

Part 1: Single Stream -----1

Part 2: Append the Second Stream-----38

## Using Alteryx

ETL software is used to automate the redundant manipulation of data. In this exercise you will use Alteryx to:

**E**xtract the Data file(s) from Excel

**T**ransform the data

**L**oad the transformed data into Excel

The sales data for *Cuddly Stuffed Animals* are stored in an Excel sheet titled January Sales Data. The column headings are in the ninth row, some rows have partial duplicate data and some rows are blank.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
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34												
35												
36												
37												
38												

## Sample Reports

Product	Units	Sales	Profit Margin	Salesperson	Units	Sales	Profit Margin
Stuffed Elephant	4,392	\$ 109,800.00	\$ 64,782.00	1301 - Thomas Jefferson	9,528	\$ 210,000.00	\$ 119,466.00
Stuffed Giraffe	8,052	\$ 169,092.00	\$ 90,585.00	1302 - Grover Cleveland	7,128	\$ 162,276.00	\$ 92,601.00
Stuffed Horse	12,120	\$ 266,640.00	\$ 160,590.00	1303 - Ulysses Grant	4,116	\$ 90,168.00	\$ 51,294.00
Stuffed Panda	7,488	\$ 172,224.00	\$ 97,344.00	1304 - Martin Van Buren	4,476	\$ 98,388.00	\$ 56,247.00
Stuffed Penguin	5,016	\$ 100,320.00	\$ 55,176.00	1305 - George Washington	10,452	\$ 232,536.00	\$ 133,557.00
Stuffed Unicorn	3,060	\$ 73,440.00	\$ 40,545.00	1306 - John Tyler	4,428	\$ 98,148.00	\$ 55,857.00
Total	40,128	\$ 891,516.00	\$ 509,022.00	Total	40,128	\$ 891,516.00	\$ 509,022.00

## Start Alteryx

Note: You cannot extract data from an open Excel file so make sure that the Excel file is closed before starting to input the data.

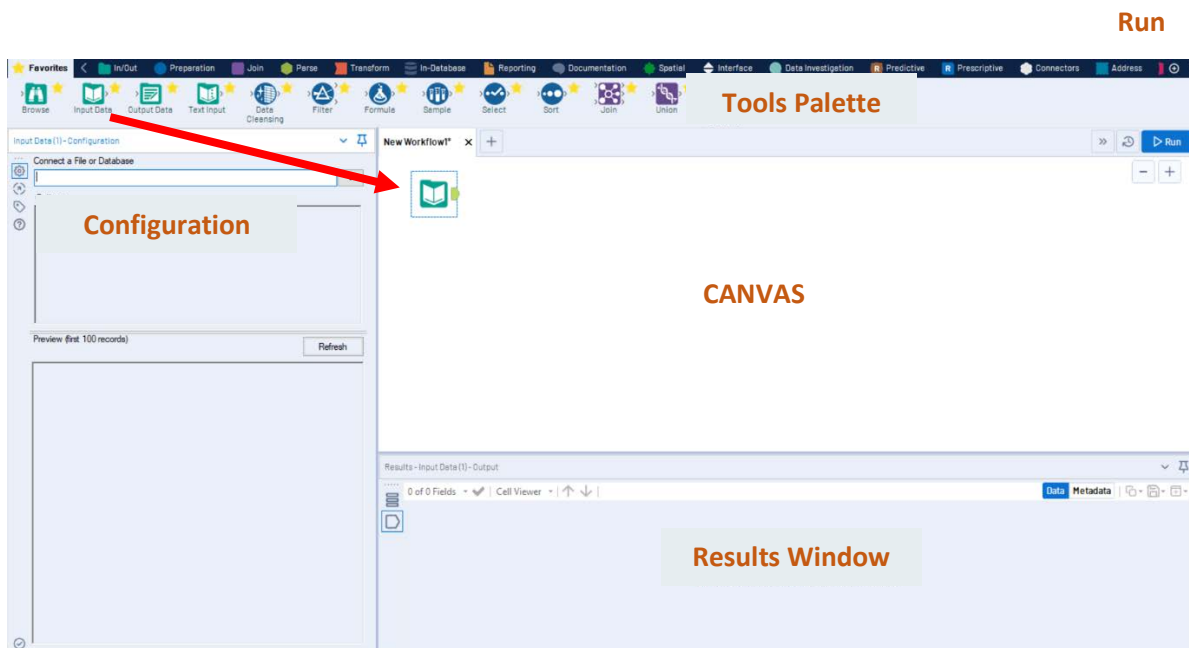
There are four major parts of the Alteryx window. The first is the Canvas, and that's where we're going to create the workflow. Second, the Tools Palette is where all the tools are stored. Third, the Configuration area is where the tool settings are modified. Lastly, the Results window shows us the result after we select "Run" to apply the changes.

### Tool 1: **Input Data Tool** – Input Excel file

Drag the "**Input Data Tool**"

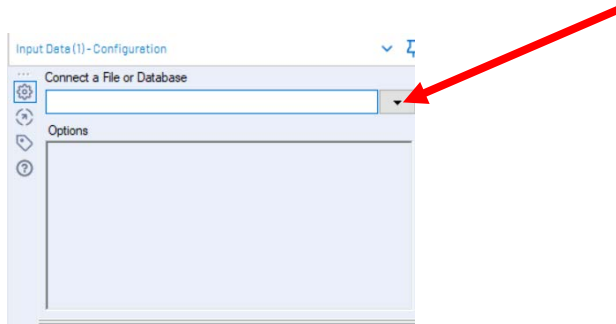


from the Tools Palette to the Canvas.

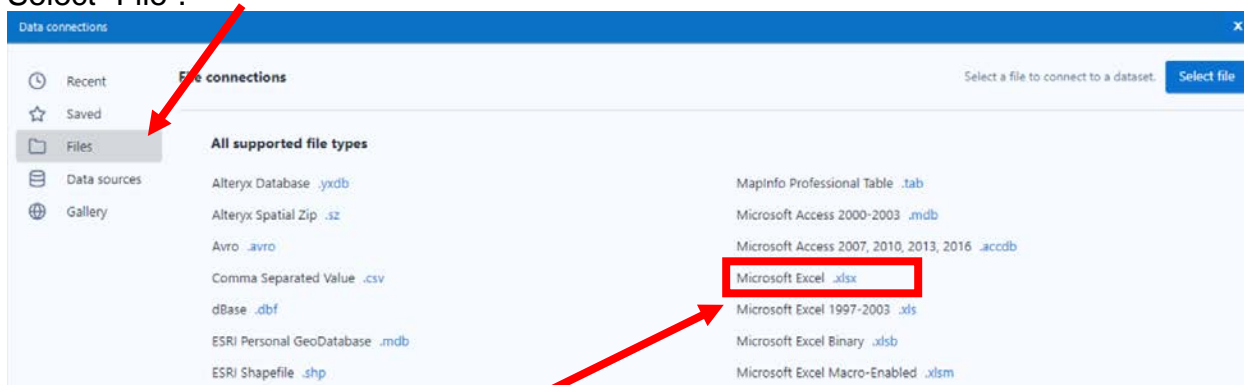


## Alteryx CSA Single Stream

In the Configuration area, select the “Connect a File or Database” drop-down arrow.



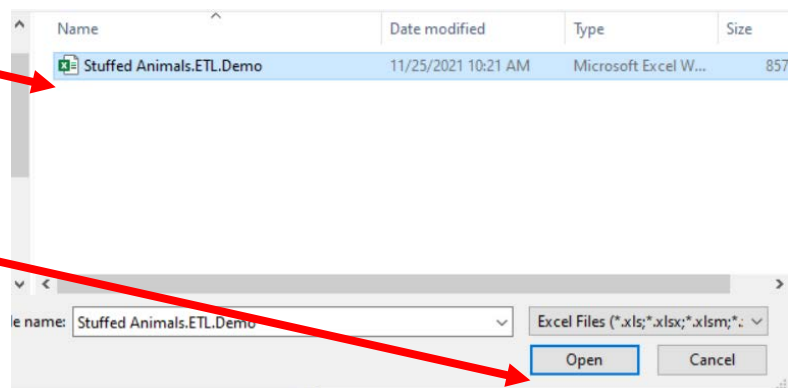
Select “File”.



Select “Microsoft Excel .xlsx”.

Browse for the desired file.

Select “Open”.



Select the drop-down.

The 'Select Excel Input' dialog box is shown with the 'Select a sheet' option selected. The drop-down menu displays 'February-December Sales Data'. Other options include 'Select a range (cells, rows or columns)', 'Select a named range', and 'Import only the list of sheet names'. Buttons at the bottom include 'Refresh', 'Help', 'Cancel', and 'OK'.

Select "January Sales Data".

The 'Select Excel Input' dialog box is shown with the 'Select a sheet' option selected. The drop-down menu displays 'January Sales Data'. Other options include 'Select a range (cells, rows or columns)', 'Select a named range', and 'Import only the list of sheet names'. Buttons at the bottom include 'Refresh', 'Help', 'Cancel', and 'OK'.

Select "OK".

Remember that the field names are in the ninth row.

In the Configuration area, scroll down to option 7.

Change the number in “Start Data Import on Line” to “9”.

Select “Run”.

The Results window will display the field headings and the data.

Input Data (1) - Configuration

Connect a File or Database

C:\Sample\Stuffed Animals.ETL.Demo.xlsx

Options

Name	Value
1 Record Limit	
2 File Format	Microsoft Excel (*.xlsx)
3 Table or Query	'January Sales Data\$'
4 Search SubDirs	<input type="checkbox"/>
5 Output File Name as Field	No
6 First Row Contains Data	<input type="checkbox"/>
7 Start Data Import on Line	9

Preview (first 100 records)

Refresh

Start Here.yxmd x New Workflow1\*

Stuffed Animals.ETL.Demo.xlsx  
Query='January Sales Data\$'

Results - Input Data (1) - Output

11 of 11 Fields | Cell Viewer | 1,227 records displayed

Record	Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	35005	1304	Martin Van Buren	Sales Associate I	1908	3	South	TN	Stuffed Horse	144	3168
2	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Horse	[Null]	3168
3	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
4	35006	1302	Grover Cleveland	Senior Sales Associate	936	1	Midwest	NE	Stuffed Panda	72	1656
5	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	1656
6	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
7	35009	1301	Thomas Jefferson	Sales Associate I	2028	2	Northeast	PA	Stuffed Panda	156	3508
8	[Null]	[Null]	[Null]	[Null]	2028	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]

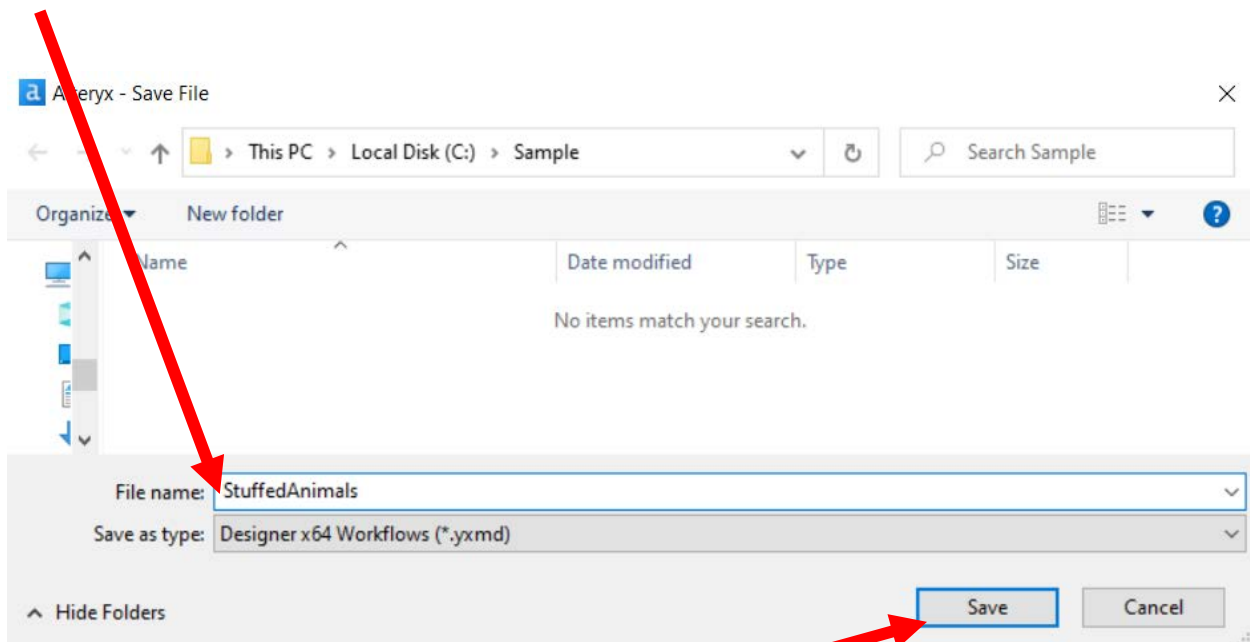
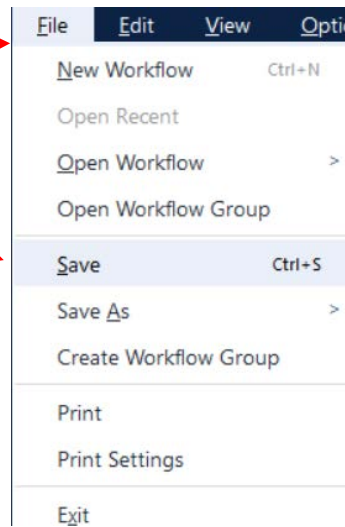
**The workflow must be saved.**

Select "File".

Select "Save".

Browse to the required directory.

Type in the name of the file that will be uploaded.

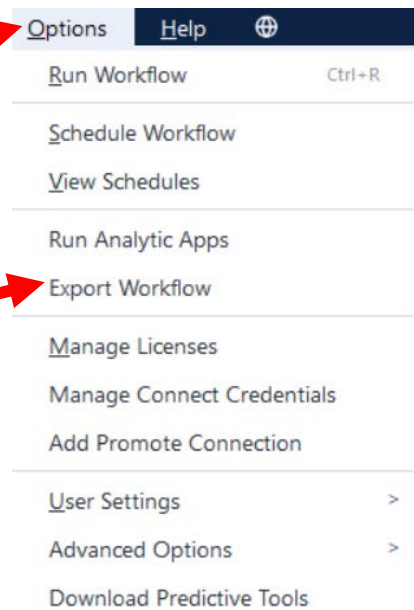


Select "Save".

