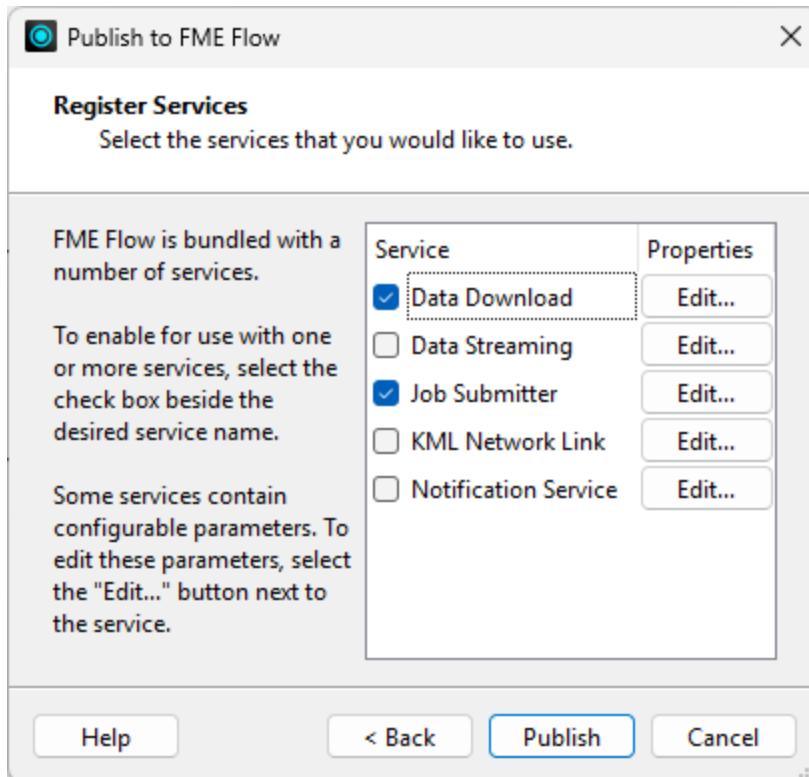
AddressesToNotify-SelfServe.fmw

Enable Upload data files.



Click Next.

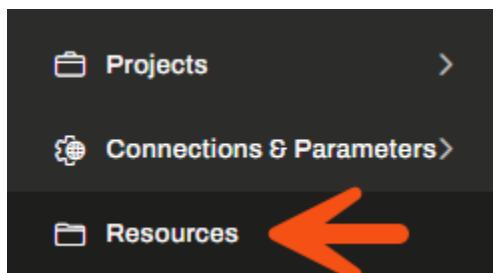
Confirm that the Data Download service is selected, then click Publish.



2. Upload the Updated Dataset

Open and log into the FME Flow Web Interface. When we run the workspace in FME Flow, we have the option to upload the updated shapefile directly through the published parameter. The only issue with this method is that it gets uploaded to the Temporary files folder, which gets purged every month (by default). We want to reference this in an automation we will set up in the next tutorial, so let's upload it to the permanent Data folder.

On the side menu bar, click on Resources. (FME 2022.2 or older: expand Resources Files & Connections, then click on Resources).



Resources are where files are stored, such as log files, temp files, connections, and backup files. The Data folder is where users can store data outside of repositories for use across FME Flow. Open the Data folder (1), then click New in the top corner (2). Create a new folder called Flow Training, then click OK.

The screenshot shows the 'Resources' page in FME Flow. On the left, there's a sidebar with a search bar and buttons for 'Create' and 'Actions'. The main area shows a list of shared resources under the 'Data' category. A red circle labeled '1' highlights the 'Data' folder. On the right, a modal window titled 'Data' is open, showing a search bar, a 'New' button (which has a red circle labeled '2' over it), and a 'Create Resource' button. The modal also displays the message 'You don't have any resources'.

Open the new Flow Training folder, and click on Upload > File(s). Then select water_service_area_updated.zip, and click OK. C:\FMEData\Resources\FMEUC25\Getting Started\FME Flow\CreatingParametersForSelfServe\Data\water_service_area_updated.zip.

The screenshot shows the 'Resources > Data > Flow Training' page. A red box highlights the breadcrumb path 'Resources > Data > Flow Training'. On the right, there's a 'Upload' button with a dropdown menu. The dropdown menu is open, showing 'Files' and 'Folder' options. A red arrow points from the 'Upload' button to the 'Folder' option. The main area shows a message 'You don't have any' and a 'Create Resource' button.

Now, this file can be accessed anywhere on FME Flow. After uploading data to FME Flow, the

Resources Uploaded notification can be seen in the top-right corner, which will indicate how many resources were uploaded. Clicking on it, you can see all of the resources uploaded during the session.

The screenshot shows the ArcGIS Resource Manager interface. At the top right, there is a red arrow pointing to the "Uploaded 1/1" notification. Below the header, the breadcrumb navigation shows "Resources > Data > Flow Training". A search bar with a magnifying glass icon and the word "Search" is followed by several buttons: "New", "Actions", "Upload" (which has a red arrow pointing to it), "Refresh", and "List". The main area displays a table of resources. The first row has a checkbox, a folder icon, the name "water_service_area_updated.zip", the size "16.01 KB", and the date "Today at 15:38:15". The table has columns for NAME, SIZE, and DATE. At the bottom left are navigation arrows, and at the bottom right are buttons for "Showing 1 to 1 of 1 entries" and a dropdown set to "100".

	NAME	SIZE	DATE
<input type="checkbox"/>	water_service_area_updated.zip	16.01 KB	Today at 15:38:15

3. Run Workspace

On the side menu bar, click on Run Workspace. On the Run Workspace page, select Flow Training for the Repository and the AddressesToNotify-SelfServe.fmw workspace. Select Data Download for the Service.

Uploaded 1/1 [Upload](#) [?](#) [User](#)

Run Workspace

Workspace

Repository*
Flow Training

Workspace*
AddressesToNotify-SelfServe.fmw [Star](#)

Service*
Data Download

Email Results To

Workspace Actions ▾

In the Published Parameters section, there are two parameters that were set up in FME Workbench.

For the Service Areas Input Shapefile Dataset parameter, click on Browse Resources.

Published Parameters [Reset Values](#)

Service Areas Input Shapefile Dataset*

Upload Files

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

OR

[Browse Resources](#)

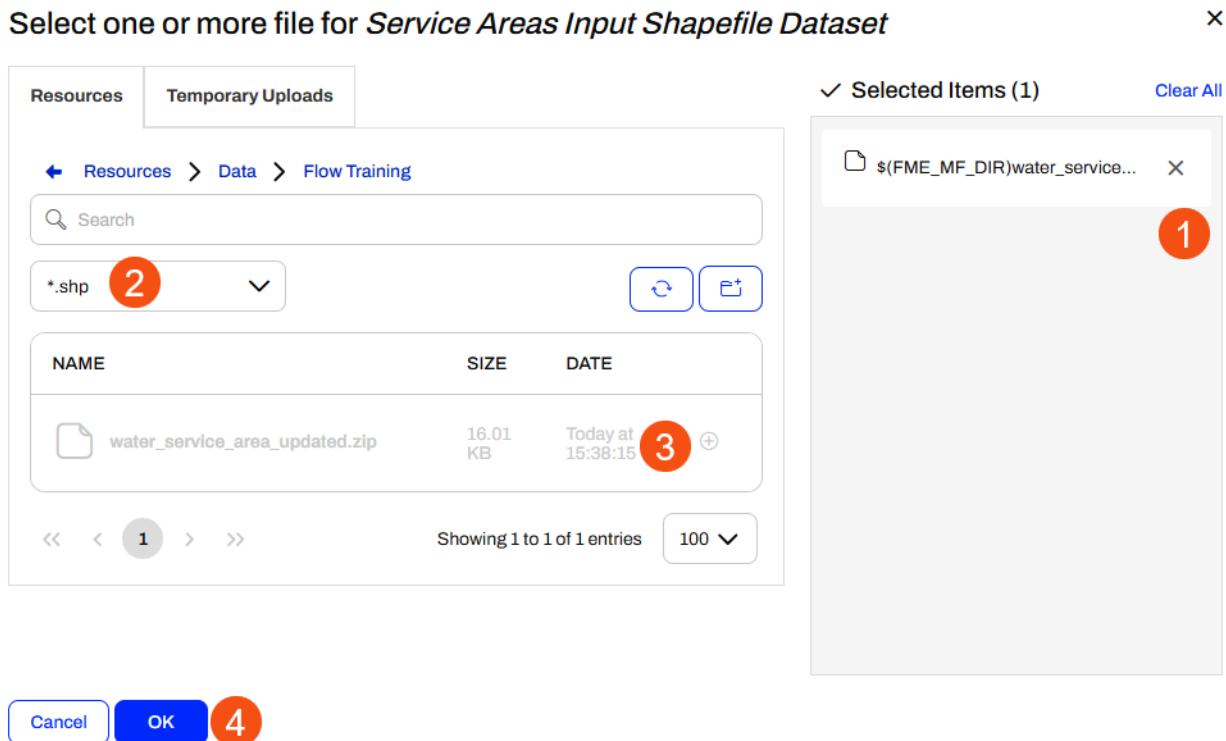
Selected Items (1)

\$(FME_MF_DIR)water_service_area.shp

+ Enter URL/Path [X](#)

Date of Water Service*

In the Resource browser, click Data, then Flow Training. Remove the existing dataset by clicking the x next to \$(FME_MF_DIR)water_service_area.shp on the right (1). Then, change the file ending filter to All Files so you can select the .ZIP file (2). Then, next to water_service_area_update.zip, click on the plus sign (+) to select the dataset (3). Click OK to close the Resource browser (4).



Note: If you are working with shapefiles not contained in a zip file or any other file types that have sidecar files, be sure to select ALL of the files when adding them to a parameter or workspace. If you are missing a file, the workspace won't run correctly.

Next, click the calendar icon next to the Date of Water Service parameter and select a date within the next week.

Once all of the parameters have been set, click Run at the bottom of the page to run the workspace.

Service Areas Input Shapefile Dataset*



Upload Files

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

OR

 [Browse Resources](#)

Selected Items (1) + Enter URL/Path X

 water_service_area_updated.zip
Resources/Data/Flow Training/

Date of Water Service*

2025-02-20 

Advanced >

Run 

4. View the Results

Click on the URL to download the zip file. Open up the zip file to confirm there is a Microsoft Excel file.

