Tutorial: Getting Started with FME Desktop

Introduction

Congratulations for taking the next step in learning about FME Desktop. This tutorial will teach you the essentials to get your first workspace up and running. In this six-part article series you will learn the following:

- Common FME terminology
- A brief tour of the FME Workbench interface
- How to read data into FME
- How to visualize your data in FME
- How to manipulate your data using FME
- How to write your data out from FME

Each section of this series will walk you through steps to complete each task; you can follow along with the data that has been provided. Or, try it with your own data, we recommend starting with a Microsoft Excel file, CSV file or Shapefile. There will also be a video demonstration for each section as well as a completed workspace up to that step so you can jump right in at any stage.

The screenshots in this series were taken using Windows, but the steps are the same using Mac OS or Linux.

Downloads

If you would like to follow along with the tutorial, download the Microsoft Excel data below:

BusinessOwners.xlsx

This zip file below contains the data to follow along with this tutorial as well as a completed workspace for each exercise. The workspaces will also be available to download on each article:

GettingStarted.zip

This video covers the full Getting Started wtih FME Desktop tutorial. Please refer to individual articles if you would like to follow along.

Exercises

1. Read Data

Learn how to read data into FME using the drag and drop method.

2. View Data

Learn how to view data using the FME Visual Preview window in FME Workbench. *If you are using an FME version prior to 2019, please see the Getting Started with FME Desktop: Introduction to FME Data Inspector article instead.*

3. Add a Transformer

Learn how to add a Transformer to the workspace using Quick Add, as well as how to find other Transformers.

4. Modify Attributes

Learn how to open and modify Transformer parameters to manipulate attributes.

5. Add a Writer

Learn how to add a Writer to the workspace using the Writer button, and how to set it up.

6. Write Data

Learn how to run the workspace so that the data gets written to disk and how to view the Translation Log window.

Additional Resources

- Register for a Free Live Online Course
- Intro to FME Desktop Course Manual
- Desktop Basic Course Manual
- FME Tutorials

Data Attribution
The data used here was generated from www.generatedata.com

Getting Started with FME Desktop: Introduction to FME Data Inspector

Introduction

This article is part 4 of a 4 part tutorial to help you get started with FME Desktop. We will cover how to use the FME Data Inspector to visualize and query data, and how to transfer data to the Data Inspector from FME Workbench.

Downloads

Parks.zip

Roads.zip

2018gettingstartedpart4-begin.fmwt

Source Data

The data used in this tutorial originates from open data made available by the City of Vancouver, British Columbia. It contains information licensed under the Open Government License - Vancouver.

Step-by-Step Instructions

To carry out the process described in the video, you need to carry out the following steps. Note both source dataset and a workspace are attached to this article.

1) Start FME Workbench

In Windows, this is found under Start > All Programs > FME Desktop > FME Workbench.

In iOS, open up Applications > FME Workbench.

Download the attached data, if you have not done so already, and unzip it.

2) Open Workspace

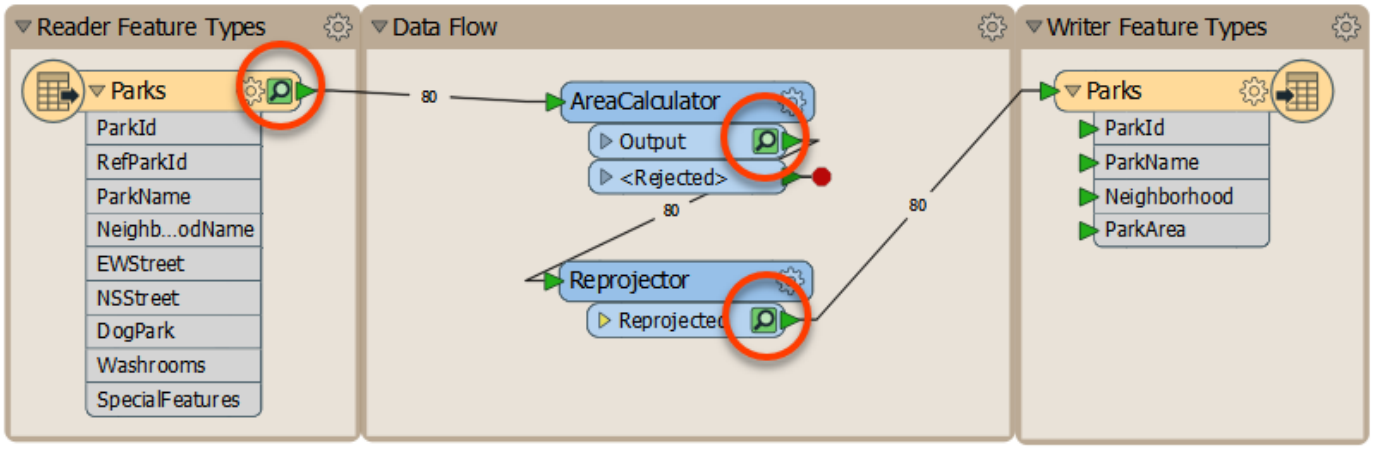
You may already have a workspace open if you're continuing on from part 3. If not, open the attached workspace, 2018GettingStartedPart4-Begin.fmwt.

3) Run Workspace

Select Run > Run with Feature Caching on the menu bar, then run the workspace.

4) Double-Click a Feature Count

Click on any of the green icons with magnifying glasses next to output ports. The data as it is at that stage of translation will be opened in the FME Data Inspector.



5) Start FME Data Inspector

You can also open FME Data Inspector at any time. In Windows this is found under Start > All Programs > FME Desktop > FME Data Inspector.

On a Mac, open up your Applications > FME Data Inspector.

6) Open Dataset: Parks

In FME Data Inspector, select File > Open Dataset from the menu bar.

7) Set the source format

Set the source format to MapInfo TAB (MITAB) by typing the name into the field until it appears within the dropdown list.