**Export the workflow and the related input files so that the project can be completed on another computer or uploaded to the web.**

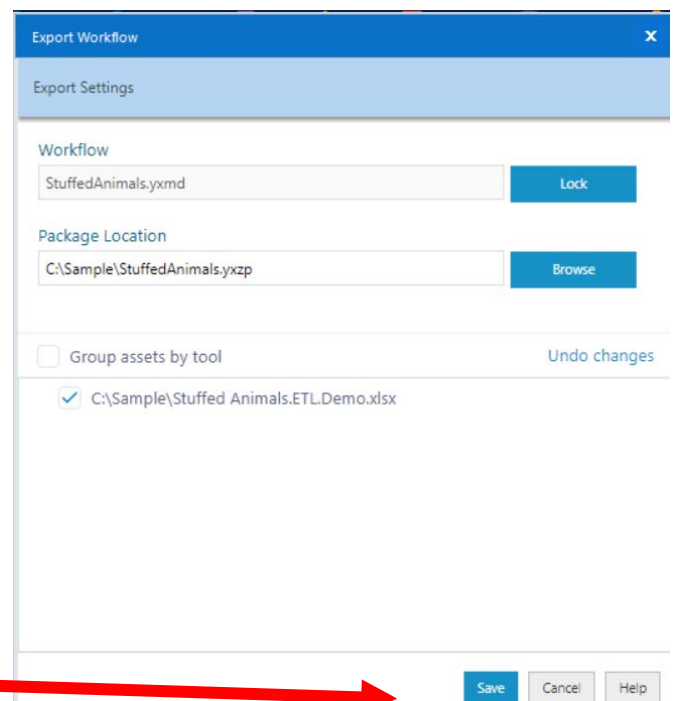
Select "Options".

Select "Export Workflow".



Verify the "Workflow".


Verify the "Package Location".

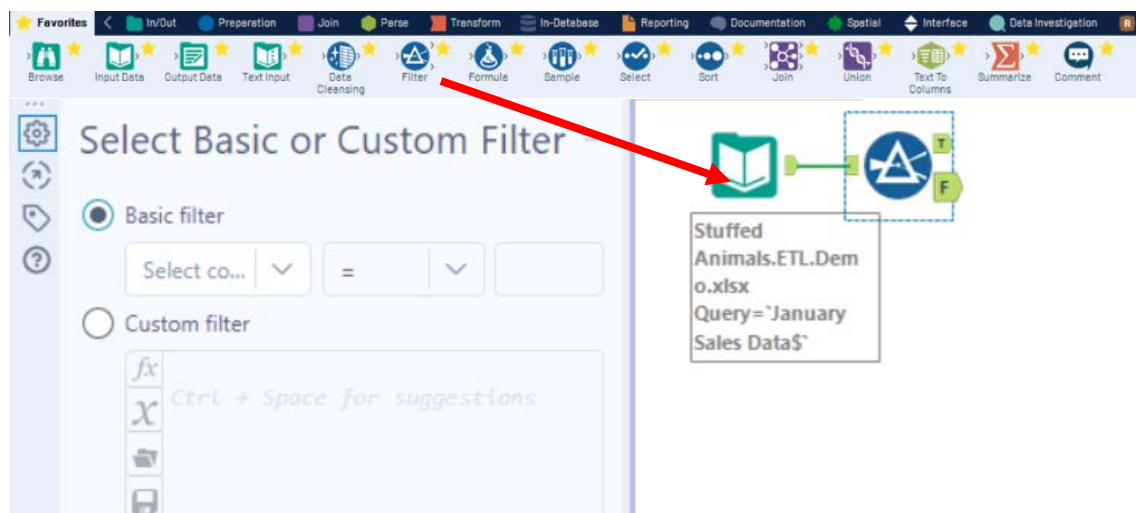




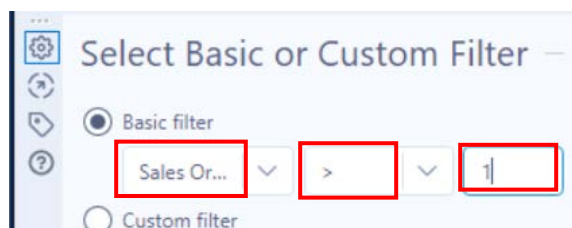
## Tool 2: **Filter Tool** – Exclude all rows that do not contain data

There are several rows that do not contain an sales order number. We can modify the working dataset so that it includes only those rows that contain account numbers greater than one. Note that we are not deleting anything from the source data file. The working dataset will be split into two subsets. The first subset, “True”, will include all rows with account numbers greater than one. The second subset, “False”, will contain all rows with account numbers less than one.

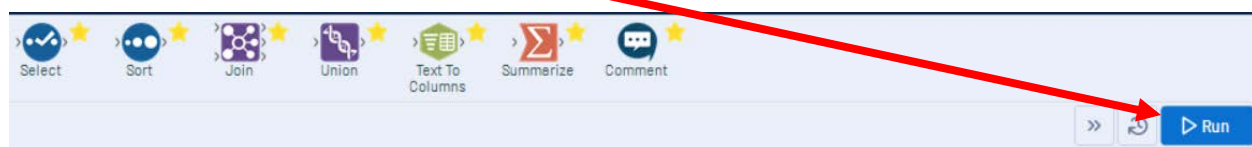
Drag the “**Filter Tool**”  from the Tools Palette to the right of the “**Input Data Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



With the “**Filter Tool**” selected, the “Basic” filter in the Configuration area can be modified to filter the field “Sales Order” for those accounts greater than “1”.



To apply the latest change, select “Run”.



We can view three different datasets in the Results window.

The records that meet the filtered conditions, “Sales Order > 1”, are displayed as T (True).

Results - Filter (3) - Out - True

11 of 11 Fields | Cell Viewer | 409 records displayed | Search | Data | Meta

Record	Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	35005	1304	Martin Van Buren	Sales Associate I	1908	3	South	TN	Stuffed Horse	144	3168
2	35006	1302	Grover Cleveland	Senior Sales Associate	936	1	Midwest	NE	Stuffed Panda	72	1656
3	35009	1301	Thomas Jefferson	Sales Associate I	2028	2	Northeast	PA	Stuffed Panda	156	3588
4	35011	1305	George Washington	Sales Associate I	1560	1	Midwest	MN	Stuffed Panda	120	2760
5	35014	1303	Ulysses Grant	Senior Sales Associate	1215	1	Midwest	MN	Stuffed Giraffe	108	2268
6	35017	1305	George Washington	Sales Associate I	708	2	Northeast	RI	Stuffed Elephant	48	1200
7	35025	1303	Ulysses Grant	Senior Sales Associate	1272	2	Northeast	ME	Stuffed Horse	96	2112
8	35026	1301	Thomas Jefferson	Sales Associate I	1716	4	West	WY	Stuffed Penguin	156	3120
9	35027	1301	Thomas Jefferson	Sales Associate I	1215	4	West	CA	Stuffed Giraffe	108	2268
10	35032	1303	Ulysses Grant	Senior Sales Associate	1584	1	Midwest	NE	Stuffed Penguin	144	2880

The records that do not meet the filtered conditions are displayed as F (False).

Results - Filter (3) - Out - False

11 of 11 Fields | Cell Viewer | 818 records displayed | Search

Record	Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Horse	[Null]	3168
2	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
3	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	1656
4	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
5	[Null]	[Null]	[Null]	[Null]	2028	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]
6	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
7	[Null]	[Null]	[Null]	[Null]	1560	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]
8	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
9	[Null]	[Null]	[Null]	[Null]	1215	[Null]	[Null]	[Null]	Stuffed Giraffe	[Null]	[Null]
10	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]

The data being filtered can also be displayed.

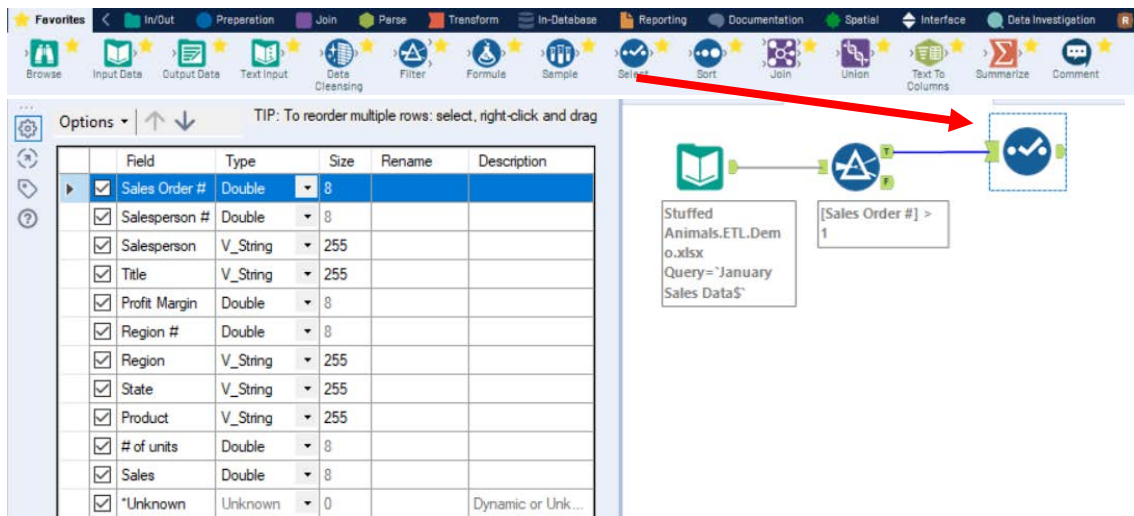
Results - Filter (3) - Input

11 of 11 Fields | Cell Viewer | 1,227 records displayed | Search | Data | Meta

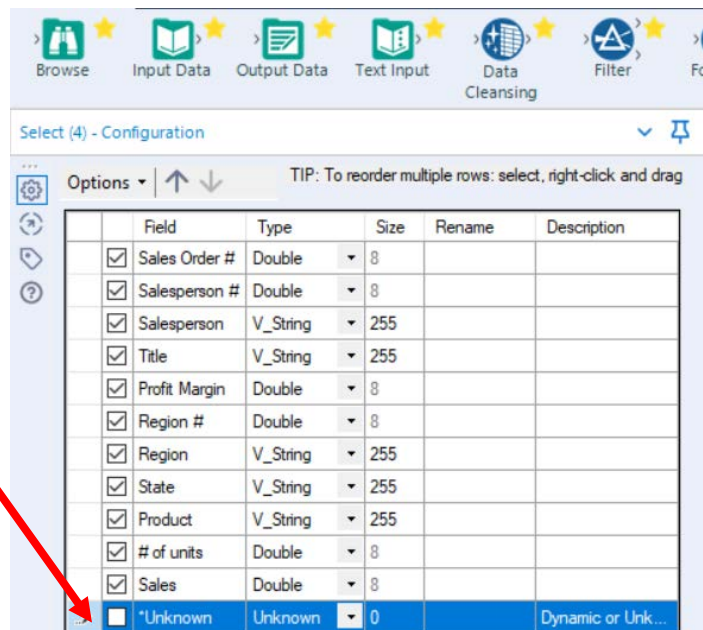
Record	Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	35005	1304	Martin Van Buren	Sales Associate I	1908	3	South	TN	Stuffed Horse	144	3168
2	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Horse	[Null]	3168
3	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
4	35006	1302	Grover Cleveland	Senior Sales Associate	936	1	Midwest	NE	Stuffed Panda	72	1656
5	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	1656
6	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
7	35009	1301	Thomas Jefferson	Sales Associate I	2028	2	Northeast	PA	Stuffed Panda	156	3588
8	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]
9	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]
10	35011	1305	George Washington	Sales Associate I	1560	1	Midwest	MN	Stuffed Panda	120	2760

### Tool 3: **Select Tool** – Remove fields that contain no data, from “\*Unknown”

Drag the “**Select Tool**” from the Tools Palette to the True output of the “**Filter Tool**” on the Canvas. The two will be connected automatically.



Remove any extra fields by unchecking them.



Change the type of all numeric fields that will be used in calculations to "FixedDecimal". The "# of units" should have zero decimal places and dollar values should have two decimal places.

Select (5) - Configuration

Options: [Up Arrow] [Down Arrow] TIP: To reorder multiple

Field	Type	Size
<input checked="" type="checkbox"/> Sales Order #	Double	8
<input checked="" type="checkbox"/> Salesperson #	Double	8
<input checked="" type="checkbox"/> Salesperson	V_String	255
<input checked="" type="checkbox"/> Title	V_String	255
<input checked="" type="checkbox"/> Profit Margin	FixedDecimal	19.2
<input checked="" type="checkbox"/> Region #	Double	8
<input checked="" type="checkbox"/> Region	V_String	255
<input checked="" type="checkbox"/> State	V_String	255
<input checked="" type="checkbox"/> Product	V_String	255
<input checked="" type="checkbox"/> # of units	FixedDecimal	19.0
<input checked="" type="checkbox"/> Sales	FixedDecimal	19.2
<input checked="" type="checkbox"/> *Unknown	Unknown	0

Before making changes:

Results - Select (5) - Input

11 of 11 Fields | Cell Viewer | 409 records displayed | Search | Data | Metadata | Actions | 000

Record	Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	1304	1304	Martin Van Buren	Sales Associate I	1908	3	South	TN	Stuffed Horse	144	3168
2	1302	1302	Grover Cleveland	Senior Sales Associate	936	1	Midwest	NE	Stuffed Panda	72	1656
3	1301	1301	Thomas Jefferson	Sales Associate I	2028	2	Northeast	PA	Stuffed Panda	156	3588
4	1305	1305	George Washington	Sales Associate I	1560	1	Midwest	MN	Stuffed Panda	120	2760
5	1303	1303	Ulysses Grant	Senior Sales Associate	1215	1	Midwest	MN	Stuffed Giraffe	108	2268
6	1305	1305	George Washington	Sales Associate I	708	2	Northeast	RI	Stuffed Elephant	48	1200
7	1303	1303	Ulysses Grant	Senior Sales Associate	1272	2	Northeast	ME	Stuffed Horse	96	2112
8	1301	1301	Thomas Jefferson	Sales Associate I	1716	4	West	WY	Stuffed Penguin	156	3120

Select Run.

Select the output area of the Select tool.