Run Workspace > Job #2

★ AddressesToNotify-SelfServe.fmw

AddressesToNotify-SelfServe

 COMPLETED

Translation Successful

[Run Again](#)

[View Details](#)

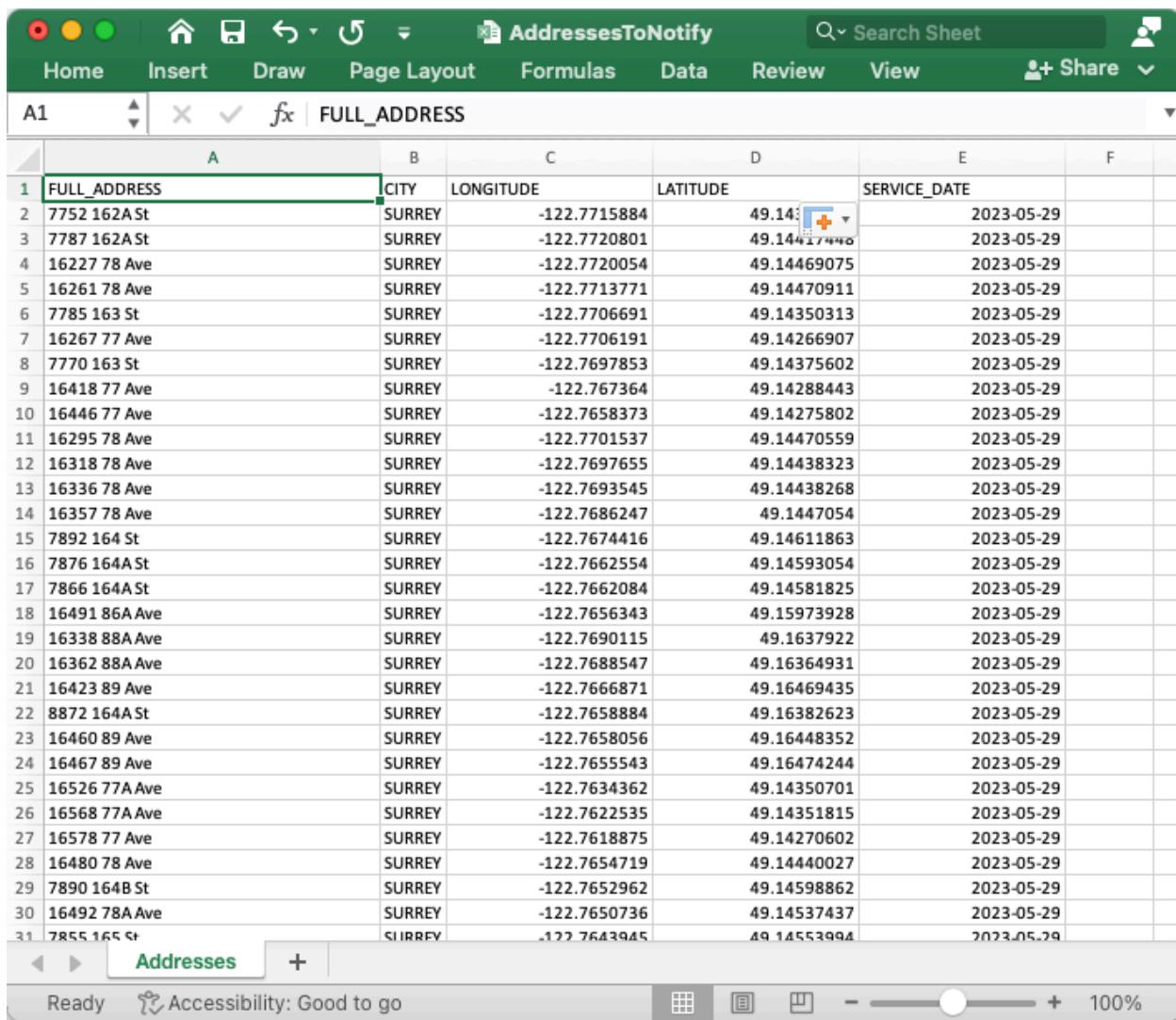
JOB ID 2

FEATURES

WRITTEN 1962

DATA DOWNLOAD URL [http://\[REDACTED\]/fmedatadownload/results/FME_141E0F65_1740095076176_11840.zip](http://[REDACTED]/fmedatadownload/results/FME_141E0F65_1740095076176_11840.zip)

Optional: Open the file in Open Office Calc or in FME Data Inspector to review the output.



A screenshot of a Microsoft Excel spreadsheet titled "AddressesToNotify". The table has columns labeled A through F. Column A contains addresses, column B contains city names, column C contains longitude coordinates, column D contains latitude coordinates, and column E contains service dates. The data consists of 31 rows of address information. The last row shows a partial address "7855 165 St" and a latitude value "49.14553944" which is cut off at the end.

	A	B	C	D	E	F
1	FULL_ADDRESS	CITY	LONGITUDE	LATITUDE	SERVICE_DATE	
2	7752 162A St	SURREY	-122.7715884	49.14350313	2023-05-29	
3	7787 162A St	SURREY	-122.7720801	49.144174448	2023-05-29	
4	16227 78 Ave	SURREY	-122.7720054	49.14469075	2023-05-29	
5	16261 78 Ave	SURREY	-122.7713771	49.14470911	2023-05-29	
6	7785 163 St	SURREY	-122.7706691	49.14350313	2023-05-29	
7	16267 77 Ave	SURREY	-122.7706191	49.14266907	2023-05-29	
8	7770 163 St	SURREY	-122.7697853	49.14375602	2023-05-29	
9	16418 77 Ave	SURREY	-122.767364	49.14288443	2023-05-29	
10	16446 77 Ave	SURREY	-122.7658373	49.14275802	2023-05-29	
11	16295 78 Ave	SURREY	-122.7701537	49.14470559	2023-05-29	
12	16318 78 Ave	SURREY	-122.7697655	49.14438323	2023-05-29	
13	16336 78 Ave	SURREY	-122.7693545	49.14438268	2023-05-29	
14	16357 78 Ave	SURREY	-122.7686247	49.1447054	2023-05-29	
15	7892 164 St	SURREY	-122.7674416	49.14611863	2023-05-29	
16	7876 164A St	SURREY	-122.7662554	49.14593054	2023-05-29	
17	7866 164A St	SURREY	-122.7662084	49.14581825	2023-05-29	
18	16491 86A Ave	SURREY	-122.7656343	49.15973928	2023-05-29	
19	16338 88A Ave	SURREY	-122.7690115	49.1637922	2023-05-29	
20	16362 88A Ave	SURREY	-122.7688547	49.16364931	2023-05-29	
21	16423 89 Ave	SURREY	-122.7666871	49.16469435	2023-05-29	
22	8872 164A St	SURREY	-122.7658884	49.16382623	2023-05-29	
23	16460 89 Ave	SURREY	-122.7658056	49.16448352	2023-05-29	
24	16467 89 Ave	SURREY	-122.7655543	49.16474244	2023-05-29	
25	16526 77A Ave	SURREY	-122.7634362	49.14350701	2023-05-29	
26	16568 77A Ave	SURREY	-122.7622535	49.14351815	2023-05-29	
27	16578 77 Ave	SURREY	-122.7618875	49.14270602	2023-05-29	
28	16480 78 Ave	SURREY	-122.7654719	49.14440027	2023-05-29	
29	7890 164B St	SURREY	-122.7652962	49.14598862	2023-05-29	
30	16492 78A Ave	SURREY	-122.7650736	49.14537437	2023-05-29	
31	7855 165 St	SURREY	-122.7643945	49.14553944	2023-05-29	

Schedule a Workspace to Run with FME Flow Automations

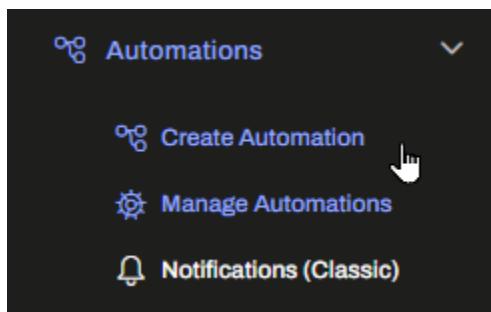
Introduction

Welcome to the third tutorial of the Getting Started with FME Flow (formerly FME Server) series. In this tutorial, we will create an automation to run a workspace on a schedule and then manually trigger it for testing purposes.

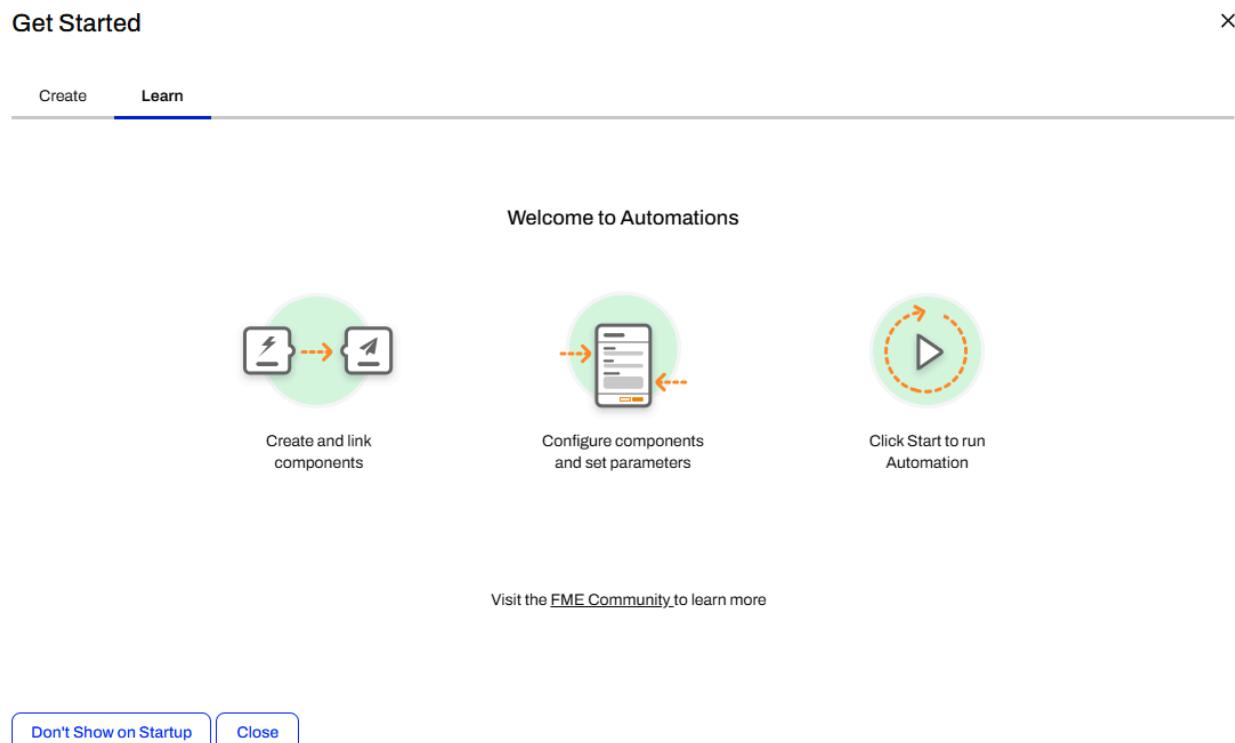
Step-by-Step Instructions

1. Create a New Automation

Open the FME Flow Web Interface and log in. On the side menu bar, click on Automations to expand the menu, then select Create Automation (FME 2022.2 or older: Build Automation).



In Automations, a quick introduction will pop up; review it before closing.

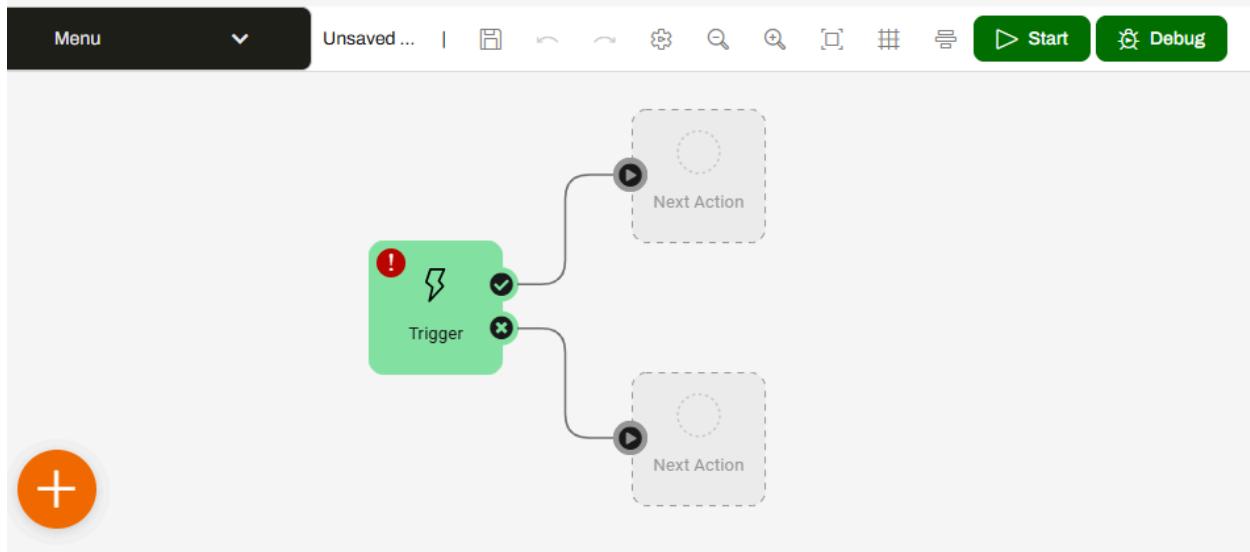


After closing the Get Started dialog, you'll be on the Automation canvas with a Trigger component already added, as well as Next Action guides.