8) Browse to and select the source dataset

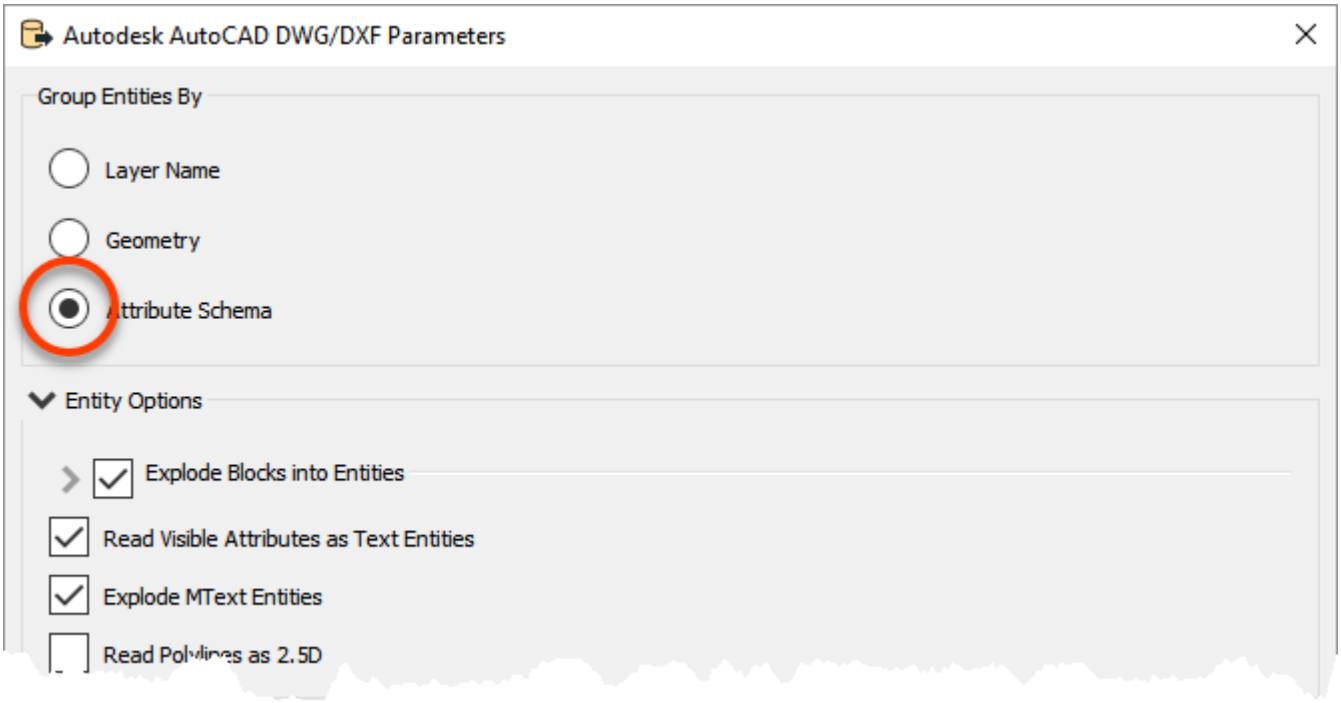
Select Parks.tab. Hit OK.

9) Open Dataset: Roads

Drag-and-drop the Roads.dwg (available in Roads.zip) from a file browser (like Windows Explorer or Finder) into the FME Data Inspector. Ensure it is dropped onto the Display Window. A window will appear but do not hit OK yet.

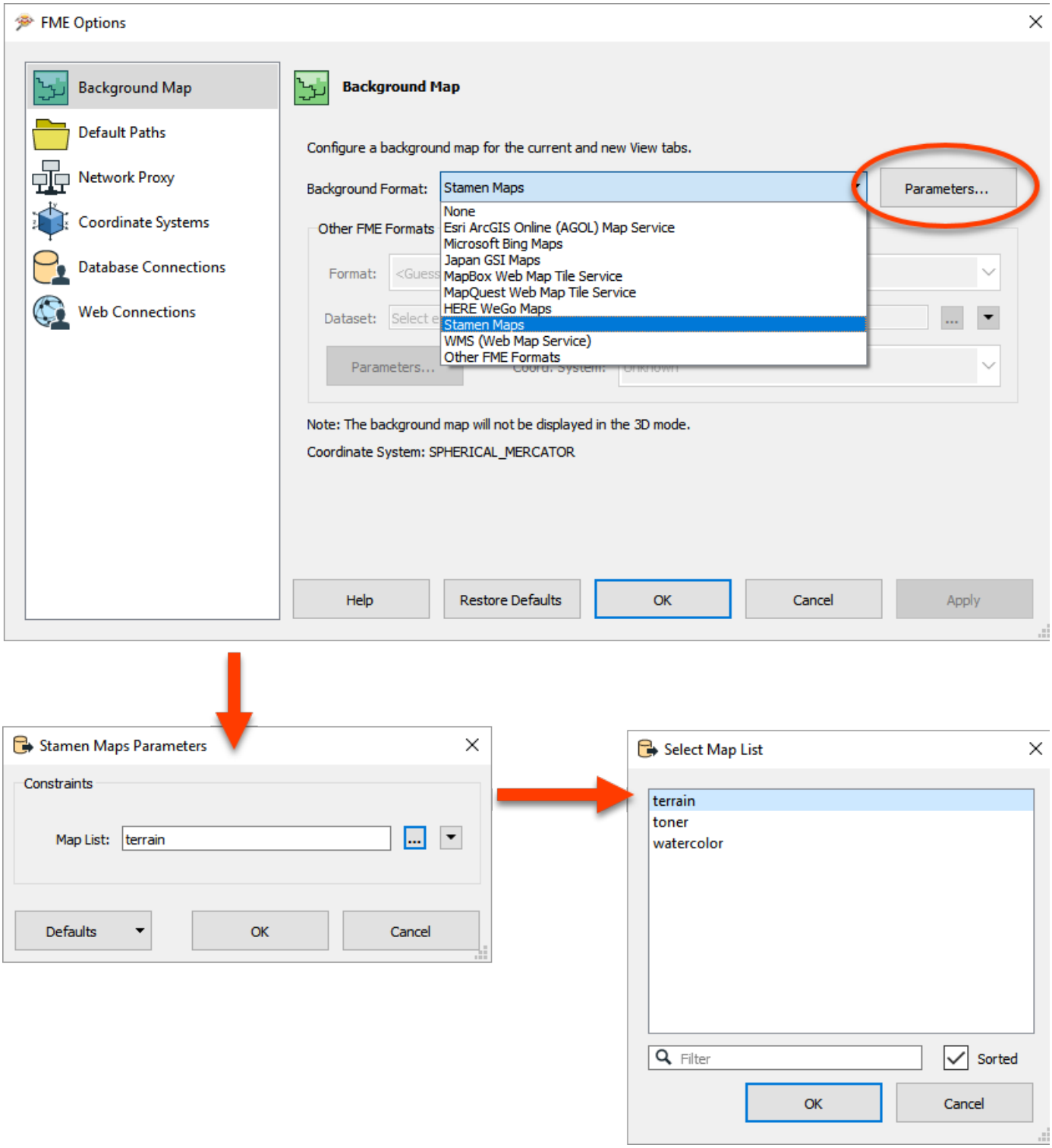
10) Set Parameters

[Not shown in video] Open the Parameters dialog and ensure the Group Entities By parameter is set to Attribute Schema. When prompted, click OK to add the dataset.