Start Here.yxmd x StuffedAnimals.yxmd x +

Stuffed Animals.ETL.Demo.o.xlsx Query="January Sales Data"

[Sales Order #] > 1

Run

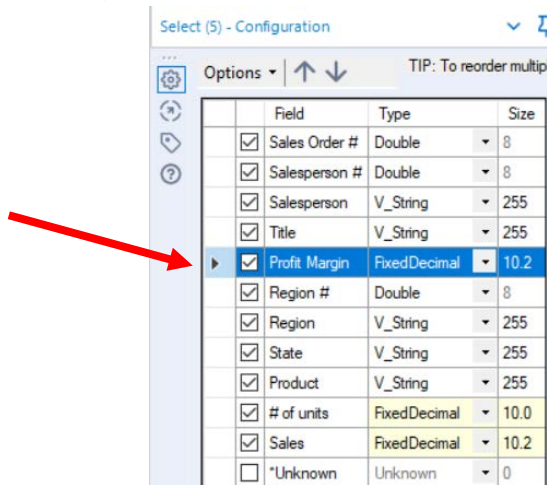
Results - Select (5) - Output

11 of 11 Fields | Cell Viewer | 409 records displayed | Search | Data | Metadata | Actions | 000

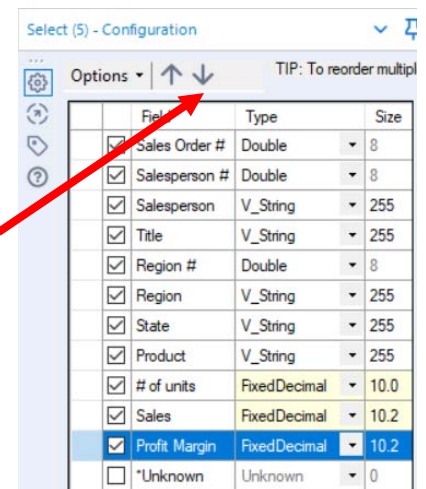
Record	Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	1304	1304	Martin Van Buren	Sales Associate I	1908.00	3	South	TN	Stuffed Horse	144	3168.00
2	1302	1302	Grover Cleveland	Senior Sales Associate	936.00	1	Midwest	NE	Stuffed Panda	72	1656.00
3	1301	1301	Thomas Jefferson	Sales Associate I	2028.00	2	Northeast	PA	Stuffed Panda	156	3588.00
4	1305	1305	George Washington	Sales Associate I	1560.00	1	Midwest	MN	Stuffed Panda	120	2760.00
5	1303	1303	Ulysses Grant	Senior Sales Associate	1215.00	1	Midwest	MN	Stuffed Giraffe	108	2268.00
6	1305	1305	George Washington	Sales Associate I	708.00	2	Northeast	RI	Stuffed Elephant	48	1200.00
7	1303	1303	Ulysses Grant	Senior Sales Associate	1272.00	2	Northeast	ME	Stuffed Horse	96	2112.00
8	1301	1301	Thomas Jefferson	Sales Associate I	1716.00	4	West	WY	Stuffed Penguin	156	3120.00

Change the order of the fields by moving “Profit Margin” to the end.

In the Configuration section select “Profit Margin”.



Use the down arrow to move “Profit Margin” to the end of the list.



Select Run.

Results - Select (5) - Output

11 of 11 Fields | Cell Viewer | 409 records displayed

Record	Sales Order #	Salesperson #	Salesperson	Title	Region #	Region	State	Product	# of units	Sales	Profit Margin
1	35005	1304	Martin Van Buren	Sales Associate I	3	South	TN	Stuffed Horse	144	3168.00	1908.00
2	35006	1302	Grover Cleveland	Senior Sales Associate	1	Midwest	NE	Stuffed Panda	72	1656.00	936.00
3	35009	1301	Thomas Jefferson	Sales Associate I	2	Northeast	PA	Stuffed Panda	156	3588.00	2028.00
4	35011	1305	George Washington	Sales Associate I	1	Midwest	MN	Stuffed Panda	120	2760.00	1560.00
5	35014	1303	Ulysses Grant	Senior Sales Associate	1	Midwest	MN	Stuffed Giraffe	108	2268.00	1215.00
6	35017	1305	George Washington	Sales Associate I	2	Northeast	RI	Stuffed Elephant	48	1200.00	708.00
7	35025	1303	Ulysses Grant	Senior Sales Associate	2	Northeast	ME	Stuffed Horse	96	2112.00	1272.00
8	35026	1301	Thomas Jefferson	Sales Associate I	4	West	WY	Stuffed Penguin	156	3120.00	1716.00



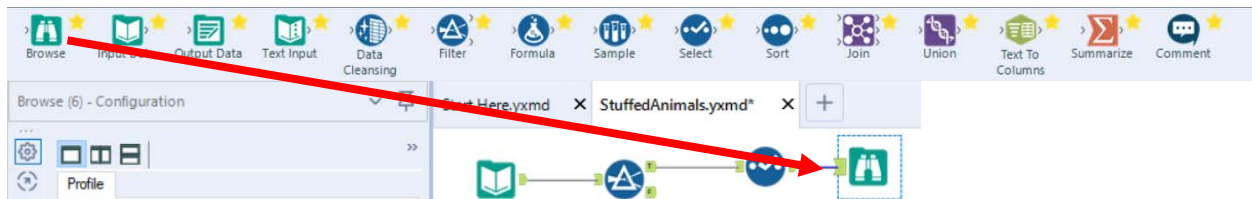
#### Temporary Tool 4: **Browse Tool** – The Data in the Fields Must Conform to Predefined Rules.

In the original Excel file, The Cuddly Stuffed Animals company provided the only acceptable values for “Product”, “Salesperson” and “Region”. Sometime data is entered incorrectly into the data.

Product ID	Product	Code	Salesperson	Code	Region
101	Stuffed Penguin	1301	Thomas Jefferson	1	Midwest
102	Stuffed Horse	1302	Grover Cleveland	2	Northeast
103	Stuffed Unicorn	1303	Ulysses Grant	3	South
104	Stuffed Giraffe	1304	Martin Van Buren	4	West
105	Stuffed Panda	1305	George Washington		
106	Stuffed Elephant	1306	John Tyler		

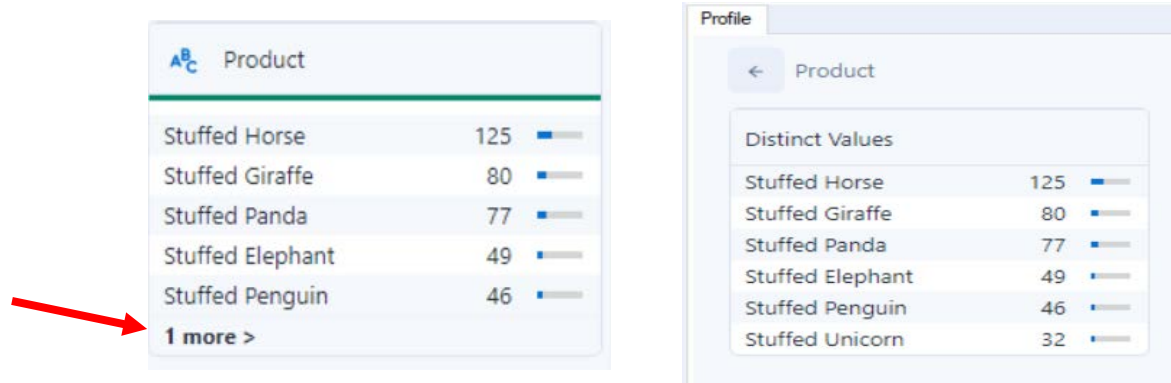
The “Product” field can only contain one of the six products. Browse the data in the “Product” field to verify that all the data is correct. Make any changes that are required.

Drag the “**Browse Tool**” from the Tools Palette to the True output of the “**Select Tool**” on the Canvas. The two will be connected automatically.



Select Run.

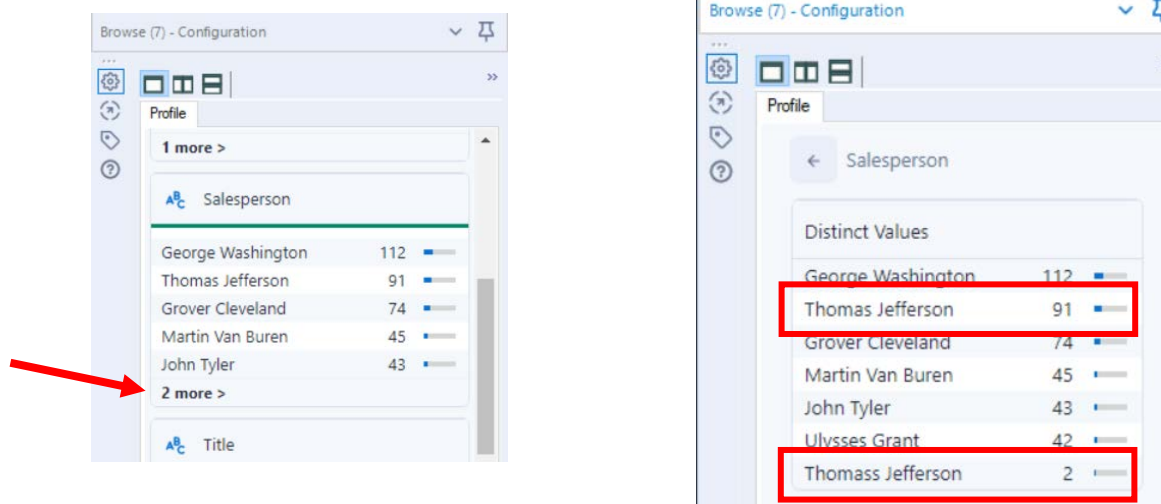
In the Configuration section scroll down to “Product” and select “1 more”.



The data is clean, there are only six products listed.

The “Salesperson” field can only contain one of the six names. Browse the data in the “Salesperson” field to verify that all the data is correct. Make any changes that are required.

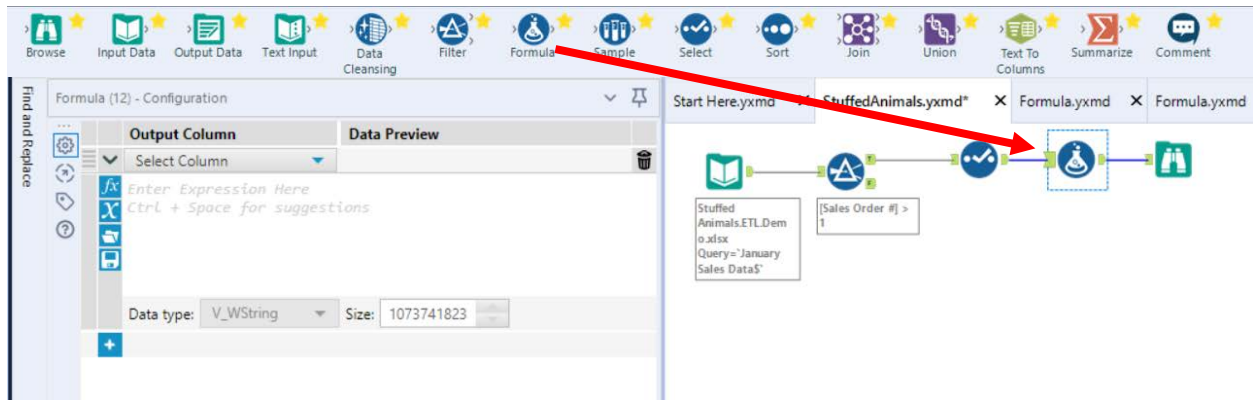
In the Configuration section scroll down to “Salesperson” and select “2 more”.



“Thomass Jefferson” must be replaced with “Thomas Jefferson” for a total of 93 distinct values.

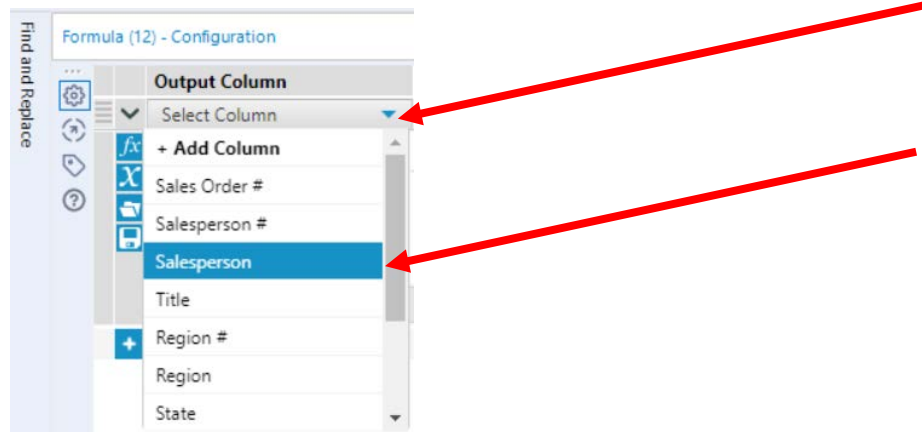
#### Tool 4: **Formula Tool** – The Data in the Fields Must Conform to Predefined Rules.

Drag the “**Formula Tool**” from the Tools Palette between the output of the “**Select Tool**” and the “**Browse Tool**” on the Canvas. The three will be connected automatically.



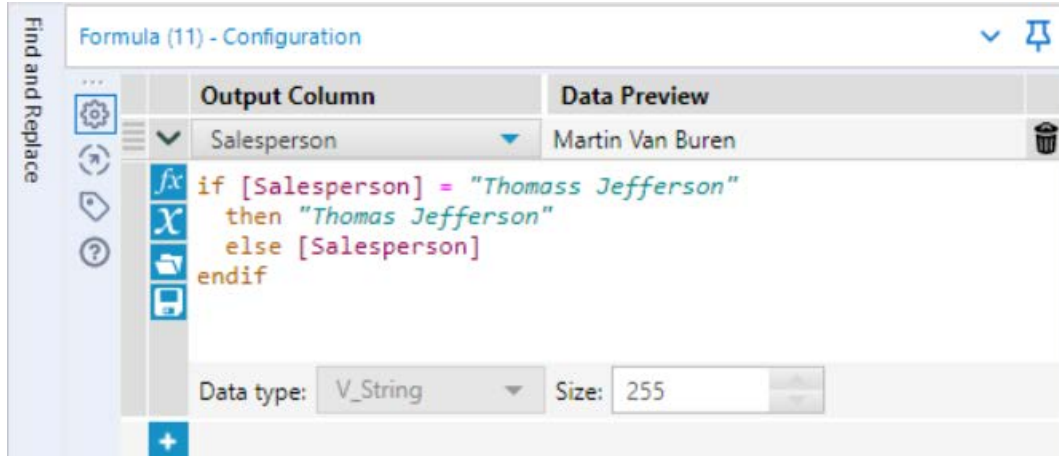
If the salesperson's name is “Thomass Jefferson” replace it with “Thomas Jefferson” otherwise leave the existing name in the field. Do not create a new field, put the output back into the “Salesperson” field.