Automations



Automations allow you to build event-driven or on-demand workflows using workspaces, triggers, and actions.

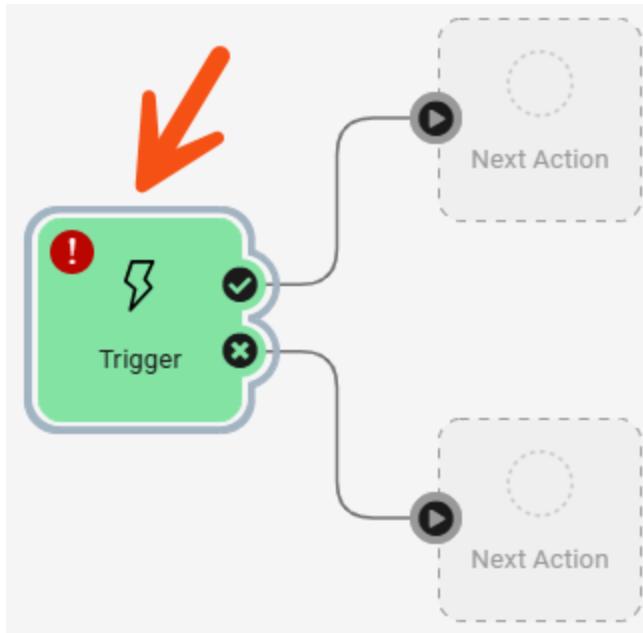


The canvas is where Triggers, Actions, and other components will be added to create an Automation workflow, similar to an FME workspace. For an in-depth look at automations, see [Getting Started with Automations](#).

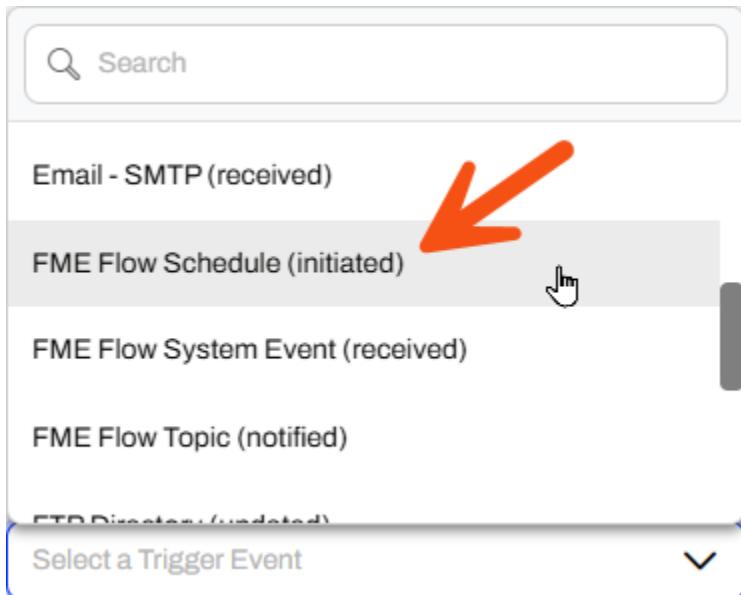
The Next Action guides will be used in the next step to quickly add and configure action components. The guides can be disabled by opening the Menu and selecting Hide Guides, if desired.

2. Set up a Schedule Trigger

Since the Trigger has already been added to the canvas, double-click on it to modify the details.



In the Trigger Details dialog, click the drop-down to expand the trigger options, select FME Flow Schedule (Initiated) (FME 2022.2 or older: FME Server Schedule (Initiated)). After selecting a trigger type, more options will appear.



For this schedule, we want it to run once daily at the same time. Set up the Schedule Details as follows:

- Schedule Type: Repeat on Interval

- Repeat Every: 1 Day
- Start Immediately: Enabled (this will set the schedule time to the time the automation is turned on. For a specific time, set the Start instead of enabling Start Immediately)
- Does Not Expire: Enabled

Click Apply.

FME Flow Schedule ✖

Details

Trigger*

FME Flow Schedule (initiated) ▼

Parameters Output Attributes

Schedule Type*

Repeat On Interval ▼

Repeat every*

1 Days ▼

Date Range

Start End

📅 📅

Start Immediately

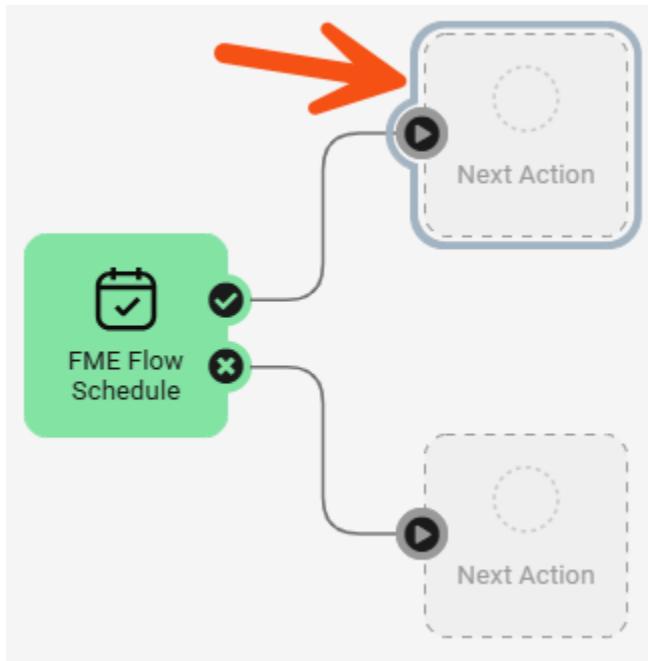
Does Not Expire

Cancel Apply

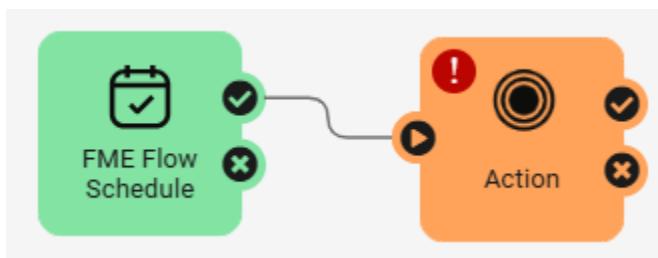
3. Add and Configure an Action

With the Schedule Trigger setup, we need to set up an action to trigger. Double-click on the

silhouetted Next Action Guide connected to the success output port (the one with the checkmark); this will open the Next Action Details.



If Guides are disabled, click on the orange plus sign (+) in the bottom left corner to open the menu (1). Next, click on Action to select it (2), then click on the canvas to add the Action component. To connect the newly added Action component, click on the FME Flow Schedule component success port (checkmark) and drag the connection line to the Action input port.



In the Next Action Details, select Run a Workspace from the drop-down menu. After selecting an action type, the dialog will update with more options.

Set the Action Details as follows:

- Repository: Flow Training

- Workspace: AddressesToNotify-SelfServe.fmw

Addresses To Notify- Self Serve Details

Details Job Statistics

Action*

Run a Workspace

Repository*

Flow Training

Workspace*

AddressesToNotify-SelfServe.fmw

The Parameters will need to be modified as well. Click on the ellipsis [...] next to Service Area Input Shapefile Data to open the file browser.

Parameters Output Attributes Advanced F

Service Areas Input Shapefile Dataset*

"\$(FME_MF_DIR)water_service_are

Date of Water Service*

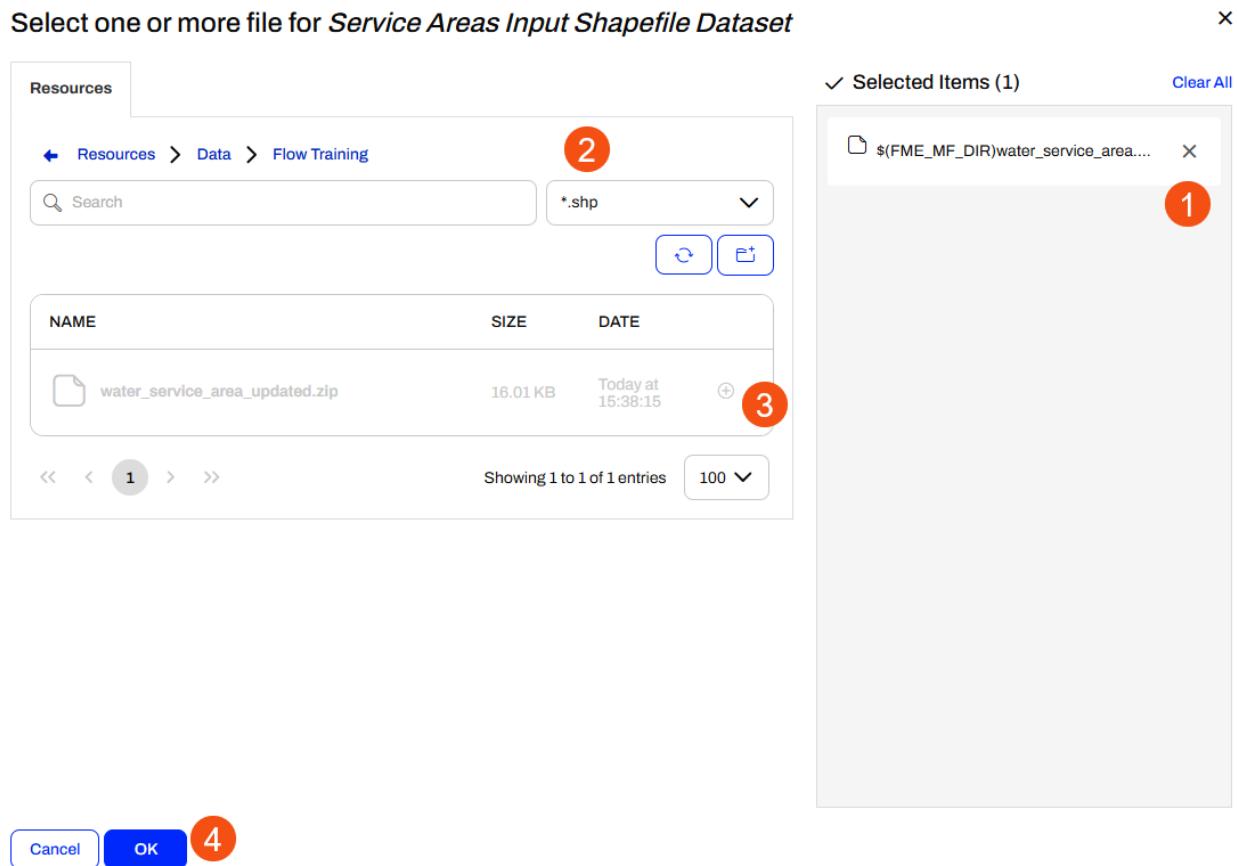
Navigate to Data > Flow Training.

Remove the \$(FME_MF_DIR)water_service_area.shp default dataset by clicking the X (1).