11) Add a Background Map

To add context to your data, we can add a background map. Click Tools > FME Options. From the Background Map dialog, find the Background Format option and select Stamen Maps from the dropdown menu. Then click Parameters. Click the ellipsis button to load the Stamen map list and then click terrain. Click OK three times to exit these menus. A new background map will be added underneath your data.



12) Browse Data

Use the Zoom and/or Pan windowing tools on the toolbar to browse through the data.

13) Set Display Parameters and Symbology

To change color or reorder the features, use the Display Control window to the left of the View window. To change the color of your features, click on the style icon beside the name to pull up the Geometry Drawing Styles window. The style icon looks like a quadrant for this data. To reorder your features, drag and drop them to your desired position. Features at the top of the list are representative of the top-down viewing order in your View window.

In this case, ensure that the roads features appear above the parks features.

14) Query a Feature

Ensure that the Select Features tool is selected on the toolbar. Click on a feature to query it and inspect the information that is returned in the Feature Information window beside your View window.

15) Browse Table View

Browse through the attributes for all features using the Table View window.

If you select the blue linked numbers In the Display Control window, representing feature counts next to the feature types, those features will be selected in the Table View window.

Conclusion

We hope you have found these Getting Started with FME Desktop tutorials useful. If you have any questions about using FME Desktop, check search the Q&A Forum, read the FME Desktop Documentation, or post your question in the comments below. If you want more tutorials to try out other features of FME Desktop, check out the Getting Started Exercises accessible from the Start tab of FME Workbench under Resources. You can also check out the FME Core Concepts tutorial series or take the FME Desktop Basic Training Course live online or from a recording.

Thanks!

Terminology Introduced

Data Inspection: The act of inspecting data to ensure quality and correctness

FME Data Inspector: The FME application for Data Inspection

Feature Caching: Running a workspace will generate a cache of all features being output from a transformer. Clicking the magnifying glass icon will open the data at that point of the translation in FME Data Inspector.

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Getting Started with FME Desktop: Adding Transformers

Tutorial: Getting Started with FME Desktop | Previous: View Data | Next: Modify Attributes

Introduction

Now that we have visualized our data and know how we want to manipulate it, we need to use a Transformer to achieve that. In FME a Transformer is an object that manipulates data in a specific way. Each Transformer has its own unique function and can be strung together in a series to achieve complex tasks. In part three of this tutorial series, we will add a Transformer to the canvas using Quick Add.

Downloads

3-AddTransformer-Start.fmwt *(starting workspace)*

3-AddTransformer-Complete.fmwt *(completed workspace)*

Video

To watch the full video, see our Youtube Channel.

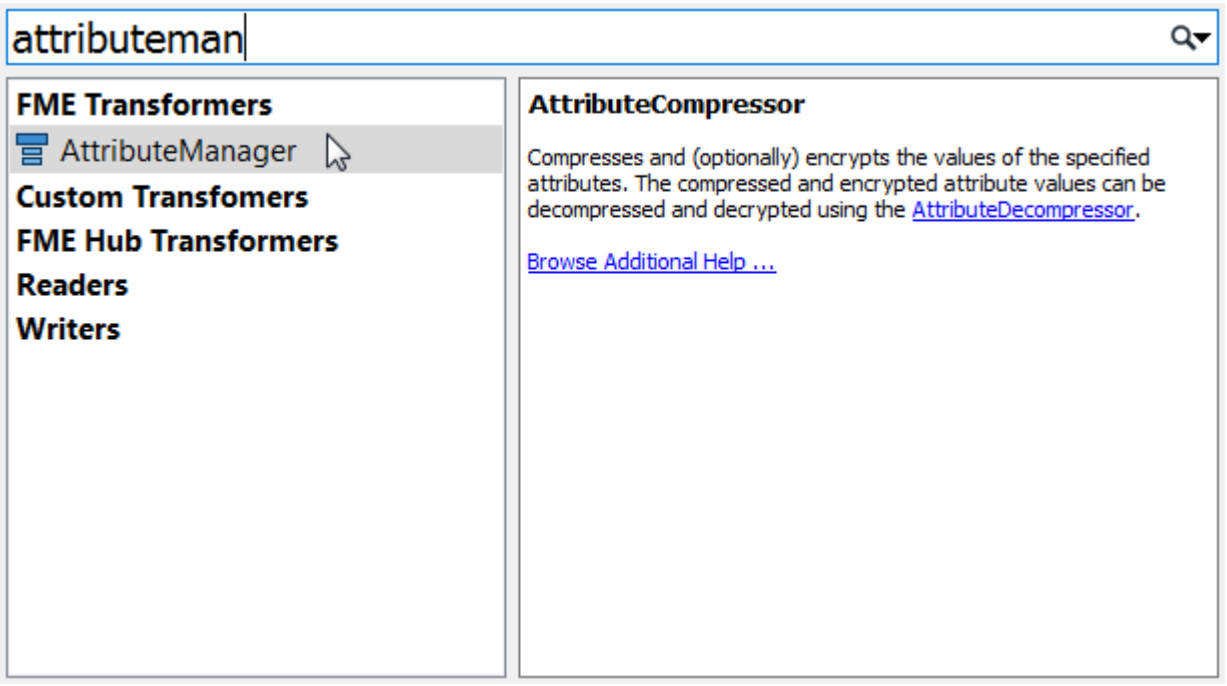
Step-by-Step Instructions

Continue working in the workspace from the **previous article** or download the 3-AddTransformer-start.fmwt workspace.