In the configuration section select the field Salesperson from the pull-down list.





Type in the formula.



Select the Browse step.

Select Run.

Profile

← Salesperson

Distinct Values		
George Washington	112	
Thomas Jefferson	93	
Grover Cleveland	74	
Martin Van Buren	45	
John Tyler	43	
Ulysses Grant	42	

In the Configuration section scroll down to “Salesperson”. There are only six salespersons and Thomas Jefferson has 93 distinct values.

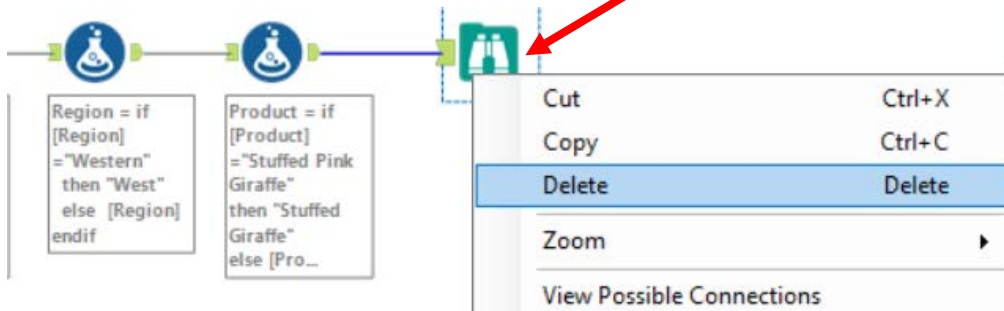
While in the Browse step, verify the field “Region”

ABC Region

South	126	
Northeast	110	
West	104	
Midwest	69	


The data is clean, only the four regions are listed.

Right click on the Browse step and select delete.



**Tool 5: Select Tool Summary:** We now want to create a report by product by first summarizing on “# of units” by product.

Product	# of units	Sales	Profit Margin
Stuffed Frog	1,524	\$ 33,528	\$20,574
Stuffed Unicorn	408	8,160	4,692
Stuffed Panda	1,140	26,220	15,675
Stuffed Koala	624	14,976	8,112
Stuffed Elephant	4,044	84,924	49,539
Stuffed Bear	2,376	59,400	35,046
Total	10,116	\$227,208	\$133,638

Drag a “**Summary Tool**”  to the right of the “**Formula tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



The first column will be Product. In the output Configuration area, select “Product”.

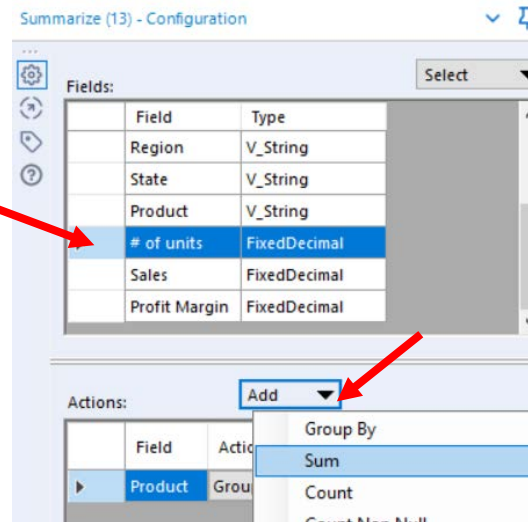
Click on the drop-down arrow on “Add” in “Actions” and select “Group By”.

Field	Type
Region	V_String
State	V_String
Product	V_String
# of units	FixedDecimal
Sales	FixedDecimal
Profit Margin	FixedDecimal

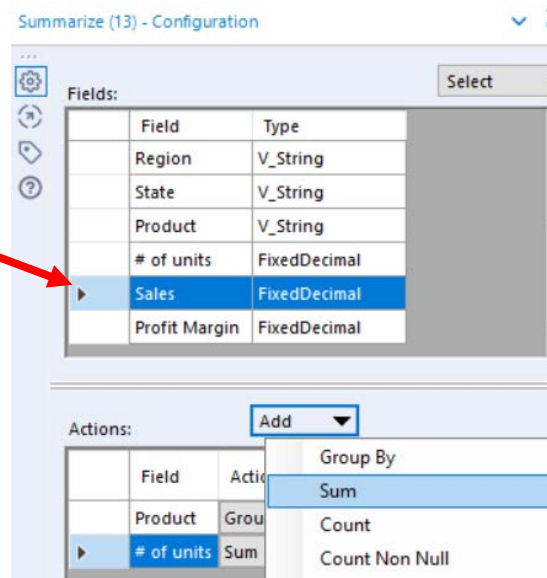
Field	Action	Output Field Name
Product	Group By	Product

The second column will be “# of units”.



Click on the drop-down arrow on "Add" in the "Actions" and select "Sum".

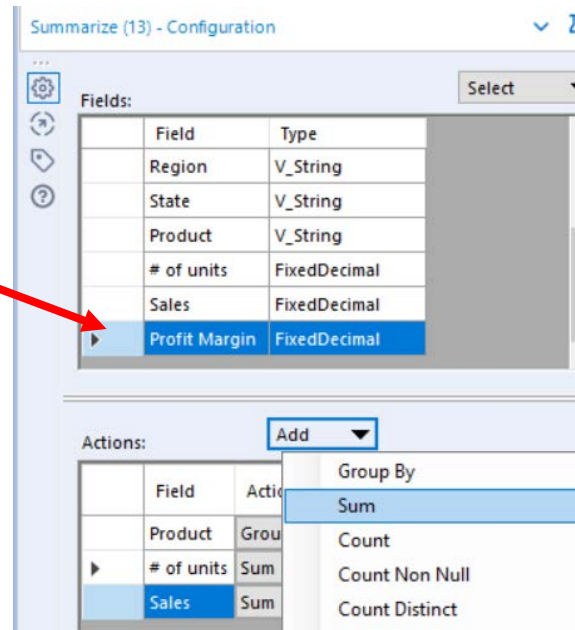
The third column will be "Sales".



Click on the drop-down arrow on "Add" in the "Actions" and select "Sum".

The fourth column will be "Profit Margin".

Click on the drop-down arrow on "Add" in the "Actions" and select "Sum".



Select "Run".

The report is created.

Field	Action	Output Field Name
Product	Group By	Product
# of units	Sum	Sum_# of units
Sales	Sum	Sum_Sales
Profit Margin	Sum	Sum_Profit Margin

Record	Product	Sum_# of units	Sum_Sales	Sum_Profit Margin
1	Stuffed Elephant	4392	109800.00	64782.00
2	Stuffed Giraffe	8052	169092.00	90585.00
3	Stuffed Horse	12120	266640.00	160590.00
4	Stuffed Panda	7488	172224.00	97344.00
5	Stuffed Penguin	5016	100320.00	55176.00
6	Stuffed Unicorn	3060	73440.00	40545.00

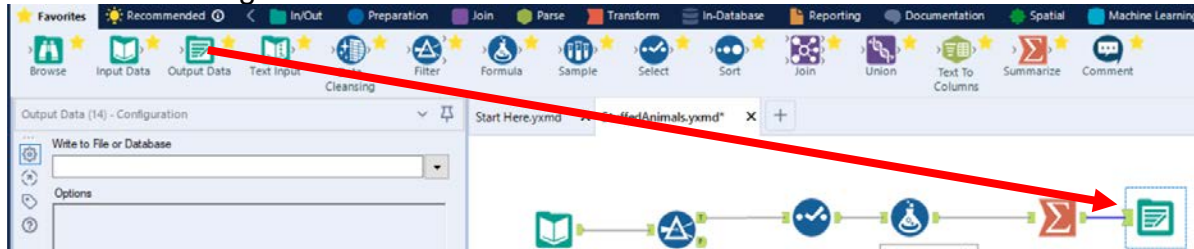
Change the "Output Field Names" and select "Run"

Field	Action	Output Field Name
Product	Group By	Product
# of units	Sum	Units
Sales	Sum	Sales
Profit Margin	Sum	Profit Margin

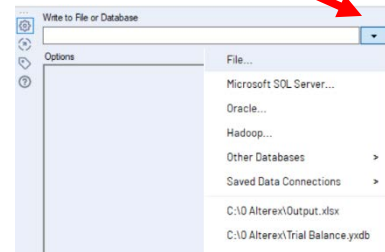
Record	Product	Units	Sales	Profit Margin
1	Stuffed Elephant	4392	109800.00	64782.00
2	Stuffed Giraffe	8052	169092.00	90585.00
3	Stuffed Horse	12120	266640.00	160590.00
4	Stuffed Panda	7488	172224.00	97344.00
5	Stuffed Penguin	5016	100320.00	55176.00
6	Stuffed Unicorn	3060	73440.00	40545.00

**Tool 6: Select Tool Output Data Tool:** We now want to export the cleaned and assembled Product Report to Excel.

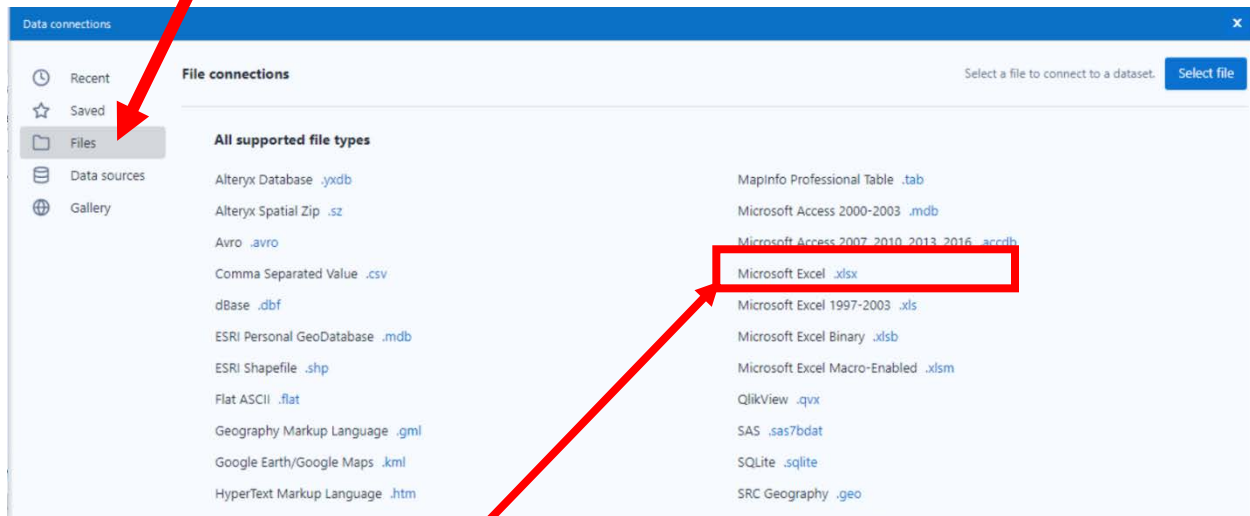
Drag an “**Output Data Tool**” to the right of the “**Summary Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



In the output Configuration area, select the drop-down arrow.



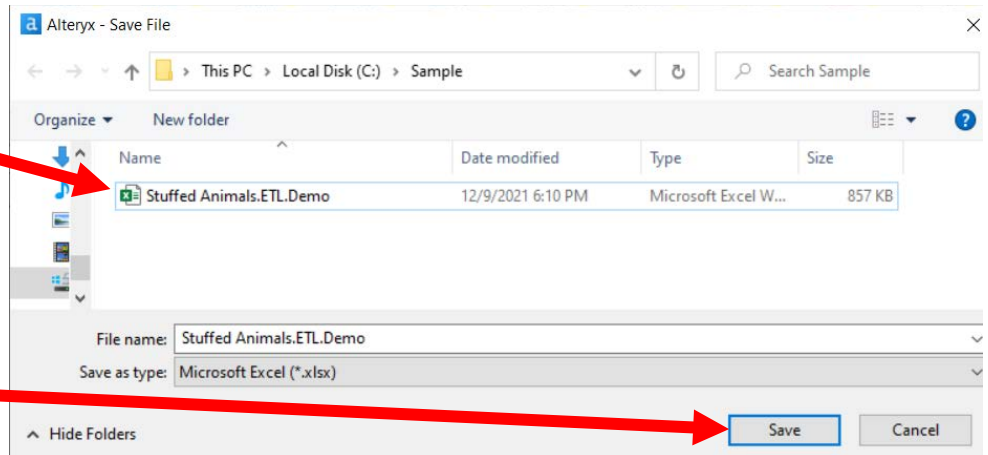
Select “File”.



Select “Microsoft Excel .xlsx”

Select the required file name.

Select "Save".



Click on "Yes" to confirm "Save".

Confirm Save As



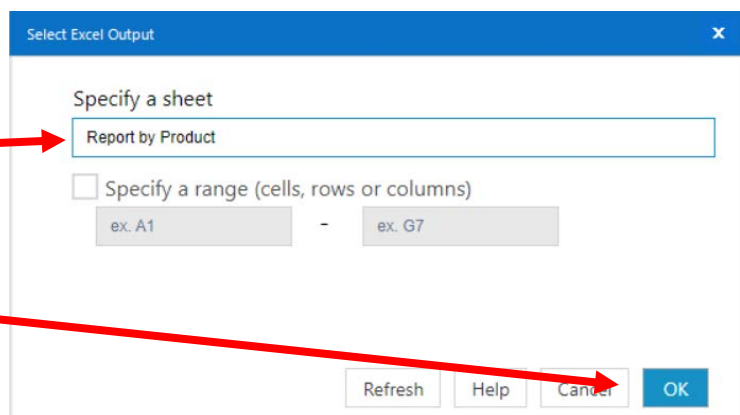
Stuffed Animals.ETL.Demo.xlsx already exists.  
Do you want to replace it?

Yes

No

Enter the sheet name.