Change the file filter to All Files so you can select the .ZIP (2).

Click the plus sign (3) to add the water_service_areas_updated.zip. This dataset was uploaded in the previous tutorial. If you do not have it already uploaded, please see [Part 2 of the previous tutorial](#).

Click OK to add the dataset to the parameter (4).



Then select a date for Date of Water Service; it can be sometime in the future.

Finally, click on the ellipsis for the Destination Microsoft Excel File and browse to the Flow Training folder. Set the Destination Microsoft Excel File to:

\$(FME_SHAREDRESOURCE_DATA)/Flow Training/AddressesToNotify_updated.xlsx

Specify destination file for *Destination Microsoft Excel File*

X

Resources

↳ Resources > Data > Flow Training

Search .xlsx

NAME SIZE DATE

water_service_area_updated.zip	16.01 KB	Today at 15:38:15
--------------------------------	----------	-------------------

Showing 1 to 1 of 1 entries 100

Destination Microsoft Excel File \$(FME_SHAREDRESOURCE_DATA)/Flow Training/AddressesToNotify_updated.xlsx

Cancel OK



Click OK, then once the parameters are all set, click Apply.

Addresses To Notify- Self

Serve Details

Details Job Statistics

Action* Run a Workspace 

Repository* Flow Training 

Workspace* AddressesToNotify-SelfServe.fmw  

Parameters Output Attributes Advanced 

Reset ↻

Service Areas Input Shapefile Dataset* \$(FME_SHAREDRESOURCE_DA1)  

Date of Water Service* 2025-02-21  

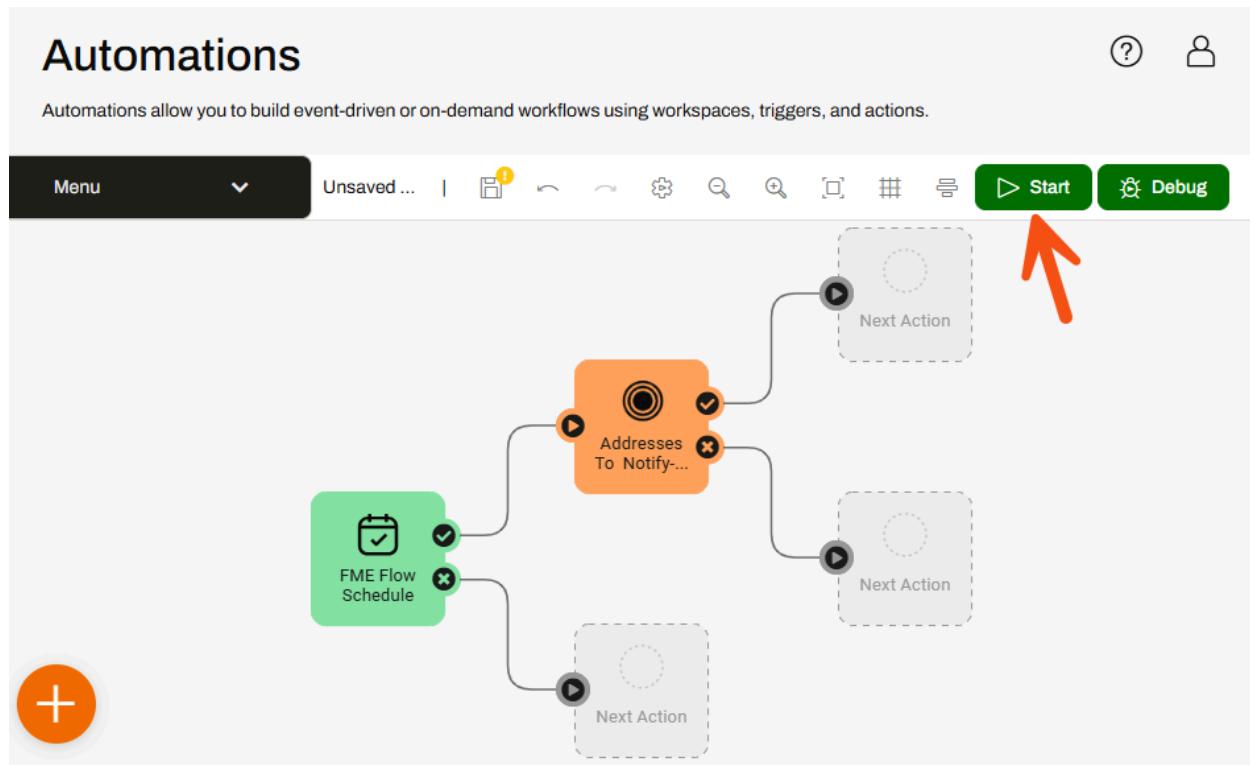
Destination Microsoft Excel File* \$(FME_SHAREDRESOURCE_DA1)  

4. Save and Start Automation

This automation is simple but very powerful. It allows a workspace to be run daily without the user

needing to do anything beyond setting up the automation. Before the schedule is initiated, the automation needs to be saved and started.

Click on the Start button in the top right corner.



Since this is the first time we are starting the automation, we will be prompted to save. Save the automation as Schedule Addresses To Notify, and click the plus sign to add a Tag. Input the tag name Flow Training and then click OK twice to save the automation.

Save As for Untitled

X

Name*

Schedule Addresses to Notify

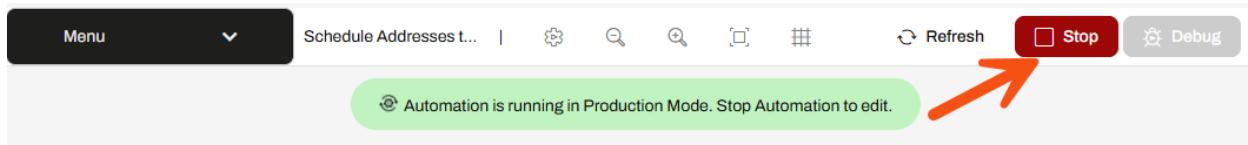
Tags

Flow Training

Save

Note: If you only have the single Flow Training tag, Select All will be enabled. If your FME Flow has other tags besides the newly created Flow Training tag, Select All will remain disabled.

After saving the automation, it will start. To make any edits, it must be stopped.



5. Verify that the Workspace Runs Successfully

Since Start Immediately is enabled in the Schedule component, AddressesToNotify-SelfServe.fmw started running when Start Automation was clicked. There are two ways to check the status of your automation and its triggered jobs.

a. View the Job Log

From the Automation page, click Menu > View Triggered Jobs. A list of jobs run by this automation appears. These jobs can also be accessed by going to Jobs > Completed. You will know the job is from the automation because it will have the Source Type listed as Automations and the name of the automation.

ID	WORKSPACE	REPOSITORY	USERNAME	RAN BY	STATUS	LOGS	STARTED	FINISHED	SOURCE NAME	SOURCE TYPE
3	AddressesToNotify-SelfServe.fmw	Flow Training	admin	admin	✓		Today at 16:03:02	Today at 16:03:03	Schedule Addresses to Notify	Automations

b. View the Automation Log File

The second way to verify if the automation was successful is by checking the log files. Stop the automation, click on the Debug button, and confirm Debug mode by clicking Debug. Then click View Debug Log:



Automation Debug Log

Automations > Schedule Addresses to Notify > Debug Log

Schedule Addresses to Notify

Download Debug Log

Log

Search

1 2024-06-10T18:22:59-07:00 | 410115 : (Automations) Assembling automation "Schedule Addresses to Notify"...

2 2024-06-10T18:22:59-07:00 | 410109 : (Automations) Creating link from trigger...

3 2024-06-10T18:22:59-07:00 | 410119 : (Automations) Creating schedule trigger...

4 2024-06-10T18:22:59-07:00 | 410121 : (Automations) Creating action to run workspace "AddressesToNotify-SelfServe.fmw"...

5 2024-06-10T18:22:59-07:00 | 410158 : (Automations) Creating manual trigger...

6 2024-06-10T18:22:59-07:00 | 410136 : (Automations) Updating event attributes for component...

7 2024-06-10T18:22:59-07:00 | 410105 : (Automations) Creating project "Schedule Addresses to Notify"...

8 2024-06-10T18:22:59-07:00 | 410116 : (Automations) Finished assembling automation "Schedule Addresses to Notify"

9 2024-06-10T18:22:59-07:00 | 406446 : Schedule triggered

10 2024-06-10T18:22:59-07:00 | 404610 : Job 104: Translation submitted

11 2024-06-10T18:22:59-07:00 | 401888 : Job 104: Sending job to FME Engine localhost_Engine1 on host localhost. Request is >"Emmal/AddressesToNotify-SelfServe/AddressesToNotify-Selfserve.fmw" ->PARAMETER <?xml version="1.0" encoding="UTF-8"?><TRANSFORMATION_REQUEST><PUBLISHED_PARAMETER name="FME_AUTOMATION_NODE_ID">7fdf24f2-a742-f98e-ba5a-bdb526d7e891</PUBLISHED_PARAMETER><PUBLISHED_PARAMETER name="FME_AUTOMATION_ID">9212e421-3620-4aeb-b04b-1461036ef215</PUBLISHED_PARAMETER><PUBLISHED_PARAMETER name="FME_SECURITY_USER">ele</PUBLISHED_PARAMETER><PUBLISHED_PARAMETER name="SERVICE_DATE">20240612</PUBLISHED_PARAMETER><PUBLISHED_PARAMETER name="DestDataset_XLSXW">\$ (FME_SHAREDRESOURCE_DATA)/Emmal/AddressesToNotify_updated.xlsx</PUBLISHED_PARAMETER><PUBLISHED_PARAMETER name="FME_AUTOMATION_NAME">Schedule Addresses to Notify</PUBLISHED_PARAMETER><PUBLISHED_PARAMETER name="FME_TOPIC_MESSAGE">\$ (FME_SHAREDRESOURCE_SYSTEM)temp/subscriptions/02aebb6c6e9244937b0e379ad52d95d46.json</PUBLISHED_PARAMETER><PUBLISHED_PARAMETER name="FME_TOPIC_ID">9212e421-3620-4aeb-b04b-1461036ef215-d628cf2c-295e-664c-b5c6-89dcff41c68</PUBLISHED_PARAMETER><PUBLISHED_PARAMETER name="FME_AUTOMATION_LOGGING_MODE">DB</PUBLISHED_PARAMETER><PUBLISHED_PARAMETER name="SourceDataset_SHAPEFILE">"\$ (FME_SHAREDRESOURCE_DATA)/Emmal/CreatingParametersForSelfServe (1).zip"</PUBLISHED_PARAMETER></TRANSFORMATION_REQUEST> -- FME_SECURITY_USER "ele" -- FME_SECURITY_ROLES "[user:ele","fmeauthor","fmeadmin"]" -- FME_SERVER_RUNTIME_USER "ele" -- FME_SERVER_RUNTIME_USER_ID "ab97109b-d882-4ea8-baa8-47d776b6de2b" -- FME_SERVER_HOST "localhost" -- FME_SERVER_PORT "7071" -- FME_SERVER_WEB_URL "<http://WIN-FMEUT241:80>"<

12 2024-06-10T18:22:59-07:00 | 401871 : Job 104: Waiting for translation result from FME Engine. Job details are at <http://WIN-FMEUT241:80/fmeserver/#/job/104/summary>