1. Add a Transformer

When modifying data in FME, you will need to use a Transformer. To add a Transformer, click anywhere on the canvas and start typing the Transformer name you wish to add. When you start typing the Quick Add dialog will appear, from this dialog Transformers, Readers and Writers can be added by just typing their name.

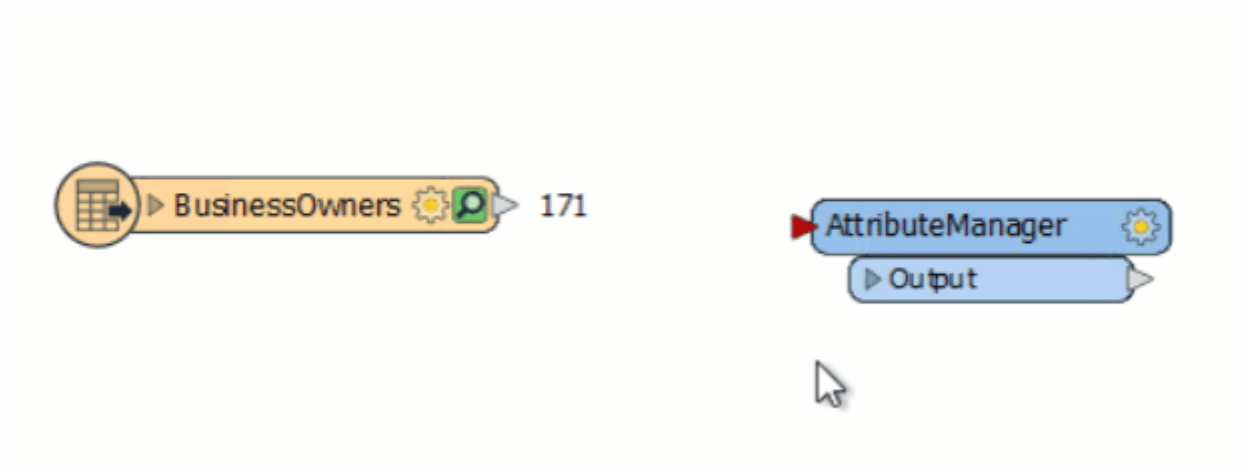
Once the Quick Add has found the Transformer you are looking for, either click Enter on the keyboard or double click it with the mouse to add it to the canvas.



If you are following along with the data provided, start typing AttributeManager and double-click on the name to add one to the canvas.

2. Connect Transformer

To use the Transformer, it must be connected to the workflow. Click on the output arrow on the Reader Feature Type and drag to the input arrow on the Transformer. When they are correctly connected, a line will appear between them. Additionally, once they are connected attributes from earlier in the workflow can be accessed in the Transformer, editing the Transformer parameters will be covered in the next article .



Regardless of which dataset and transformer you are using, connect the Reader and the Transformer.

3. Continue to Next Article

If you are continuing to the **next article**, please leave your workspace open.

How to Find Transformers

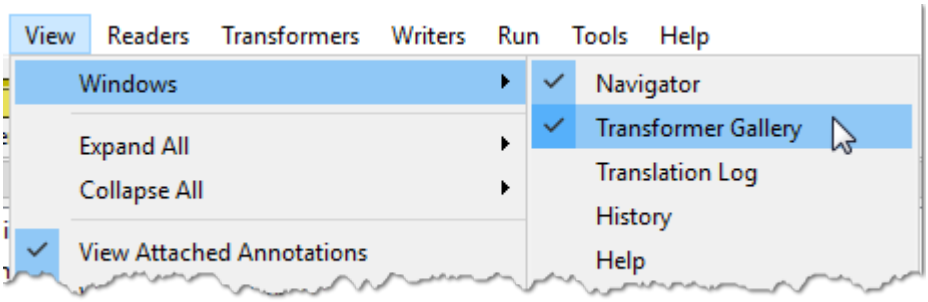
There are over 450 Transformers available in FME as well as more available on the FME Hub so finding the correct one can be daunting. Thankfully there are plenty of resources available to help narrow down the search.

a. Transformer Gallery

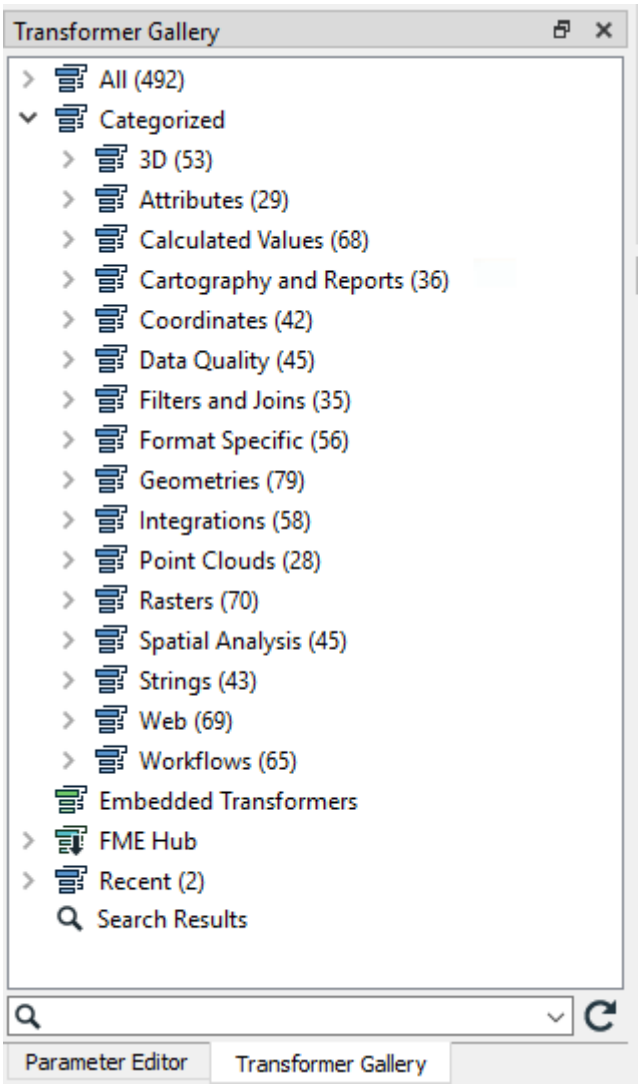
The Transformer Gallery can be accessed in two ways:

i) Transformer Gallery window in FME Workbench

To access this window go to View > Windows > Transformer Gallery

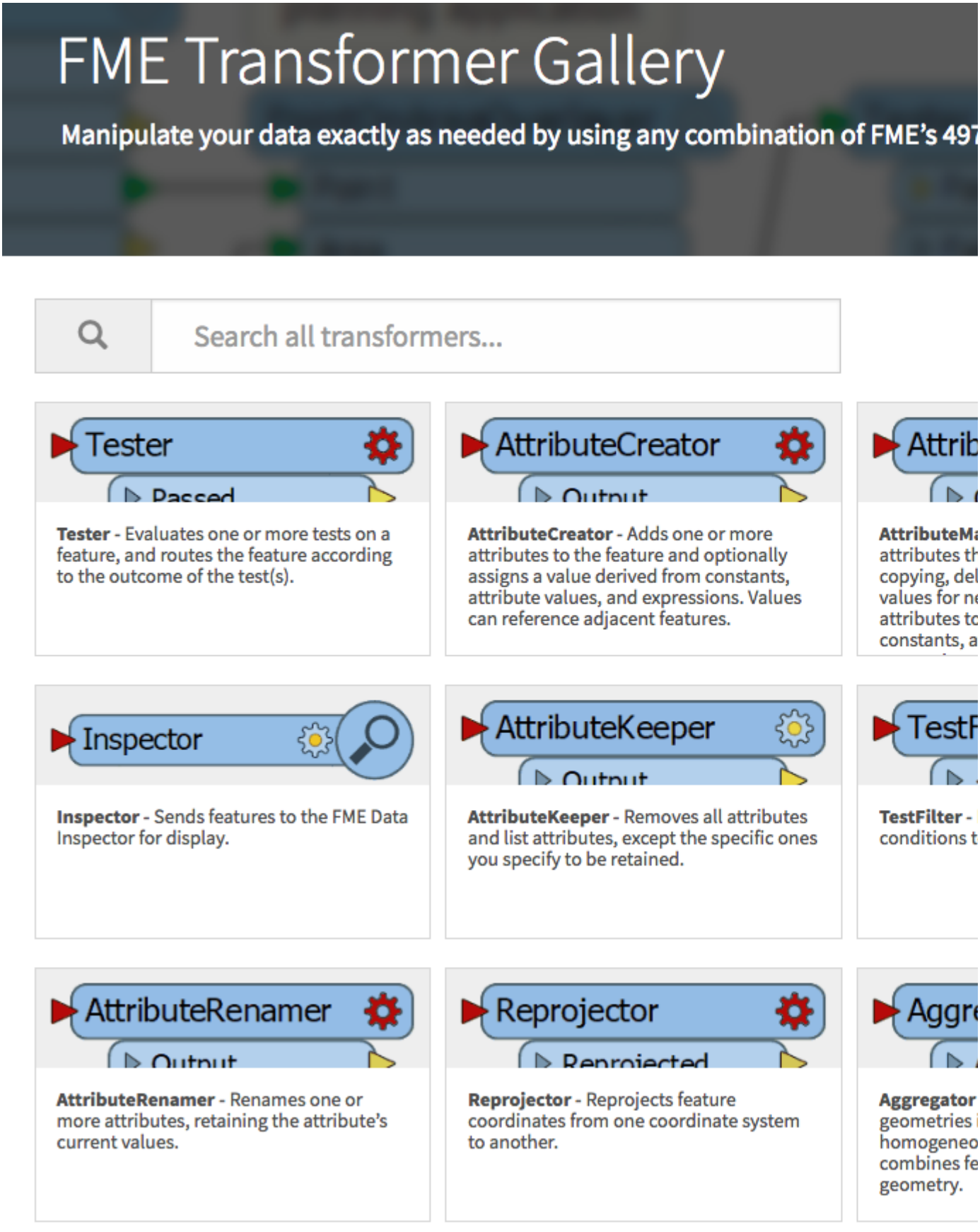


The Transformer Gallery is a dockable window that can be used to find and add Transformers. To help with the Transformer Gallery, it is recommended to enable to Help Window which will give summaries about each Transformer when they are selected. The Help Window can be accessed through View > Windows > Help.



ii) [Safe Software Website]

The website is a good source for viewing summaries for multiple Transformers at a time to help choose the correct one. It also links to other similar Transformers and the documentation.



In both versions of the Transformer Gallery, Transformers can be searched by name or filtered by category. For example, if you are looking to modify attributes, you can filter by the Attributes category. In the website version, Transformer descriptions are provided to help narrow down the search as well as list similar Transformers or related resources to learn how to use the Transformer.

b. FME Community

The FME Community is useful for finding which Transformers would work best in a particular workflow. Enter what you would like to achieve into the search bar to see related results. For example, "How to join data" returns the articles "Merging or Joining Spatial Data" and "Merging or Joining Spreadsheet or Database Data" which both list various transformers that can be used.

Terminology Introduced

Transformer: An object in FME Workbench that represents a data transformation process

Transformer Gallery: An organized list of transformers available in FME Workbench

Quick Add: A method for adding transformers to a workspace

Additional Resources

Desktop Basic Course: Transforming with Transformers

Transforming Data Documentation

Continue to Next Article:

Getting Started with FME Desktop: Modify Attributes

Data Attribution
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Getting Started with FME Desktop: Modify Attributes

Introduction

Almost every Transformer has parameters to set to ensure the Transformer functions correctly. In part four of this tutorial series, you will learn how to tell when parameters need to be set and how to set up the parameters for the AttributeManager Transformer.

Downloads

4-ModifyAttributes-Start.fmwt *(starting workspace)*

4-ModifyAttributes-Complete.fmwt *(completed workspace)*

Video

To watch the full video, see our Youtube Channel.

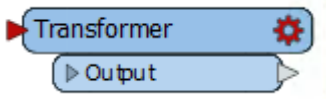
Step-by-Step Instructions

Continue working in the workspace from the **previous article** or download the 4-ModifyAttributes-start.fmwt workspace.