Select "OK".



Select "Run".

Open the file in Excel.

	A	B	C	D	E	F	G	H	I	J
1	Product	Units	Sales	Profit Margin						
2	Stuffed Ele	4392	#####	64782.00						
3	Stuffed Gir	8052	#####	90585.00						
4	Stuffed Ho	12120	#####	#####						
5	Stuffed Pa	7488	#####	97344.00						
6	Stuffed Pe	5016	#####	55176.00						
7	Stuffed Un	3060	73440.00	40545.00						
8										
9										
	February-December Sales Data	Products	Salesperson	Region	Report by Product					

Change the columns' widths and formats.

	A	B	C	D	E	F	G	H	I
1	Product	Units	Sales	Profit Margin					
2	Stuffed Elephant	4,392	\$ 109,800.00	\$ 64,782.00					
3	Stuffed Giraffe	8,052	\$ 169,092.00	\$ 90,585.00					
4	Stuffed Horse	12,120	\$ 266,640.00	\$ 160,590.00					
5	Stuffed Panda	7,488	\$ 172,224.00	\$ 97,344.00					
6	Stuffed Penguin	5,016	\$ 100,320.00	\$ 55,176.00					
7	Stuffed Unicorn	3,060	\$ 73,440.00	\$ 40,545.00					
8	Total	40,128	\$ 891,516.00	\$ 509,022.00					
9									
	February-December Sales Data	Products	Salesperson	Region	Report by Product				

“Save” and “Close” the Excel file.

Return to Alteryx and select “Run” for the second time.



But, there is an error! The sheet already exists.

Results - Workflow - Messages

All 1 Errors 0 Conv Errors 0 Warnings 2 Messages 2 Files

Designer x64 Started running C:\Sample\StuffedAnimals.yxmd at 12/09/2021 21:36:29

Input Data (1) 1227 records were read from "C:\Sample\StuffedAnimals.ETL.Demo.xlsx" ("January Sales Data")

Filter (3) 409 records were True and 818 were False

Output Data (15) The sheet "Report by Product" already exists in file "C:\Sample\Stuffed Animals.ETL.Demo.xlsx". Select a new sheet or file for output, or select an overwrite output option for the current file.

Summarize (13) 409 records were summarized to 6 groups

Output Data (15) 0 records were written to "C:\Sample\Stuffed Animals.ETL.Demo.xlsx" (Report by Product)

Designer x64 Finished running StuffedAnimals.yxmd in 0.9 seconds with 1 error

In the output Configuration area, select "Output Options" number 3.

Select "Overwrite Sheet".

Write to File or Database

C:\Sample\Stuffed Animals.ETL.Demo.xlsx\Report by Product

Options

Name	Value
1 Max Records Per File	
2 File Format	Microsoft Excel (*.xlsx)
3 Output Options	Create New Sheet
4 Append Field Map	Append To Existing Sheet
5 Skip Field Names	Overwrite Sheet or Range
6 Preserve Formatting on Overwrite (Range Required)	Overwrite File (Remove)

Select "Run".

Open the Excel file.

	A	B	C	D	E	F	G	H	I	J
1	Product	Units	Sales	Profit Margin						
2	Stuffed Ele	4392	#####	64782.00						
3	Stuffed Gir	8052	#####	90585.00						
4	Stuffed Ho	12120	#####	#####						
5	Stuffed Pa	7488	#####	97344.00						
6	Stuffed Pe	5016	#####	55176.00						
7	Stuffed Un	3060	73440.00	40545.00						
8										
9										

February-December Sales Data | Products | Salesperson | Region | **Report by Product**

## Alteryx CSA Single Stream

	A	B	C	D	E	F	G	H	I
1	Product	Units	Sales	Profit Margin					
2	Stuffed Elephant	4,392	\$ 109,800.00	\$ 64,782.00					
3	Stuffed Giraffe	8,052	\$ 169,092.00	\$ 90,585.00					
4	Stuffed Horse	12,120	\$ 266,640.00	\$ 160,590.00					
5	Stuffed Panda	7,488	\$ 172,224.00	\$ 97,344.00					
6	Stuffed Penguin	5,016	\$ 100,320.00	\$ 55,176.00					
7	Stuffed Unicorn	3,060	\$ 73,440.00	\$ 40,545.00					
8	Total	40,128	\$ 891,516.00	\$ 509,022.00					
9									
10									
<div> <span>◀ ▶ ...</span> <span>February-December Sales Data</span> <span>Products</span> <span>Salesperson</span> <span>Region</span> <span><b>Jan Report by Product</b></span> </div>									

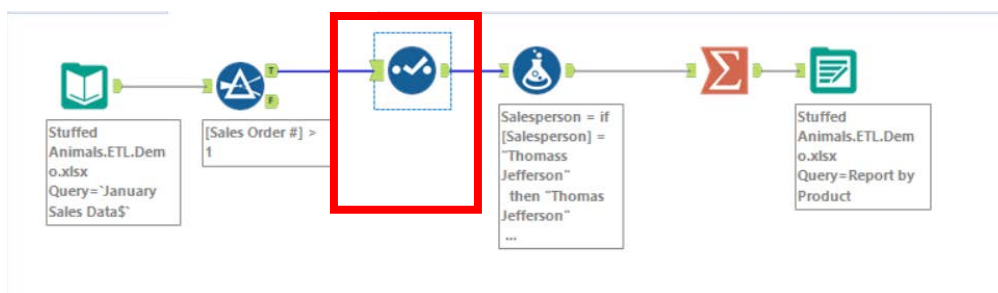
Reformat the Excel sheet and rename the formatted sheet “Jan Report by Product”.  
When the Alteryx flow runs it will create a new unformatted sheet “Report by Product”.

The “Salesperson” report will summarize the data by “Salesperson #” with the salesperson’s name attached for clarity. We now want to combine the fields with a space, a dash and another space between the two fields.

Salesperson	# of units	Sales	Profit Margin
1405 - James Polk	1,812	\$41,568	\$24,438
1425 - John Tyler	2,172	48,336	28,110
1541 - Ulysses Grant	756	17,112	10,062
1576 - James Madison	1,776	39,216	23,160
1588 - George Washington	1,584	35,784	21,168
1776 - James Monroe	2,016	45,192	26,700
Total	10,116	\$227,208	\$133,638

One field, “Salesperson #” is a numeric field, while the other field, “Salesperson” is a string. It is easier to combine fields if they are both strings.

Select the third tool, the Select Tool from the flow.



In the configuration section select the pull down in the “Type” column for the “Salesperson #” field and select “String”.

Options | TIP: To reorder multiple rows:

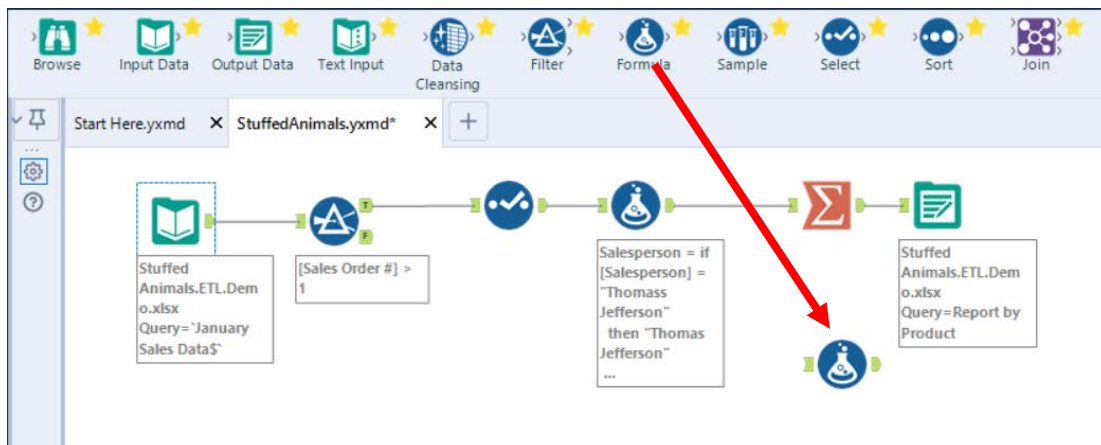
Field	Type	Size
<input checked="" type="checkbox"/> Sales Order #	Double	8
<input checked="" type="checkbox"/> Salesperson #	Double	8
<input checked="" type="checkbox"/> Salesperson	Bool	
<input checked="" type="checkbox"/> Title	Byte	
<input checked="" type="checkbox"/> Region #	Int16	
<input checked="" type="checkbox"/> Region	Int32	
<input checked="" type="checkbox"/> State	Int64	
<input checked="" type="checkbox"/> Product	FixedDecimal	
<input checked="" type="checkbox"/> # of units	Float	
<input checked="" type="checkbox"/> Sales	Double	
	Double: Forced	
	String	
	WString	
	V_String	
	V_WString	

Options | TIP: To reorder multiple rows:

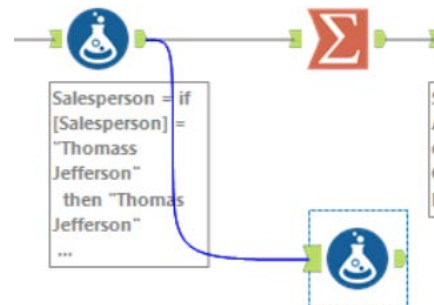
Field	Type	Size	Renam
<input checked="" type="checkbox"/> Sales Order #	Double	8	
<input checked="" type="checkbox"/> Salesperson #	String	19	
<input checked="" type="checkbox"/> Salesperson	V_String	255	

**Tool 7: Select Tool Formula:** We can now want to combine the fields “Salesperson #” and “Salesperson”.

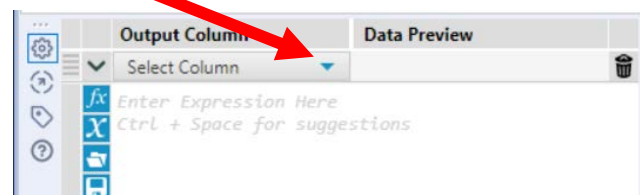
Drag a “**Formula Tool**” under the “**Running Balance Tool**” branching from the “**Formula Tool**” on the Canvas.



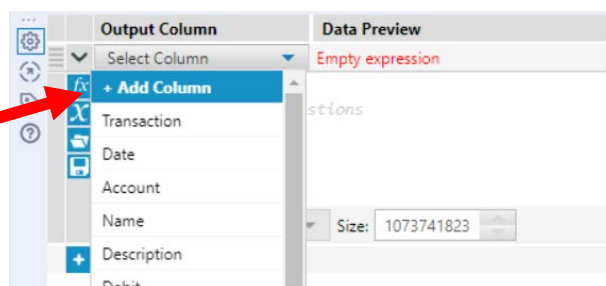
To connect the tools, drag from the outflow of the Tool 4, Formula Tool to the left inflow of the Tool 7, Formula tool.



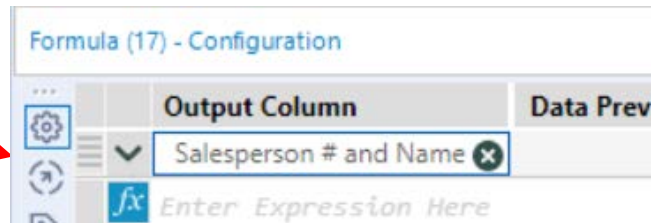
In the output Configuration area, click on the drop-down arrow of “Select Column”.



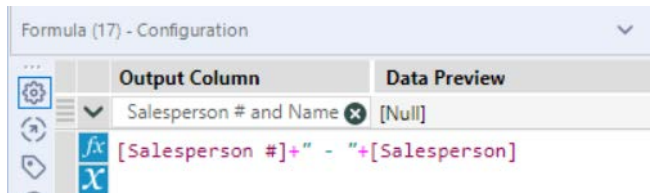
Select “Add Column”.



Type "Salesperson # And Name".




Type the following formula  
[Salesperson #]+ " - " +[Salesperson]

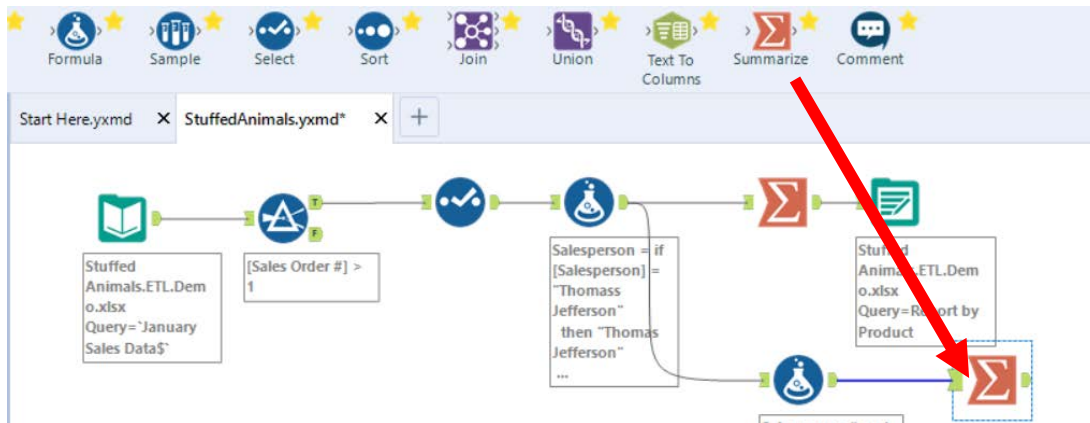


Select "Run".