<< < 1 > >>

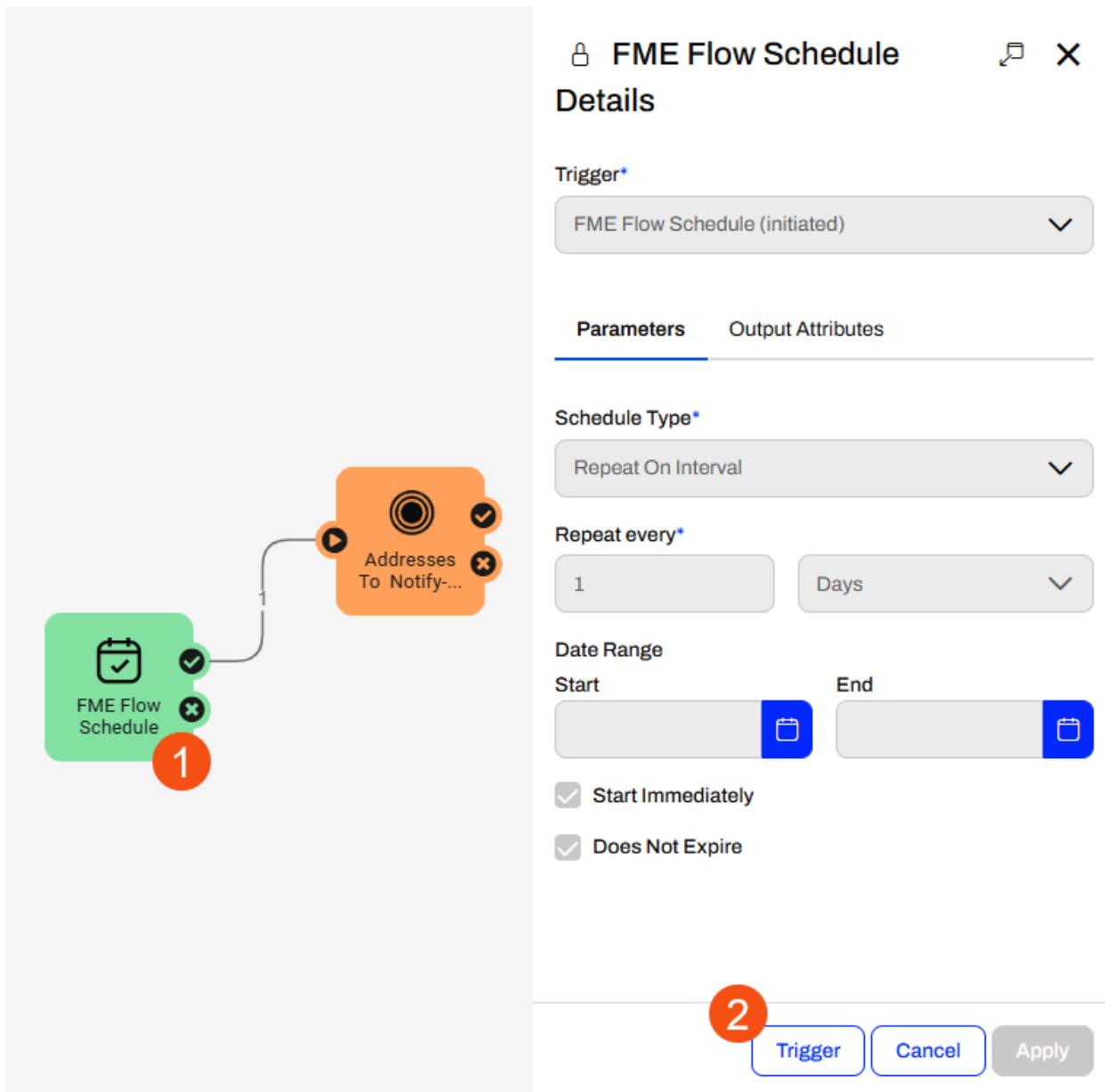
Showing 1 to 12 of 12 entries

6. Trigger a Schedule

When we set up our schedule, we enabled Run Immediately, which caused the automation to kick off once we started it, and then it will repeat every day at the same time as when we started the automation. But what if we needed a new copy of the AddressesToNotify_updated.xlsx Excel spreadsheet, but the automation isn't going to run for a few more hours based on the schedule? We can manually trigger the schedule. This option is also great for testing, so you don't need to keep

modifying the scheduled start time or if you have your schedule configured to run in off-hours.

Once the automation has been started, if you double-click on the Schedule component to open the parameters (1), a Trigger button will appear at the bottom. You can't modify any of the parameters because the automation is running, but you can trigger it to initiate the schedule (2).



Send Emails with Attachments From FME Flow Automations

Introduction

Welcome to the final tutorial of the Getting Started with FME Flow (formerly FME Server) series. In this tutorial, you will refine the automation from the previous tutorial to email an attachment to a user, each time the schedule initiates the workspace.

Step-by-Step Instructions

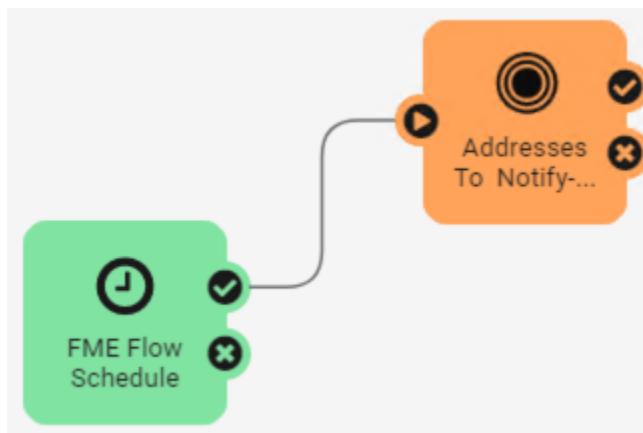
An External Action will be used to send an email from the automation that has been set up in the previous article. The email will include the Excel spreadsheet of AddressesToNotify as an attachment.

1. Complete the Previous Lesson

Before working through this lesson, please complete the Schedule a Workspace to Run with FME Flow Automations lesson to build the automation.

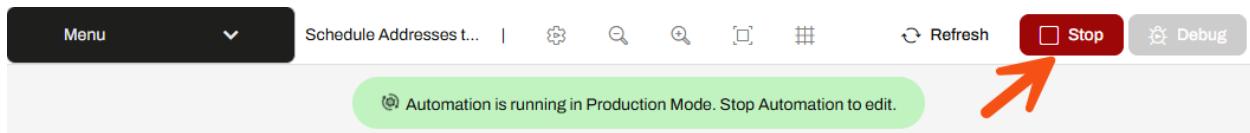
2. Open Automation

Log into FME Flow and open the Schedule Addresses to Notify automation that was created in the previous lesson.

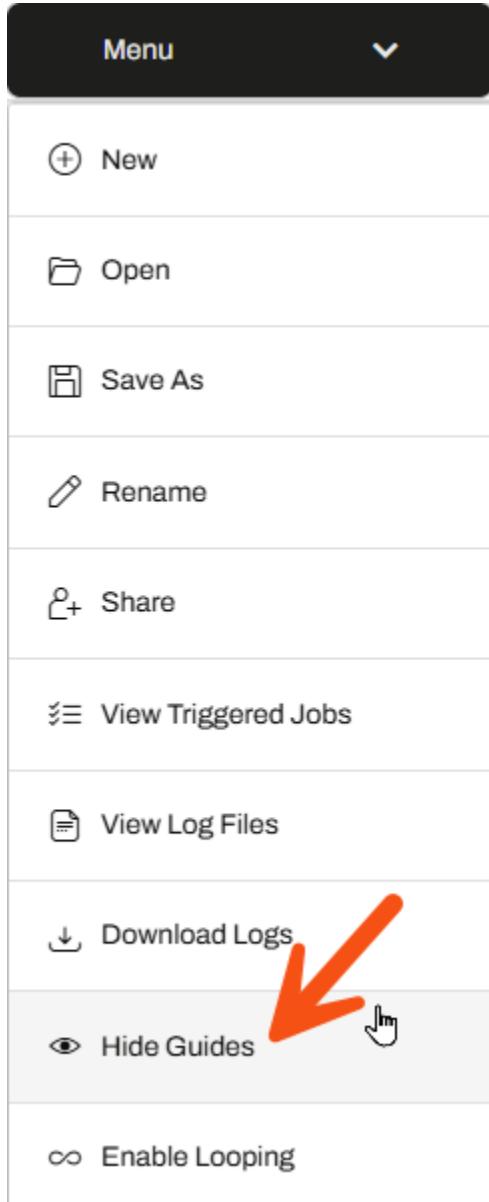


3. Add an External Action

If continuing from the previous tutorial, stop the automation first before editing.

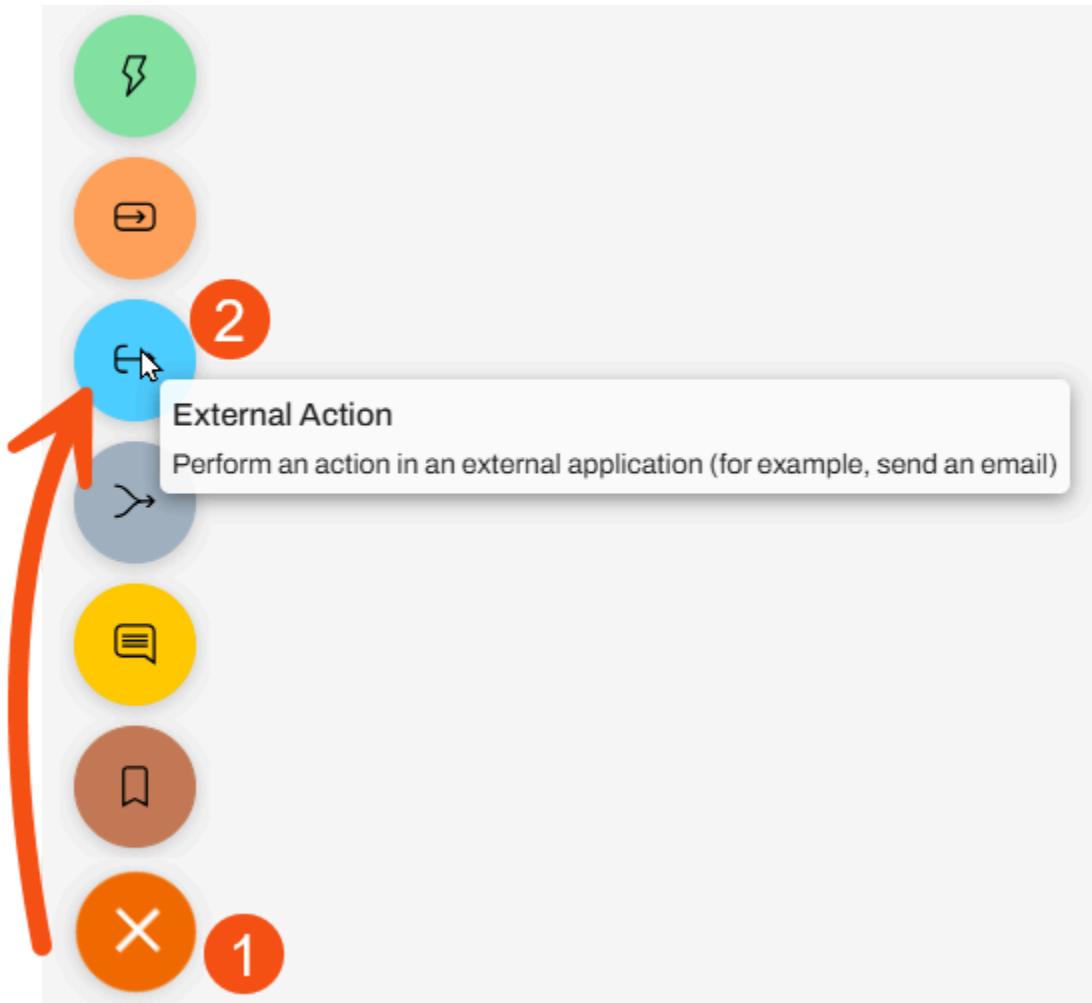


Now, let's hide the Next Action guides to clean up the canvas and practice manually adding components. To do this, go to Menu, then select Hide Guides.