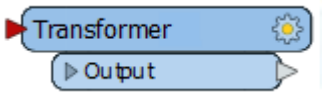
1. Transformer Parameters

The parameter button (cogwheel) on a transformer is color-coded to reflect the status of the settings.

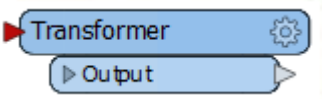
A red cogwheel indicates that there is at least one parameter value that needs to be added.



A yellow cogwheel indicates the default parameters have been automatically chosen but should be confirmed.



A cogwheel that matches the Transformer color indicates that the parameters were checked or set and the Transformer is ready to use.

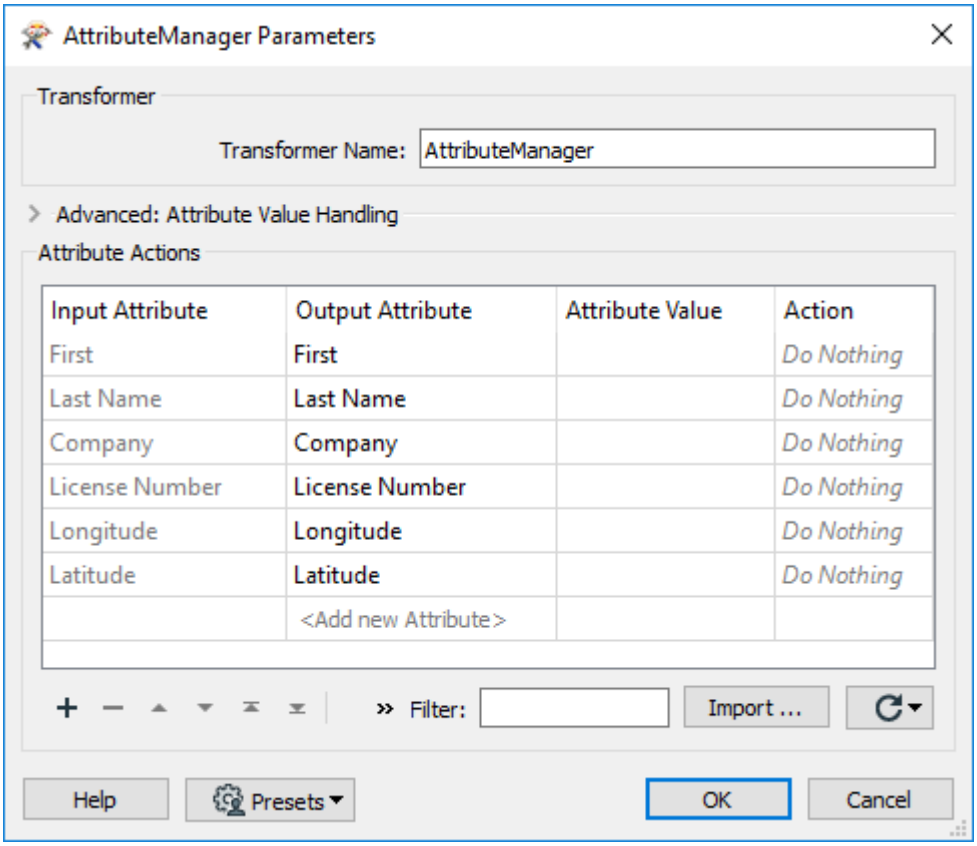


To open the Transformer parameters dialog, double-click on the Transformer. The parameters for each Transformer is different, to learn more about that specific Transformer click on the Help button to open the documentation.

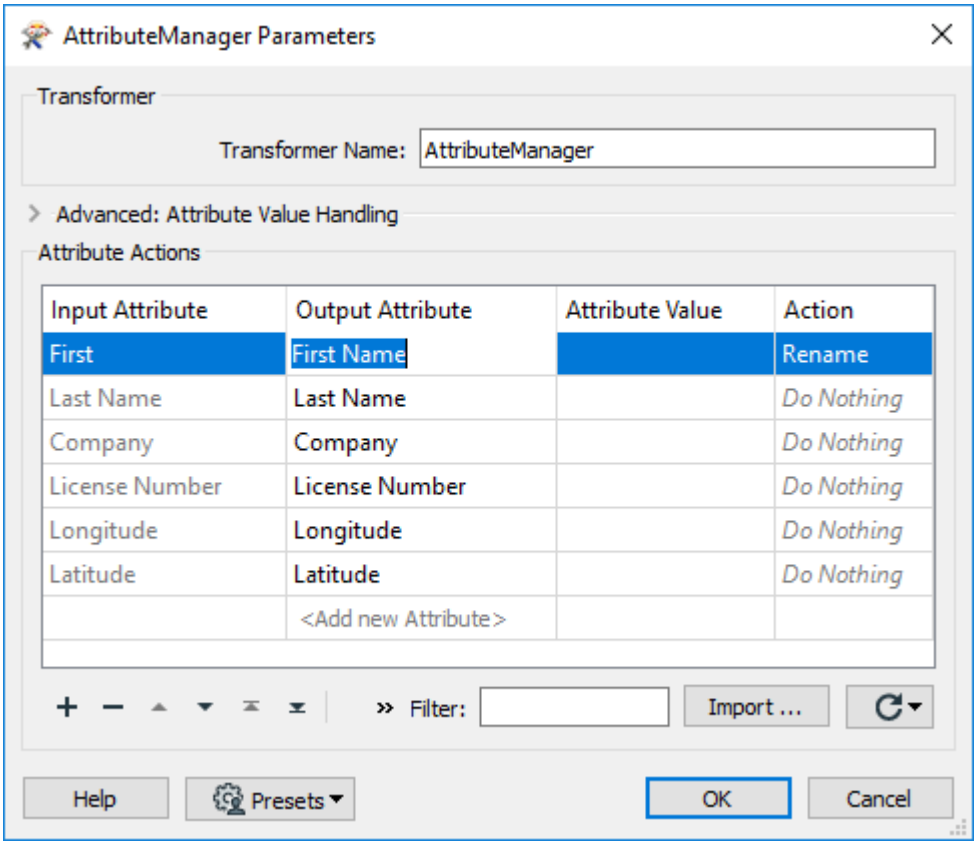
In the workspace from the **previous article**, open the AttributeManager Transformer parameters by double-clicking on it.