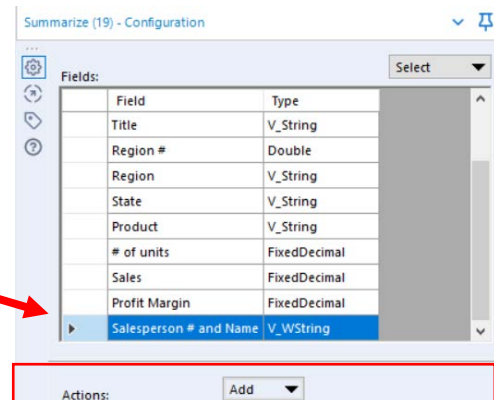
12 of 12 Fields   Cell Viewer   409 records displayed   Search   Data   Metadata   Actions   000											
Record	Title	Region #	Region	State	Product	# of units	Sales	Profit Margin	Salesperson # and Name		
1	Sales Associate I	3	South	TN	Stuffed Horse	144	3168.00	1908.00	1304 - Martin Van Buren		
2	Senior Sales Associate	1	Midwest	NE	Stuffed Panda	72	1656.00	936.00	1302 - Grover Cleveland		
3	Sales Associate I	2	Northeast	PA	Stuffed Panda	156	3588.00	2028.00	1301 - Thomas Jefferson		
4	Sales Associate I	1	Midwest	MN	Stuffed Panda	120	2760.00	1560.00	1305 - George Washington		
5	Senior Sales Associate	1	Midwest	MN	Stuffed Giraffe	108	2268.00	1215.00	1303 - Ulysses Grant		
6	Sales Associate I	2	Northeast	RI	Stuffed Elephant	48	1200.00	708.00	1305 - George Washington		
7	Senior Sales Associate	2	Northeast	ME	Stuffed Horse	96	2112.00	1272.00	1303 - Ulysses Grant		
8	Sales Associate I	4	West	WY	Stuffed Penguin	156	3120.00	1716.00	1301 - Thomas Jefferson		

**Tool 8: Select Tool Summary:** We now want to create a “Salesperson Report”.

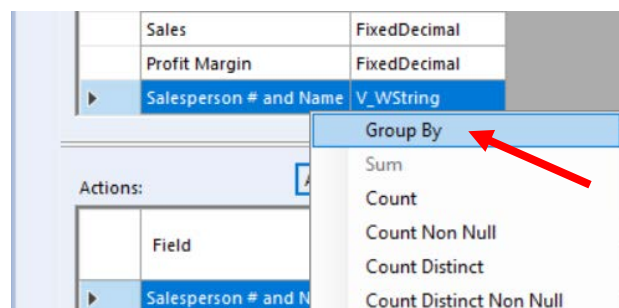
Drag a “**Summary Tool**”  to the right of the “**Formula Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



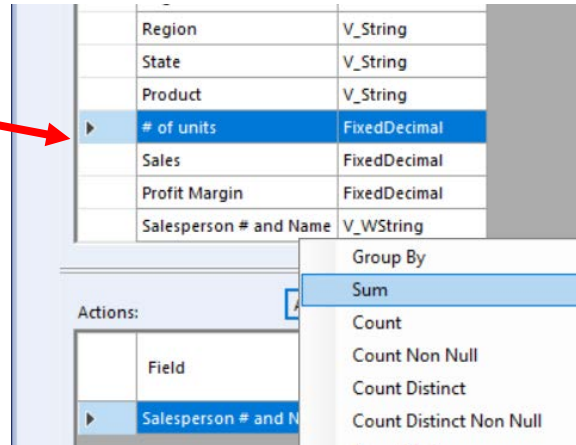
Select the first column, “Salesperson # and Name”.



Click on the drop-down arrow on “Add” in “Actions” and select “Group By”.

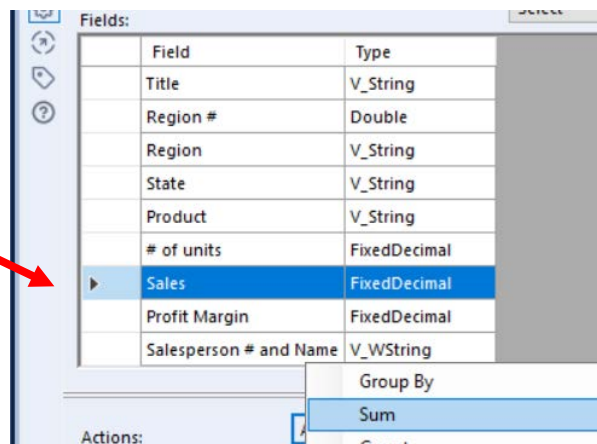


The second column will be “# of units”.



Click on the drop-down arrow on “Add” in “Actions” and select “Sum”.

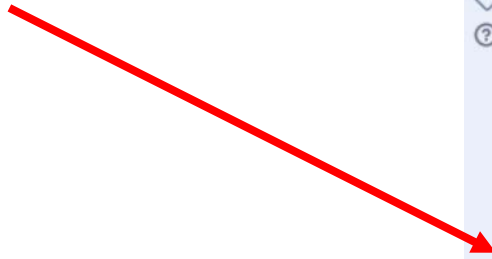
The third column will be “Sales”.



Click on the drop-down arrow on “Add” in “Actions” and select “Sum”.



The fourth column will be “Profit Margin”.



Field	Type
Title	V_String
Region #	Double
Region	V_String
State	V_String
Product	V_String
# of units	FixedDecimal
Sales	FixedDecimal
Profit Margin	FixedDecimal
Salesperson # and Name	V_WString

Click on the drop-down arrow on “Add” in “Actions” and select “Sum”.

Select “Run”.

And, the report is created, right click on the output arrow if nessacary.

Field	Action	Output Field Name
Salesperson # a...	Group By	Salesperson # a...
# of units	Sum	Sum_# of units
Sales	Sum	Sum_Sales
Profit Margin	Sum	Sum_Profit Mar...

Record	Salesperson # and Name	Sum_# of units	Sum_Sales	Sum_Profit Margin
1	1301 - Thomas Jefferson	9528	210000.00	119466.00
2	1302 - Grover Cleveland	7128	162276.00	92601.00
3	1303 - Ulysses Grant	4116	90168.00	51294.00
4	1304 - Martin Van Buren	4476	98388.00	56247.00
5	1305 - George Washington	10452	232536.00	133557.00
6	1306 - John Tyler	4428	98148.00	55857.00

Change the “Output Field Names” and select “Run”

Field	Action	Output Field Name
Salesperson # a...	Group By	Salesperson
# of units	Sum	Units
Sales	Sum	Sales
Profit Margin	Sum	Profit Margin

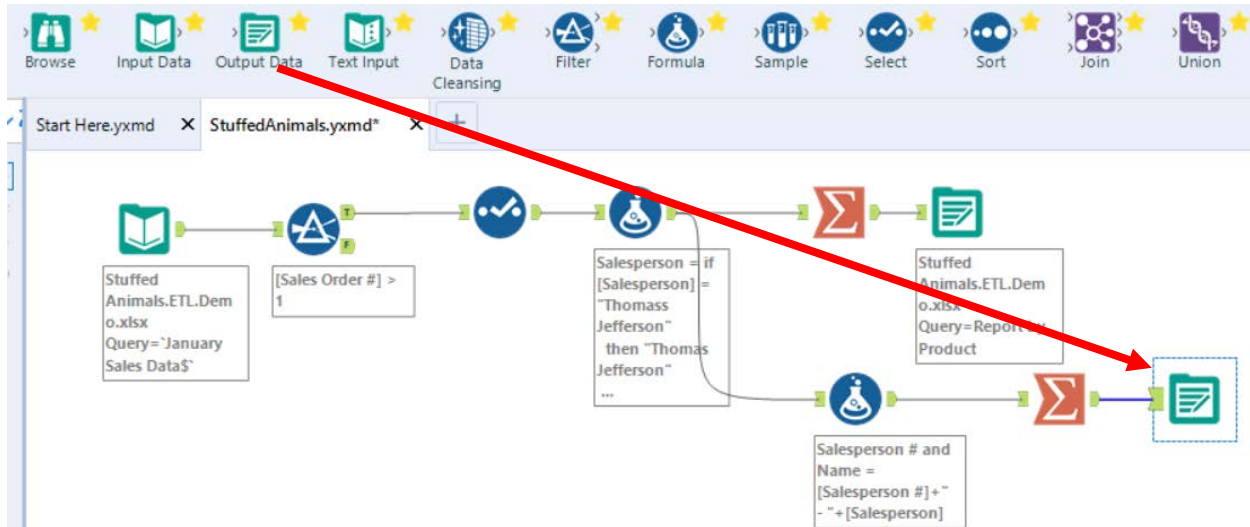
  

Record	Salesperson	Units	Sales	Profit Margin
1	1301 - Thomas Jefferson	9528	210000.00	119466.00
2	1302 - Grover Cleveland	7128	162276.00	92601.00
3	1303 - Ulysses Grant	4116	90168.00	51294.00
4	1304 - Martin Van Buren	4476	98388.00	56247.00
5	1305 - George Washington	10452	232536.00	133557.00
6	1306 - John Tyler	4428	98148.00	55857.00

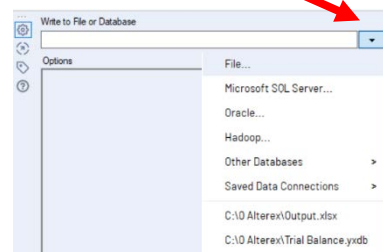


**Tool 9: Select Output Data Tool:** We now want to export the cleaned and assembled Salesperson Report to Excel.

Drag an “**Output Data Tool**” to the right of the “**Summary Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.

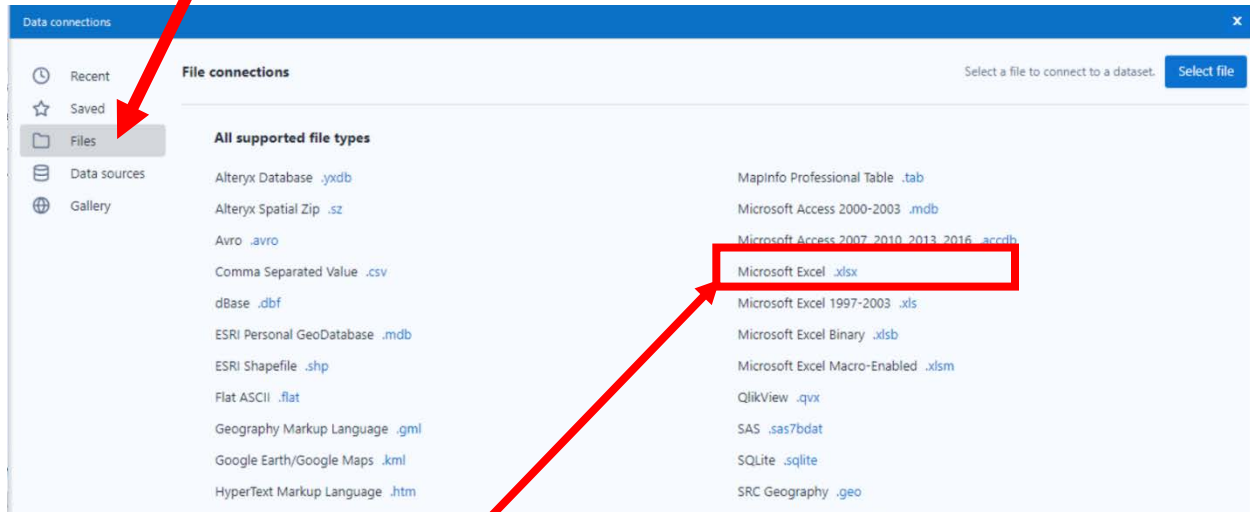


In the output Configuration area, select the drop-down arrow.



## Alteryx CSA Single Stream

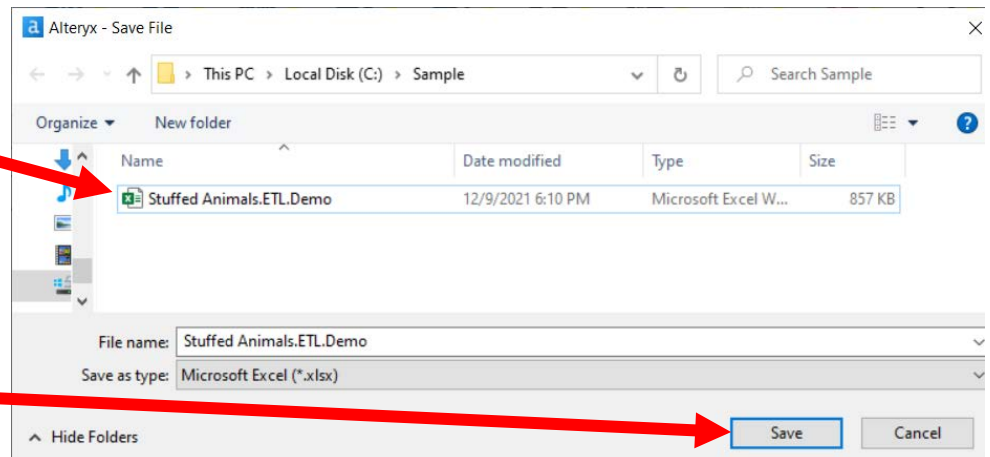
Select “File”.



Select “Microsoft Excel .xlsx”

Select the required file name.

Select “Save”.



Confirm Save As

Click on “Yes” to confirm “Save”.

! Stuffed Animals.ETL.Demo.xlsx already exists.  
Do you want to replace it?

Yes

No

Enter the sheet name.

Select "OK".

Select Excel Output

Specify a sheet

Report by Salesperson

☐ Specify a range (cells, rows or columns)

ex. A1 - ex. G7

Refresh Help Cancel OK

In the output Configuration area, select "Output Options" number 3.

Select "Overwrite Sheet" (which drops the old sheet)

Write to File or Database

C:\Sample\Stuffed Animals.ETL.Demo.xlsx\Report by Salesperson

Options

Name	Value
1 Max Records Per File	
2 File Format	Microsoft Excel (*.xlsx)
3 Output Options	Create New Sheet
4 Append Field Map	Append To Existing Sheet
5 Skip Field Names	Overwrite Sheet or Range
6 Preserve Formatting on Overwrite (Range Required)	Overwrite File (Remove)
	Create New Sheet

Select Run  
Open the Excel file

	A	B	C	D	E	F	G	H	I
1	Salesperson	Units	Sales	Profit Margin					
2	1301 - Tho	9528	#####	#####					
3	1302 - Gro	7128	#####	92601.00					
4	1303 - Uly	4116	90168.00	51294.00					
5	1304 - Ma	4476	98388.00	56247.00					
6	1305 - Gec	10452	#####	#####					
7	1306 - Joh	4428	98148.00	55857.00					
8									
9									
10									

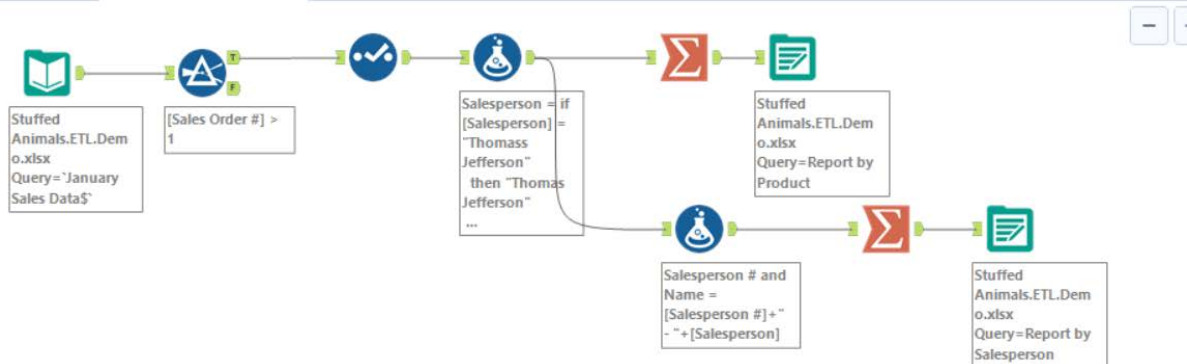
Ready Scroll Lock

Change the format and rename the sheet so the format changes are not lost, save, close Excel and return to Alteryx.