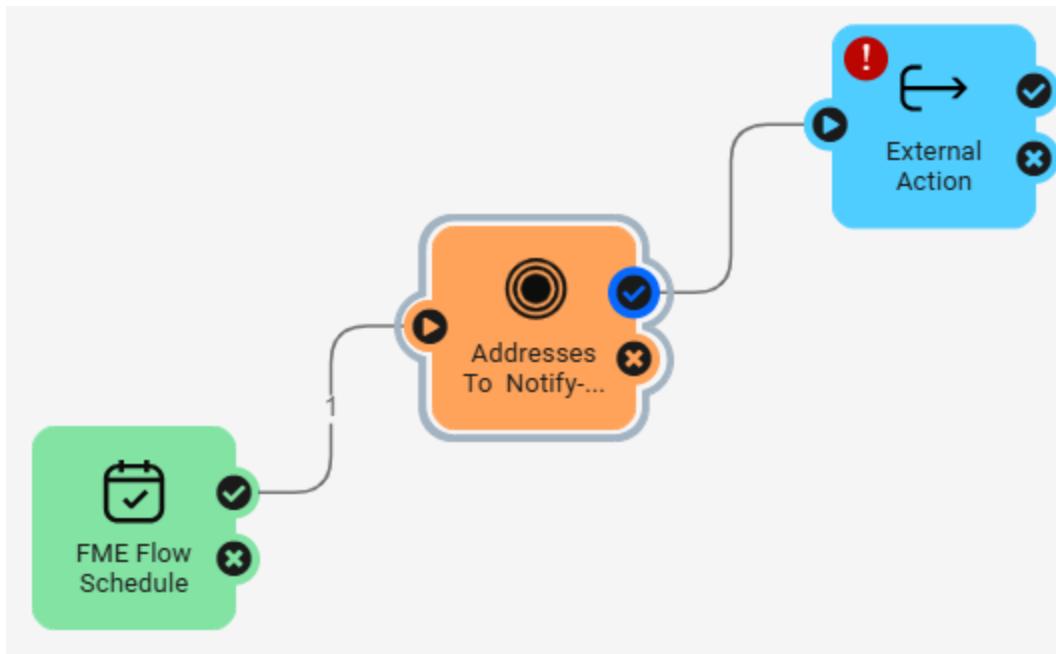


With the guides hidden, let's manually add an external action. Click on the plus sign (+) in the bottom

left corner to open the menu (1). Click External Action to select it (2). Now click anywhere on the automation canvas to place it.



To connect the external action to the workflow, click on the Success output port (checkmark) on the Address To Notify run workspace component and click and drag to the External Action component input port. Tidy up the canvas (if desired) by moving the components in-line, similar to FME Workbench.



4. Set Up Email

Double-click on the External Action component to open the parameters. In the External Action Details dialog, change the Action type to Email (send). After selecting the action type, more options will appear.

External Action Details



Action*

Select an Action

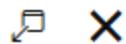
Search

- Email (send)
- FME Flow Topic (notify)
- FTP Directory (upload to)
- HTTP Request (send)

To send an email from FME Flow, you will need access to an [SMTP email account](#). FME Flow comes with common SMTP templates such as Gmail, Outlook, etc. Gmail will be demonstrated in this tutorial. If your email provider is not listed, you can manually enter in the SMTP Server and Port.

Click on the Load Template button and select Gmail; this will auto-populate the SMTP Server and Port fields.

✉ Email Details



Action*

Email (send)



Parameters

Output Attributes

Retry

▼ Load Template

Gmail



IP address used for sending

Outlook

Office 365

Yahoo

ing email.

25

Next, enter your SMTP Account and Password and set the Connection Security. Typically, SSL/TLS is the default, but you may need to contact your email administrator or view your email properties to determine the security type.

SMTP Server*

Mail exchange server domain name or IP address used for sending email.

SMTP Server Port*

Mail exchange TCP port used for sending email.

SMTP Account **SMTP Password** **Connection Security***

The encryption mechanism used for the connection, if any.



Then, set the Email To and Email From. The Email From field will be the same as the SMTP account email. You can send the email to the same email as the SMTP email for testing purposes. Now for the Email Subject, set it to:

New Addresses To Notify

Email To* ?

Email Cc ?

Email Bcc ?

Email From* ?

Email Subject*

Email Format*

Next, for the Email Attachment, click the ellipsis to open the file browser. Navigate to Data > Flow Training > AddressesToNotify_updated.xlsx, then click OK.

Select one or more file for *Email Attachment*

The screenshot shows a file selection dialog box. On the left, under 'Resources', there's a breadcrumb navigation bar: 'Resources > Data > Flow Training'. Below it is a search bar and two blue buttons. A table lists files: 'AddressesToNotify_updated.xlsx' (684.71 KB, Today at 16:29:12) and 'water_service_area_updated.zip' (16.01 KB, Today at 15:38:15). Each file has a blue '+' icon to its right. A red arrow points to the '+' icon of the first file. On the right, a panel titled 'Selected Items' shows 'Nothing selected'. At the bottom are 'Cancel' and 'OK' buttons.

In the Email Body enter:

See attached file for new addresses to notify for water service.

Once the parameters are set, click Validate (1) to ensure that the email credentials are correct. A Valid message will appear at the top under Load Template (2). After validating, click Apply (3).

Email Subject*
New Addresses To Notify

Email Format*
Plain Text

Email Attachment
"\${FME_SHAREDRESOURCE_DA1}"

Email Body
The message body to use for delivery. See the [documentation](#) for supported tags.
See attached file for new addresses to notify for water service.

Action*
Email (send)

Parameters Output Attributes Retry

Load Template

Valid Parameters **2**

Validate **1** **Cancel** **Apply** **3**

5. Start and Trigger Automation

Click Start Automation. With the automation running, we can trigger it now, so we don't have to wait until tomorrow to see if the email works. Open the FME Flow Schedule component and click Trigger to trigger the schedule.

FME Flow Schedule

Details

Trigger*

FME Flow Schedule (initiated)



Parameters

Output Attributes

Schedule Type*

Repeat On Interval



Repeat every*

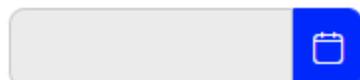
1

Days

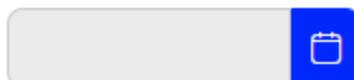


Date Range

Start



End



Start Immediately

Does Not Expire



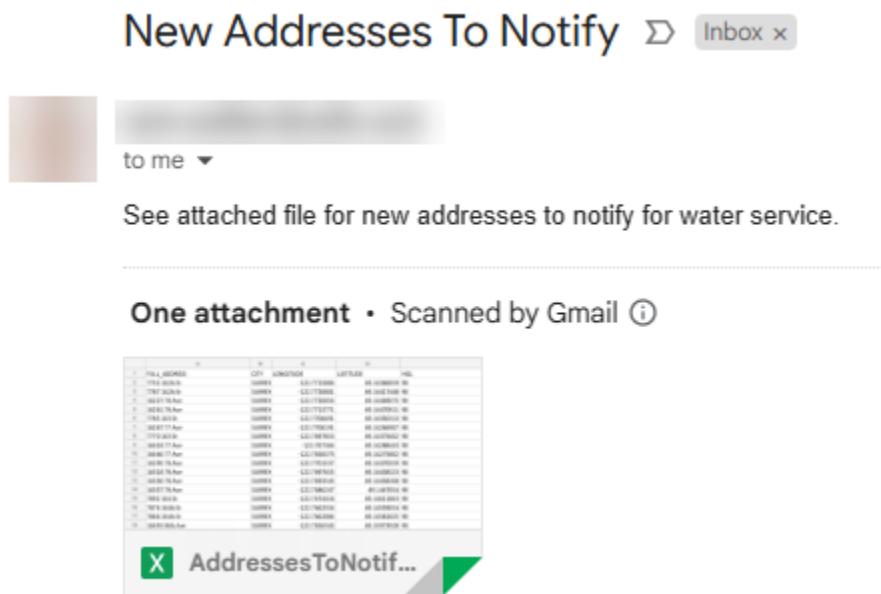
Trigger

Cancel

Apply

6. Review Email

Open the email account that was set up in the Email To field. Confirm that an email was received with the attached AddressesToNotify_updated.xlsx spreadsheet.



Create Self-Serve Access to Data with FME Flow

Introduction

In the first tutorial in this series, you learned how to publish a workspace to FME Flow (formerly FME Server) and run it from the Web User Interface. Now, you will modify that workspace to allow for “self-serve” data access. This will be accomplished by creating published parameters in FME Workbench, publishing the workspace to FME Flow, and seeing how to interact with the published parameters.

Step-by-Step Instructions

1. Open FME Workbench

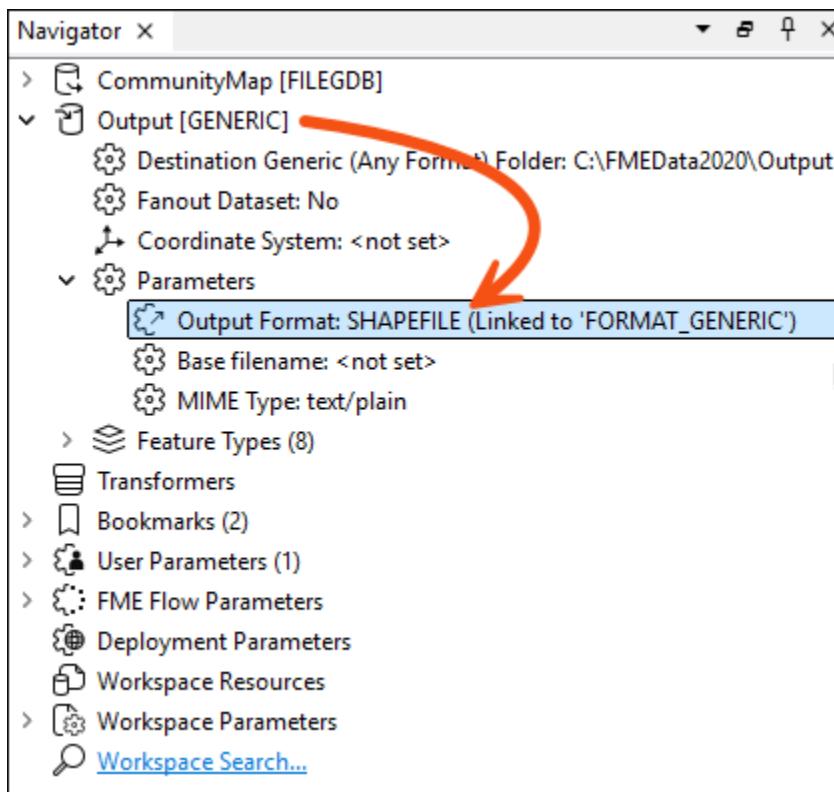
Open CommunityMapping.fmw in FME Workbench. It is located at
C:\FMEData\Resources\FMEUC25\GettingStarted\FME
Flow\CreateSelfServeAccess\CommunityMapping.fmw.

The Generic writer's default writer format is Esri Shapefile. However, the goal is for the user to select the format of their choice from a small list at run time, which is accomplished with published parameters.