2. Modify Parameters

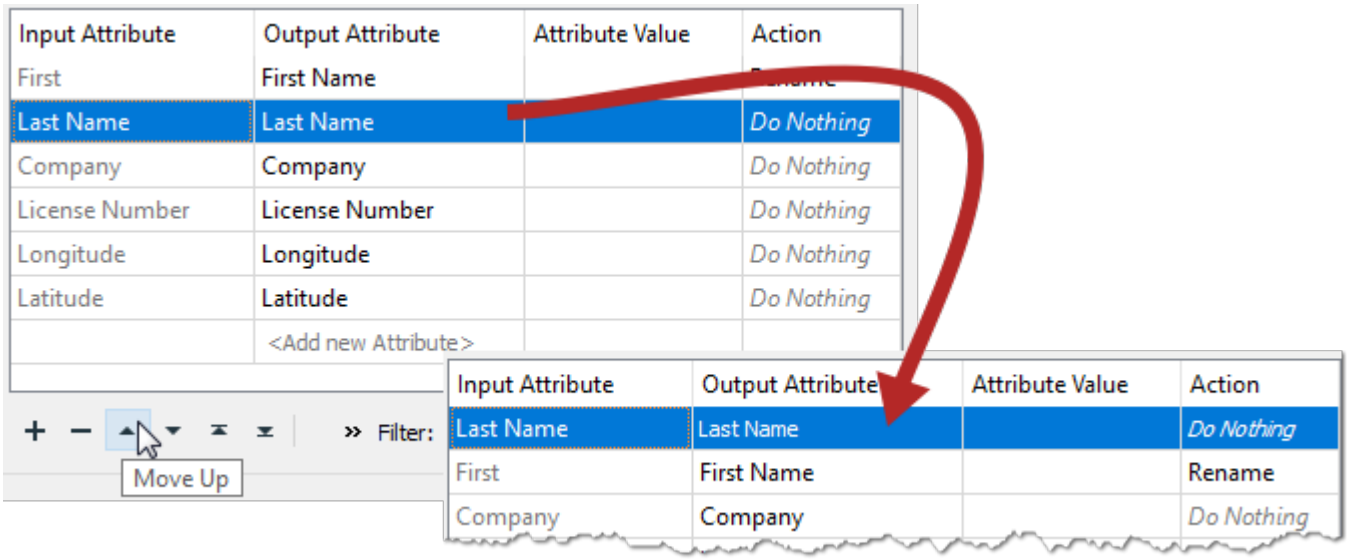
In the AttributeManager Parameters dialog, there will be a list of Input Attributes; these are the attributes from the Reader Feature Type. If you do not see attribute names, ensure that the Reader Feature Type and Transformer are connected. This was done in the previous article.



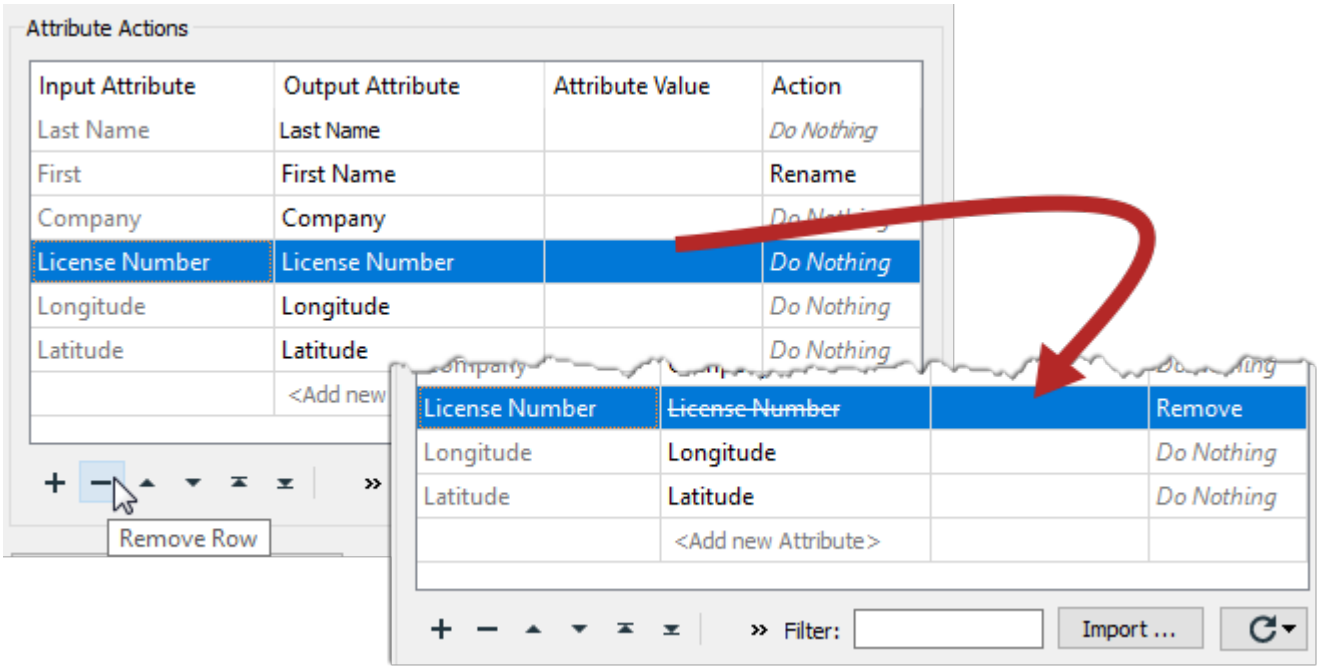
If you are following along with the provided data, in the AttributeManager parameters, click on the box containing First under the Output Attributes column and rename it to First Name. When you edit the name, you will notice that the action has changed in the Action column from Do Nothing to Rename.