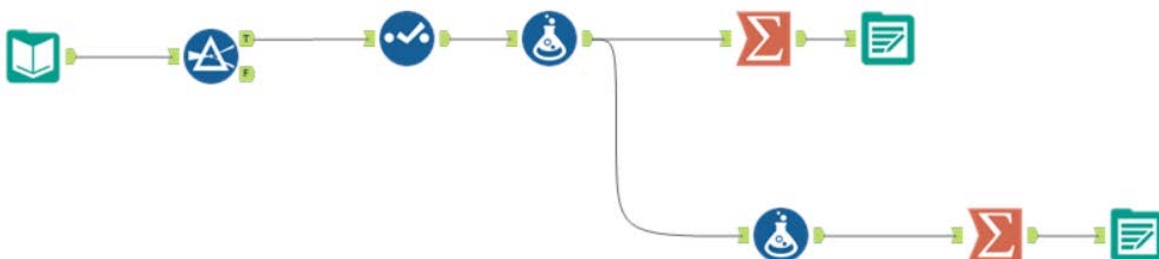
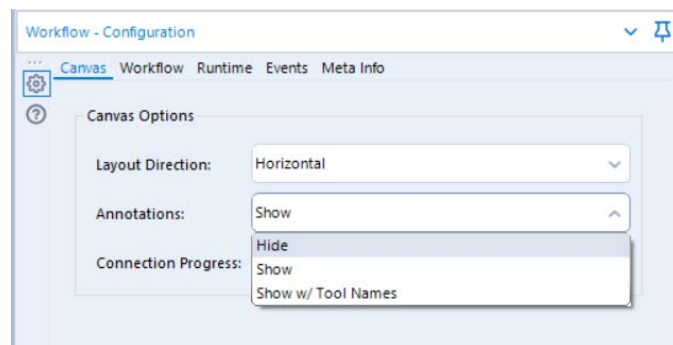
	A	B	C	D	E	F	G
1	Salesperson	Units	Sales	Profit Margin			
2	1301 - Thomas Jefferson	9,528	\$ 210,000.00	\$ 119,466.00			
3	1302 - Grover Cleveland	7,128	\$ 162,276.00	\$ 92,601.00			
4	1303 - Ulysses Grant	4,116	\$ 90,168.00	\$ 51,294.00			
5	1304 - Martin Van Buren	4,476	\$ 98,388.00	\$ 56,247.00			
6	1305 - George Washington	10,452	\$ 232,536.00	\$ 133,557.00			
7	1306 - John Tyler	4,428	\$ 98,148.00	\$ 55,857.00			
8	Total	40,128	\$ 891,516.00	\$ 509,022.00			
9							
10							

Ready Scroll Lock

The canvas is very busy looking because of the annotations.



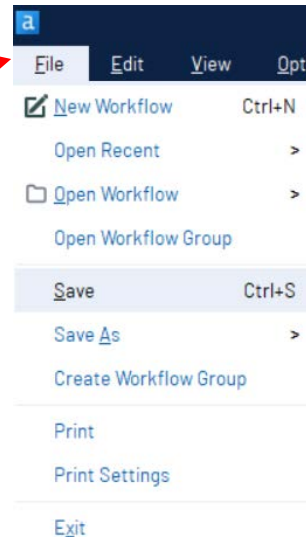
Select any blank area on the canvas and in the Configuration section change “Annotations” to “Hide”.



**The workflow must be saved.**

Select "File".

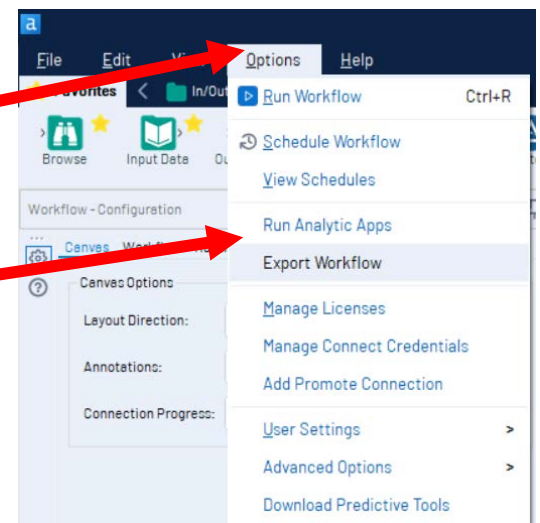
Select "Save".



**Export the workflow and the related input files so that the project can be completed on another computer or uploaded to the web.**

Select "Options".

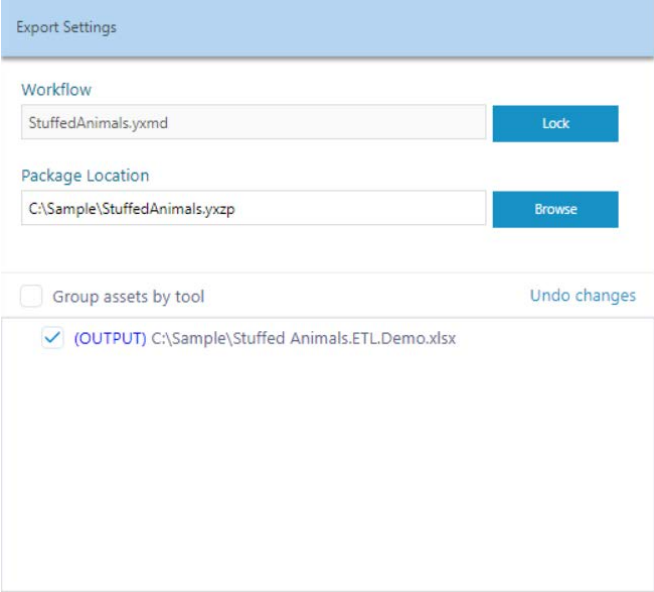
Select "Export Workflow".



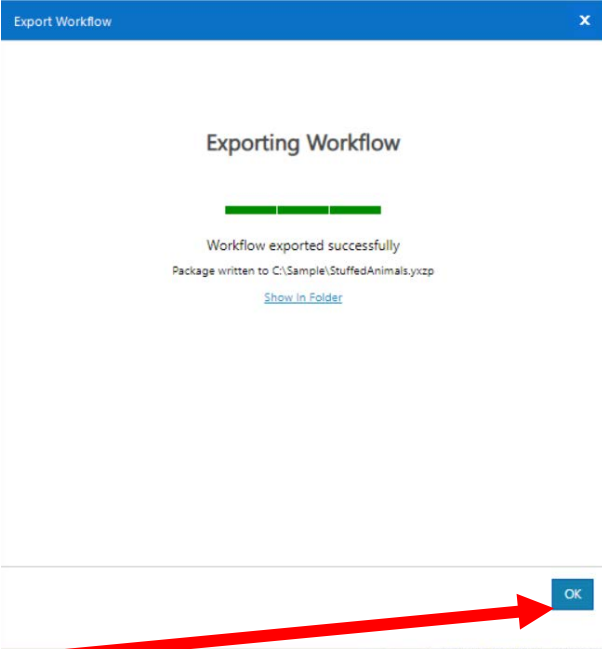
Verify the name of the “Workflow”.

Verify the “Package Location”.

Select “Save”.



The "Export Settings" dialog box is shown. It has a blue header bar with the title "Export Settings". Below the header, there are two sections. The first section is labeled "Workflow" and contains a text box with the value "StuffedAnimals.yxmd" and a "Lock" button to its right. The second section is labeled "Package Location" and contains a text box with the value "C:\Sample\StuffedAnimals.yxzp" and a "Browse" button to its right. Below these sections, there is a checkbox labeled "Group assets by tool" which is currently unchecked, and a link labeled "Undo changes" to its right. At the bottom of the dialog, there is a list of items with a checkbox next to each. The first item is checked and labeled "(OUTPUT) C:\Sample\Stuffed Animals.ETL.Demo.xlsx". At the very bottom of the dialog, there are three buttons: "Save", "Cancel", and "Help".



The "Export Workflow" dialog box is shown. It has a blue header bar with the title "Export Workflow" and a close button (X) in the top right corner. The main area of the dialog is white and contains the text "Exporting Workflow" in a large font. Below this text is a green progress bar. Under the progress bar, the text "Workflow exported successfully" is displayed, followed by "Package written to C:\Sample\StuffedAnimals.yxzp". Below this text is a link labeled "Show in Folder". At the bottom right of the dialog, there is an "OK" button.

Select “OK”.

Close Alteryx

## Part 2

## Using Alteryx

## Append a Second Stream

The sales data for *Cuddly Stuffed Animals* are stored in an Excel sheet titled January Sales Data. The column headings are in the ninth row, some rows have partial duplicate data and some rows are blank.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2												
3												
4												
5												
6												
7												
8												
	<b>Cuddly Stuffed Animals</b>											
	<b>January Sales Data</b>											
9	Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales	
10	35005	1304	Martin Van Buren	Sales Associate I	1,208.00	3	South	TX	Stuffed Horse	244	3,168.00	
11									Stuffed Horse		3,168.00	
12												
13	35006	1302	Grover Cleveland	Senior Sales Associate	936.00	1	Midwest	NE	Stuffed Panda	72	1,656.00	
14									Stuffed Panda		1,656.00	
15												
16	35009	1301	Thomas Jefferson	Sales Associate I	2,028.00	2	Northeast	PA	Stuffed Panda	156	3,588.00	
17					2,028.00				Stuffed Panda			
18												
19	35011	1305	George Washington	Sales Associate I	1,560.00	1	Midwest	MN	Stuffed Panda	120	2,760.00	
20					1,560.00				Stuffed Panda			
21												
22	35014	1303	Ulysses Grant	Senior Sales Associate	1,215.00	1	Midwest	MN	Stuffed Giraffe	108	2,268.00	
23					1,215.00				Stuffed Giraffe			
24												
25	35017	1305	George Washington	Sales Associate I	708.00	2	Northeast	RI	Stuffed Elephant	48	1,200.00	
26					708.00				Stuffed Elephant			
27												
28	35025	1303	Ulysses Grant	Senior Sales Associate	1,272.00	2	Northeast	ME	Stuffed Horse	96	2,112.00	
29									Stuffed Horse	96		
30												
31	35026	1301	Thomas Jefferson	Sales Associate I	1,716.00	4	West	WY	Stuffed Penguin	156	3,120.00	
32									Stuffed Penguin		3,120.00	
33												
34	35027	1301	Thomas Jefferson	Sales Associate I	1,215.00	4	West	CA	Stuffed Giraffe	108	2,268.00	
35									Stuffed Giraffe		2,268.00	
36												
37	35032	1303	Ulysses Grant	Senior Sales Associate	1,584.00	1	Midwest	NE	Stuffed Penguin	144	2,880.00	
38									Stuffed Penguin	144		

## Sample Reports

Product	Units	Sales	Profit Margin	Salesperson	Units	Sales	Profit Margin
Stuffed Elephant	4,392	\$ 109,800.00	\$ 64,782.00	1301 - Thomas Jefferson	9,528	\$ 210,000.00	\$ 119,466.00
Stuffed Giraffe	8,052	\$ 169,092.00	\$ 90,585.00	1302 - Grover Cleveland	7,128	\$ 162,276.00	\$ 92,601.00
Stuffed Horse	12,120	\$ 266,640.00	\$ 160,590.00	1303 - Ulysses Grant	4,116	\$ 90,168.00	\$ 51,294.00
Stuffed Panda	7,488	\$ 172,224.00	\$ 97,344.00	1304 - Martin Van Buren	4,476	\$ 98,388.00	\$ 56,247.00
Stuffed Penguin	5,016	\$ 100,320.00	\$ 55,176.00	1305 - George Washington	10,452	\$ 232,536.00	\$ 133,557.00
Stuffed Unicorn	3,060	\$ 73,440.00	\$ 40,545.00	1306 - John Tyler	4,428	\$ 98,148.00	\$ 55,857.00
Total	40,128	\$ 891,516.00	\$ 509,022.00	Total	40,128	\$ 891,516.00	\$ 509,022.00

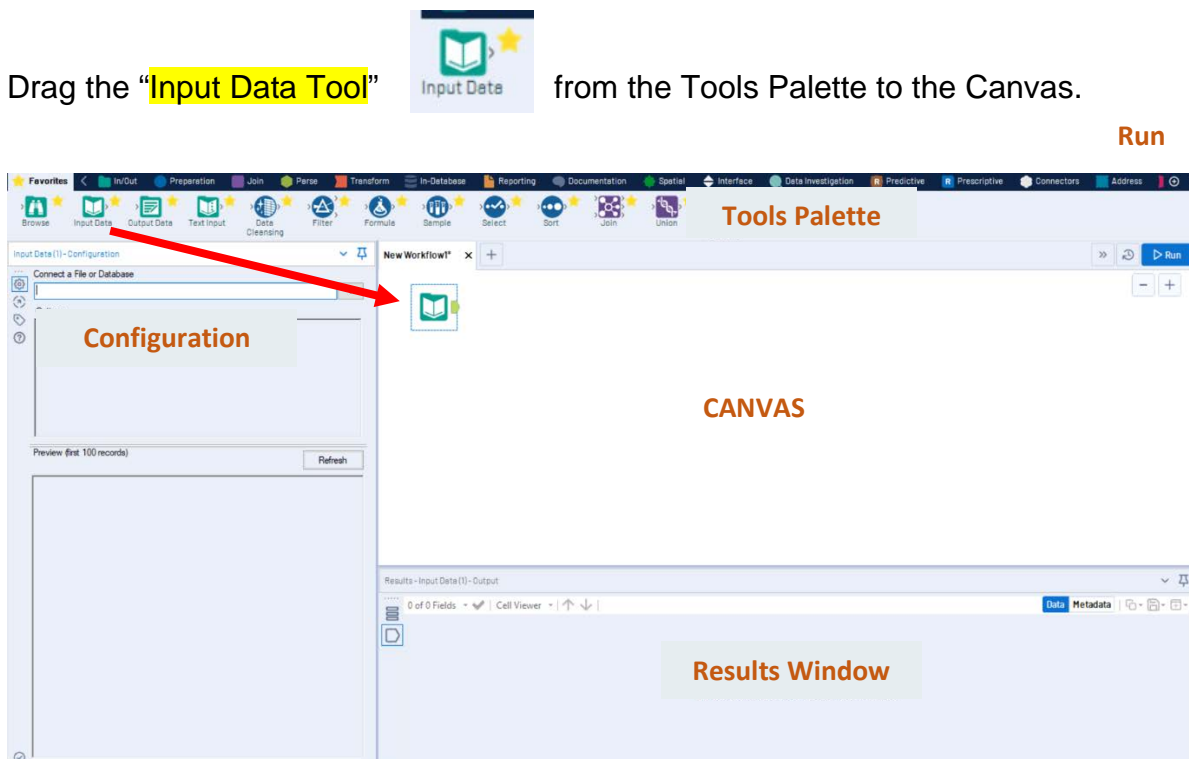
## Start Alteryx

Note: You cannot extract data from an open Excel file so make sure that the Excel file is closed before starting to input the data.