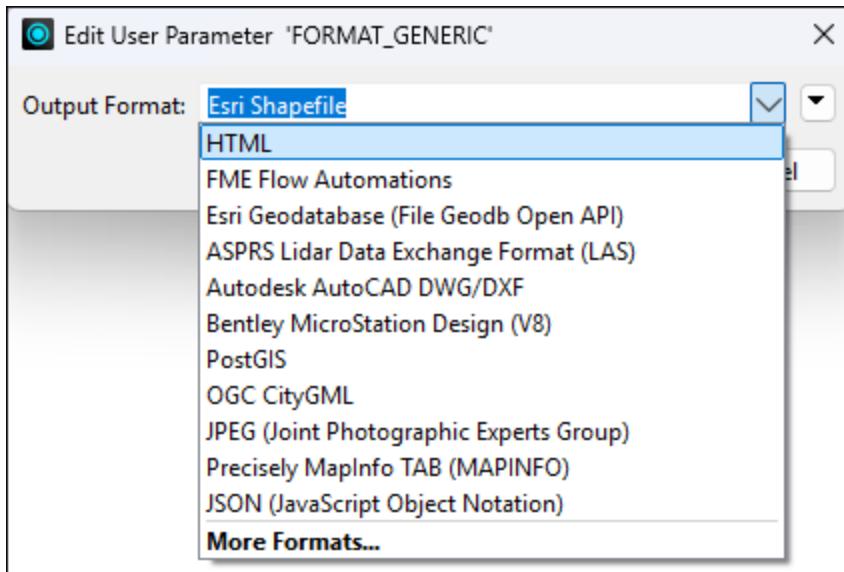
FME parameters control how FME operates. They exist in many places, such as readers, writers, and transformers.

2. Open the Generic Writer Published Parameters

In the Navigator window, expand the Output [GENERIC] writer by clicking the arrow to the left, then expand Parameters.



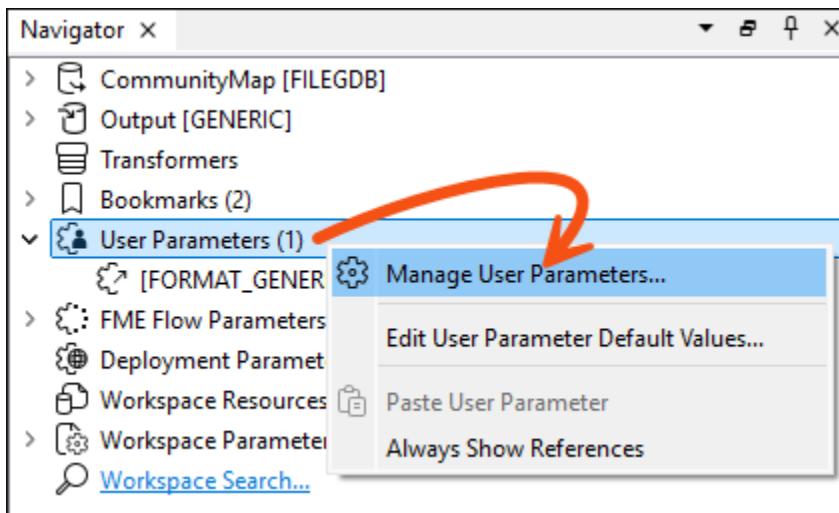
Double-click the Output Format parameter to open the parameters. The user can currently select from any format in the formats gallery.



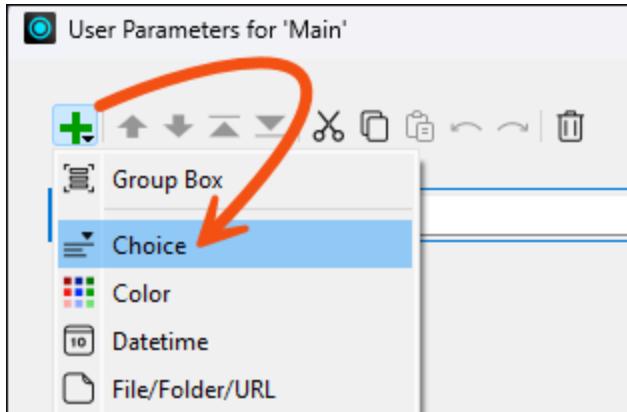
But that's not what we want. The goal is to present the user with a list of four formats. So, we will create a new user parameter and define it accordingly.

3. Create a New User Parameter

In the Navigator window, right-click on User Parameters and select Manage User Parameters.



Click on the green plus sign, then select Choice.



On the right-hand side, fill in the following parameter properties:

- Parameter Identifier: Output_Format
- Prompt: Select an output format
- Published: Enabled
- Required: Disabled
- Disable Attribute Assignment: Enabled
- Choice Configuration: Drop-down
 - Then for Choices, enter the following:

Value	Display
-------	---------

SHAPEFIL	Esri
E	Shapefile

MITAB	MapInfo TAB
-------	-------------

GML	GML
-----	-----

Then select Esri Shapefile as the Default Value and click OK.

Parameter Identifier:
Output_Format

Prompt:
Select an output format

Published Required Disable Attribute Assignment

▼ Choice Configuration

Dropdown List Tree

Choices

Value	Display
SHAPEFILE	Esri Shapefile
MITAB	MapInfo TAB
GML	GML

+ - ▲ ▼ ⌂ ⌂ Import

Allow Choice Edit:
No

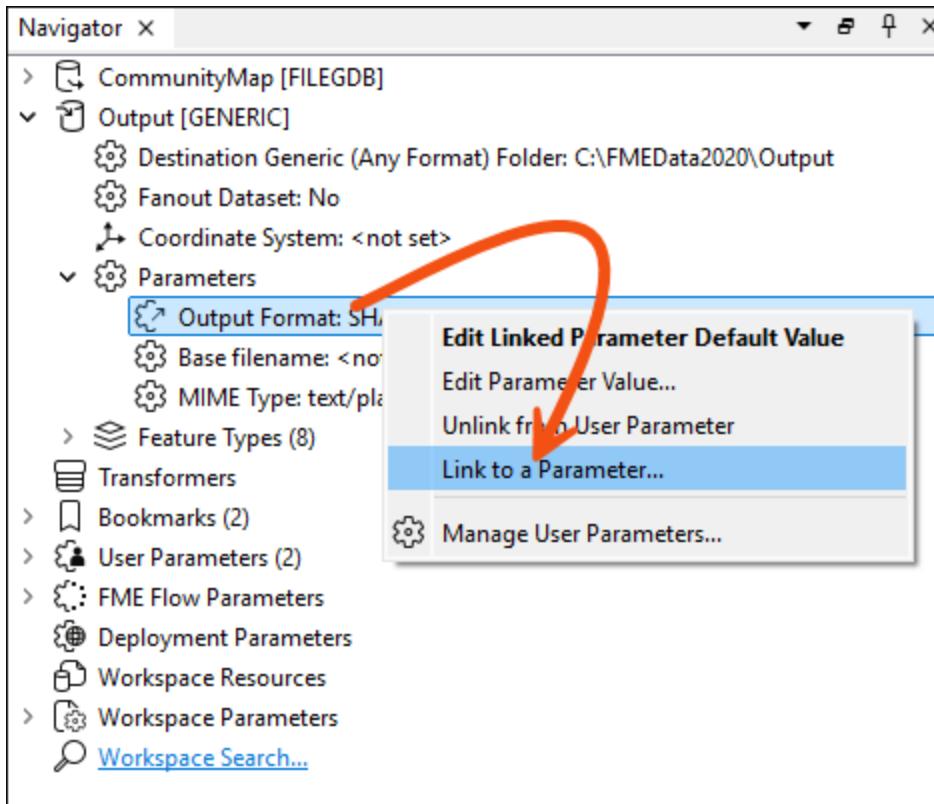
Preserve Choice Order:

▶ Conditional Visibility

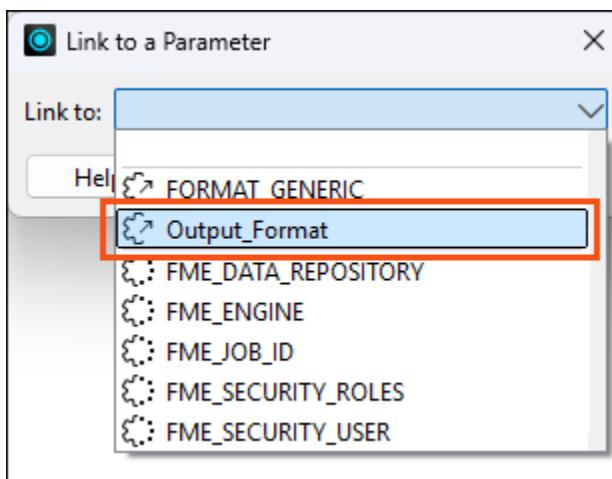
Default Value:
Esri Shapefile

4. Link Published Parameter to Output Format Parameter

Our new Output_Format parameter appears under User Parameters > Published Parameters, but we still have to link it to the Generic Writer's Output Format parameter. Locate the Output [GENERIC] Writer, and expand it with the arrow to view the Parameters, the first one being Output Format. Right-click on Output Format, select Link to a Parameter.

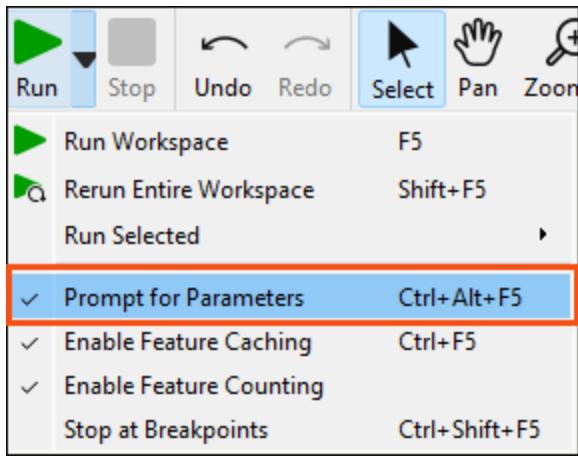


Select the new Output_Format parameter we just created.



5. Run the Workspace

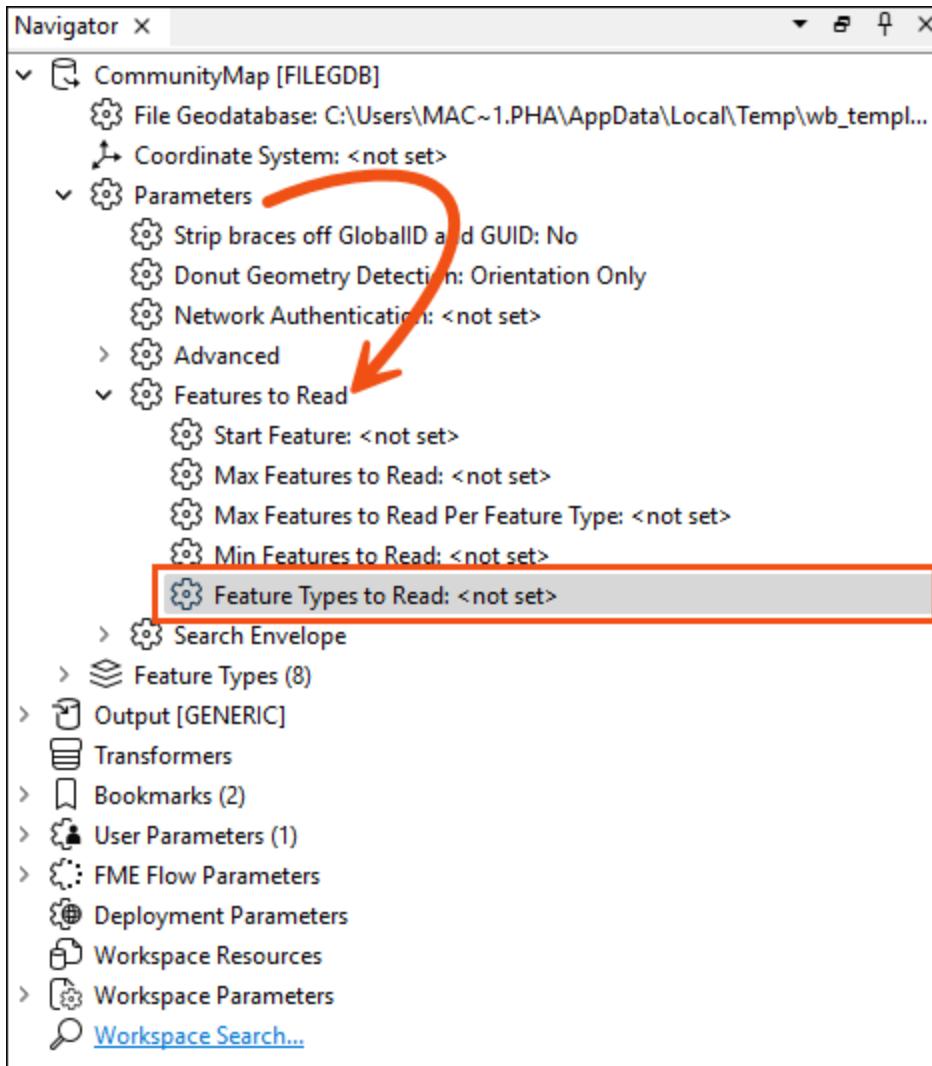
If you run the workspace immediately, it will use the default value and output Esri Shapefile. We need to be prompted to change the parameters. Click the drop-down arrow next to Run and enable Prompt for User Parameters, now click Run. You will be prompted to choose the output format. Notice that only those four formats are presented now in the drop-down list. Pick GML and click Run.