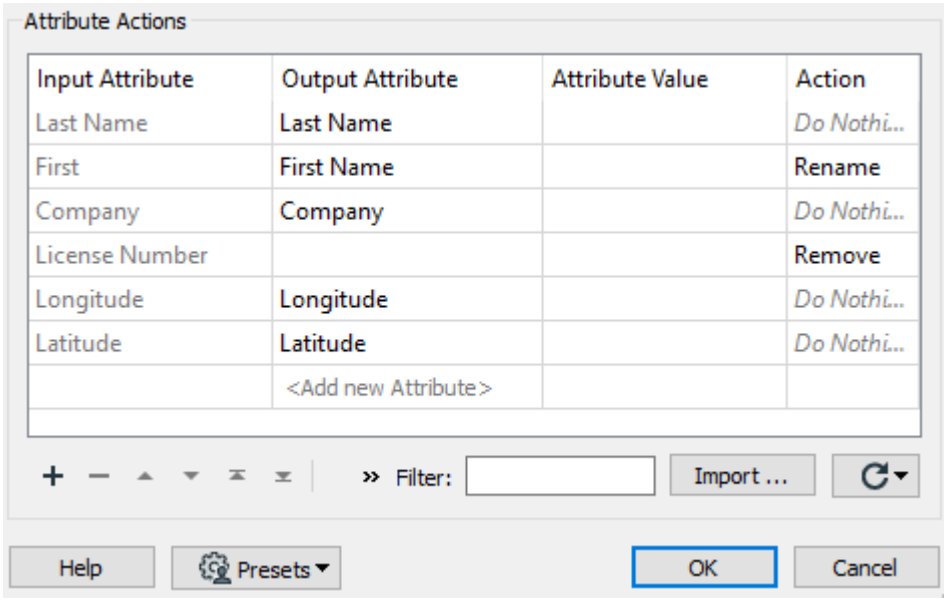
Next, click on the Last Name row, and at the bottom of the table click the up arrow to move Last Name up one row, this will change the order in which the attributes appear.



Finally, click on the License Number row and click the minus sign (-) under the table to remove the row entirely. Notice that the Action has changed to Remove. If you accidentally removed a row, change the Action to Do Nothing to bring it back.



Once you are satisfied with your changes, click OK to close the dialog.

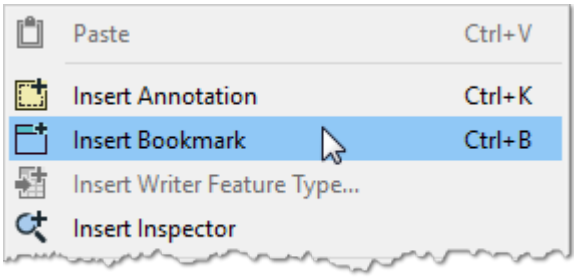


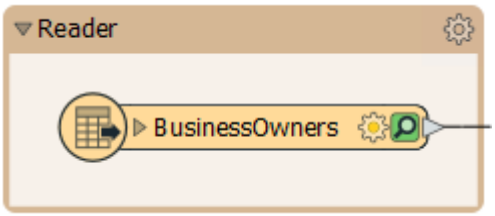
3. Continue to Next Article

If you are continuing to the next article, please leave your workspace open.

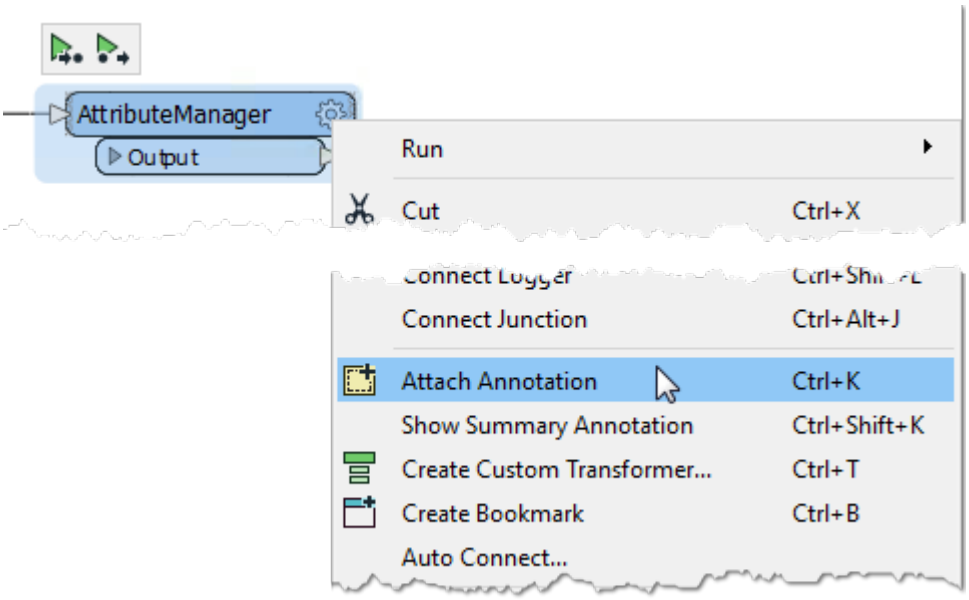
Best Practices

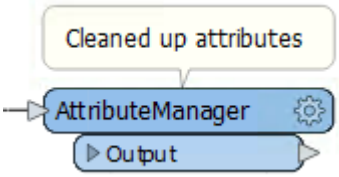
When developing a workspace, it is a good idea to add Bookmarks or Annotations to the canvas to explain what a particular section is doing. To add a Bookmark, right-click on the canvas and click Insert Bookmark. The Bookmark can then be renamed and moved to contain any workspace objects.





To add an Annotation, click on the canvas and select Insert Annotation. Annotations can also be connected to workspace objects, to do this, select the object, right-click and select Attach Annotation.





Quick Tips

- Easily duplicate a Transformer by right-clicking on it and selecting Duplicate, or Ctrl-D/-D on the keyboard.
- Create a preset version of parameters that are used regularly by using the Preset button in any Transformer.

- If using multiple duplicate Transformers to complete a task, there is probably a way to use only one Transformer; please search the FME Community.

Terminology Introduced

Annotation: A note or comment that can be attached to any workspace object or placed anywhere on the canvas.

Bookmark: A colored border that can surround one or more workspace objects to group them together. Can also be used for navigating through large workspaces.

Parameter: Part of a dialog where you can enter or select information.

Presets: An option to save and recall commonly used parameter setups in any workspace object.

Additional Resources

Desktop Basic Course: Bookmarks

Desktop Basic Course: Annotating Workspaces

Desktop Basic Course: What is Data Transformation?

Continue to Next Article:

Getting Started with FME Desktop: Add a Writer

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