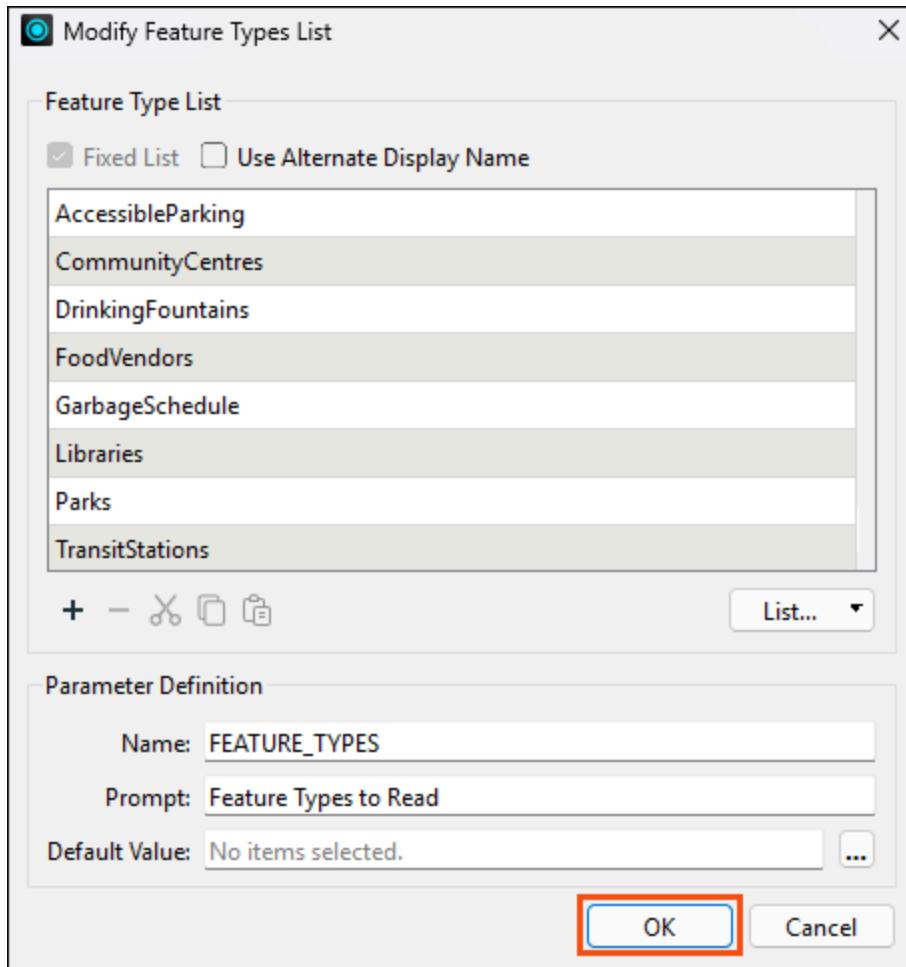
6. Publish Features Types to Read Parameter

Now, let's set up the workspace so that the user can choose which feature types to request.

In the Navigator, expand the CommunityMap [FILEGDB] File Geodatabase Reader > Parameters > and double click Features to Read. This parameter lets the user decide which feature types to process when the workspace runs. Close the dialogue.



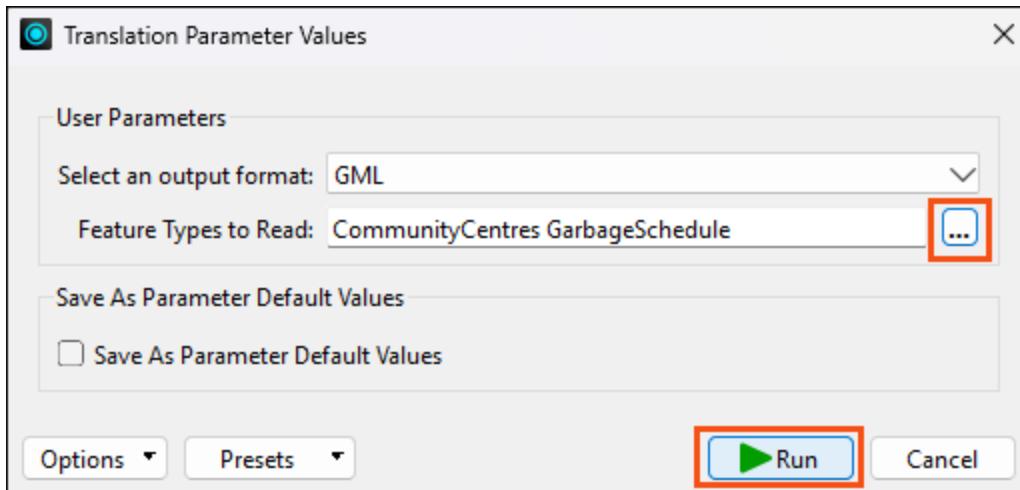
Right-click on Feature Types to Read parameter and select Create User Parameter. Use the defaults for the definition, and click OK. Confirm the new parameter appears under Published Parameters.



7. Run Workspace Again

Ensure that Prompt for User Parameters is still enabled and rerun the workspace using Run > Rerun Entire Workspace.

Notice that this time, there are two parameters to set. Set it to whatever parameters you wish, and then click Run. Confirm that the workspace runs correctly.



8. Publish to FME Flow

Now that we have the parameters set up and confirmed that the workspace runs correctly, we can publish it to FME Flow.

Before publishing, save the workspace. Once saved, go to File > Publish to FME Flow on the top menu bar.

Connect to the same connection as the previous tutorial, Publish a Workspace to FME Flow and Run It.

Select the Flow Tutorial repository that we also created in the previous tutorial. We will keep the workspace name `CommunityMapping.fmw` and overwrite the previously uploaded workspace.

If you did not complete the previous tutorial, see it for instructions on publishing.

9. Open the FME Flow Web User Interface

Open and log into the FME Flow Web User Interface following the instructions in Publish a Workspace to FME Flow and Run It.

10. Run Workspace

On the side menu bar in FME Flow, click on Run Workspace. On the Run Workspace page, select Flow Tutorial for the Repository and the `CommunityMapping` workspace. Select Data Download for the Service.

Review the Published Parameters. The two parameters that were set up and just tested in FME Workbench are shown. Just as before, select an output format, and select one or more feature types.

Published Parameters [Reset Values](#)

Select an output format

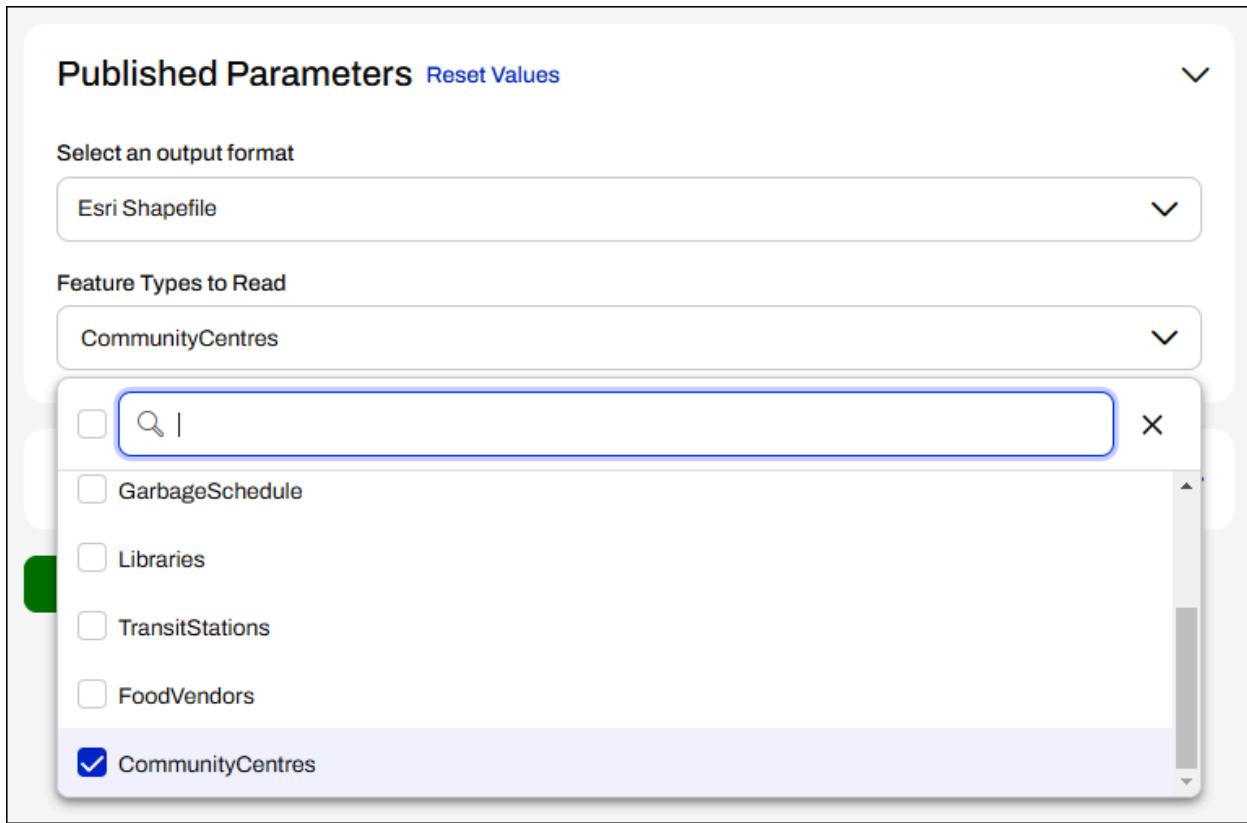
Esri Shapefile

Feature Types to Read

CommunityCentres

X

GarbageSchedule
 Libraries
 TransitStations
 FoodVendors
 CommunityCentres



The screenshot shows the 'Published Parameters' dialog box. At the top, there's a 'Select an output format' dropdown set to 'Esri Shapefile'. Below it is a 'Feature Types to Read' dropdown set to 'CommunityCentres'. A search bar with a magnifying glass icon and an 'X' button is present. A scrollable list of feature types follows, with 'CommunityCentres' checked and highlighted in blue.

Once you have selected the parameters, click Run.

10. View the Results

The Data Download service presents a URL link to the translation results in a zip file. A quick inspection of the contents of the zip file confirms the results are what we expected.