There are four major parts of the Alteryx window. The first is the Canvas, and that's where we're going to create the workflow. Second, the Tools Palette is where all the tools are stored. Third, the Configuration area is where the tool settings are modified. Lastly, the Results window shows us the result after we select "Run" to apply the changes.

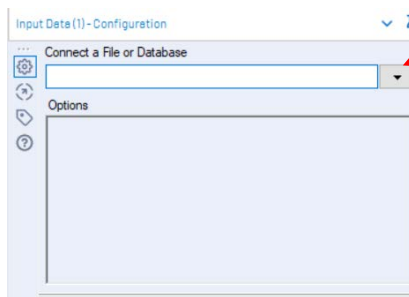
### Tool 1: **Input Data Tool** – Input Excel file

Drag the "**Input Data Tool**" from the Tools Palette to the Canvas.

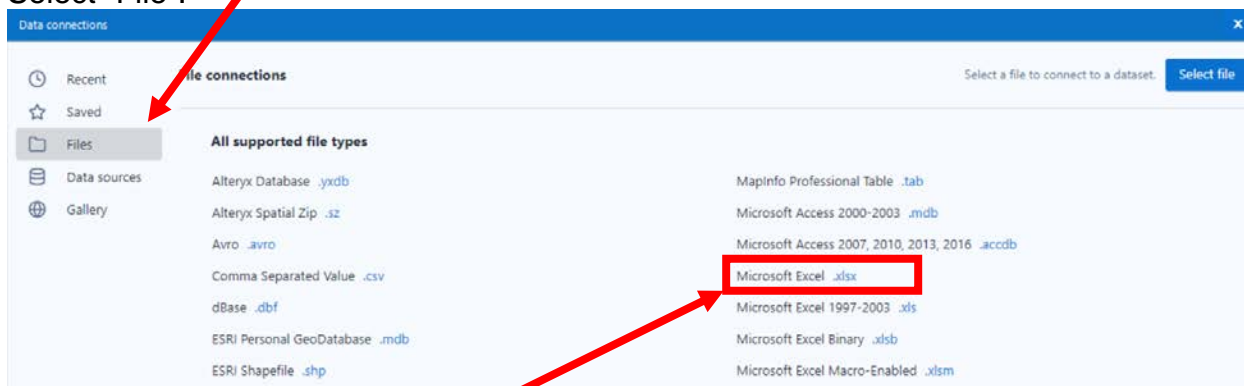




In the Configuration area, select the “Connect a File or Database” drop-down arrow.



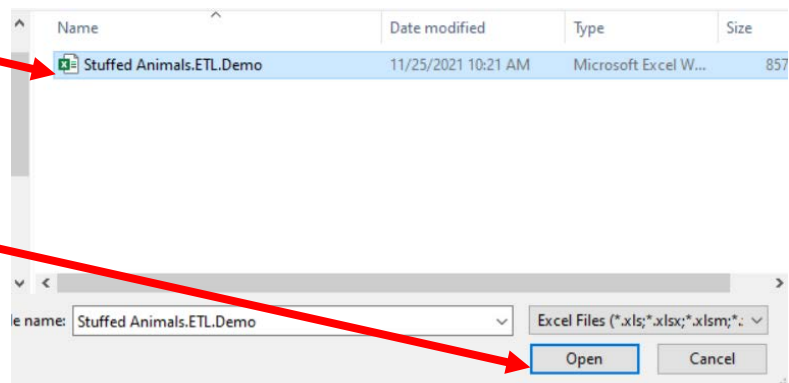
Select “File”.



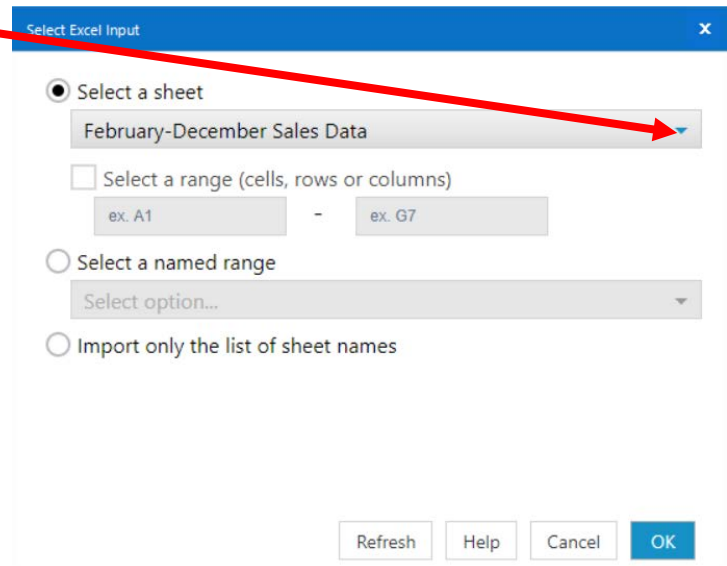
Select “Microsoft Excel .xlsx”.

Browse for the desired file.

Select “Open”.

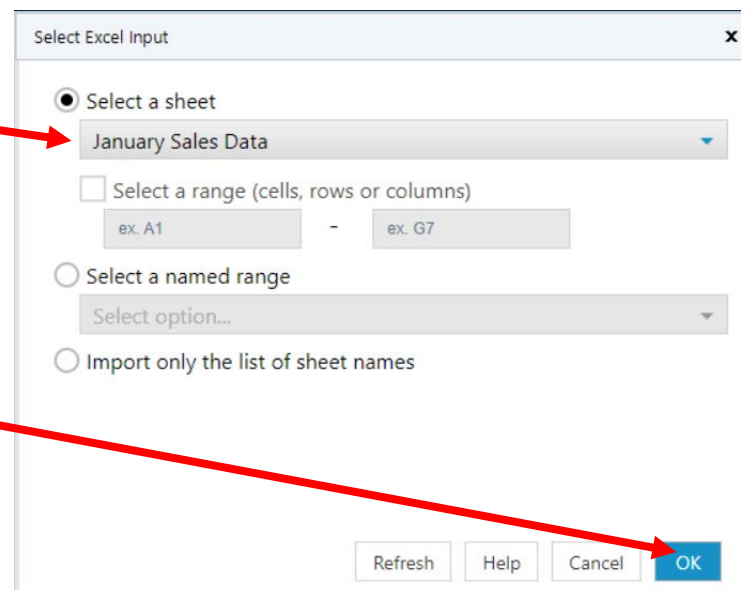


Select the drop-down.



The 'Select Excel Input' dialog box is shown. The 'Select a sheet' radio button is selected. The dropdown menu displays 'February-December Sales Data'. A red arrow points to the dropdown arrow on the right side of the dropdown menu. Below this, there is an option to 'Select a range (cells, rows or columns)' with input fields for 'ex. A1' and 'ex. G7'. There is also an option to 'Select a named range' with a dropdown menu showing 'Select option...'. At the bottom, there are buttons for 'Refresh', 'Help', 'Cancel', and 'OK'.

Select "January Sales Data".



The 'Select Excel Input' dialog box is shown. The 'Select a sheet' radio button is selected. The dropdown menu displays 'January Sales Data'. A red arrow points to the dropdown menu. Below this, there is an option to 'Select a range (cells, rows or columns)' with input fields for 'ex. A1' and 'ex. G7'. There is also an option to 'Select a named range' with a dropdown menu showing 'Select option...'. At the bottom, there are buttons for 'Refresh', 'Help', 'Cancel', and 'OK'.

Select "OK".

Remember that the field names are in the ninth row.

In the Configuration area, scroll down to option 7.

Change the number in “Start Data Import on Line” to “9”.

Select “Run”.

Input Data (1) - Configuration

Connect a File or Database

C:\Sample\Stuffed Animals.ETL.Demo.xlsx

Options

Name	Value
1 Record Limit	
2 File Format	Microsoft Excel (*.xlsx)
3 Table or Query	'January Sales Data\$'
4 Search SubDirs	<input type="checkbox"/>
5 Output File Name as Field	No
6 First Row Contains Data	<input type="checkbox"/>
7 Start Data Import on Line	9

Preview (first 100 records)

Refresh

The Results window will display the field headings and the data.

Start Here.yxmd x New Workflow1 x +

Stuffed Animals.ETL.Demo.xlsx  
Query='January Sales Data\$'

Results - Input Data (1) - Output

11 of 11 Fields Cell Viewer 1,227 records displayed Search Data Metadata Actions 000

Record	Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	35005	1304	Martin Van Buren	Sales Associate I	1908	3	South	TN	Stuffed Horse	144	3168
2	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Horse	[Null]	[Null]
3	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
4	35006	1302	Grover Cleveland	Senior Sales Associate	936	1	Midwest	NE	Stuffed Panda	72	1656
5	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]
6	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
7	35009	1301	Thomas Jefferson	Sales Associate I	2028	2	Northeast	PA	Stuffed Panda	156	3588
8	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]

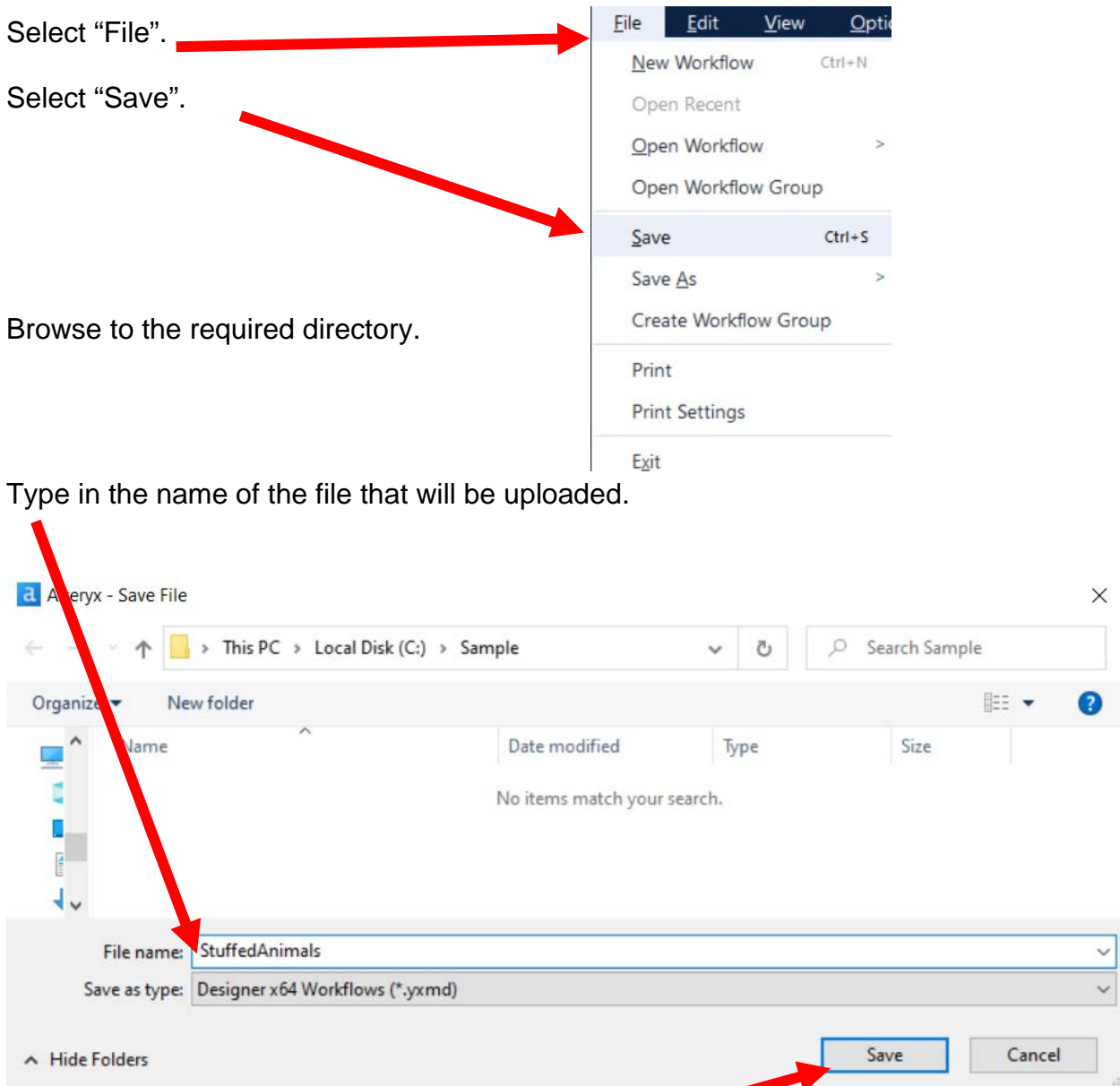
**The workflow must be saved.**

Select "File".

Select "Save".

Browse to the required directory.

Type in the name of the file that will be uploaded.

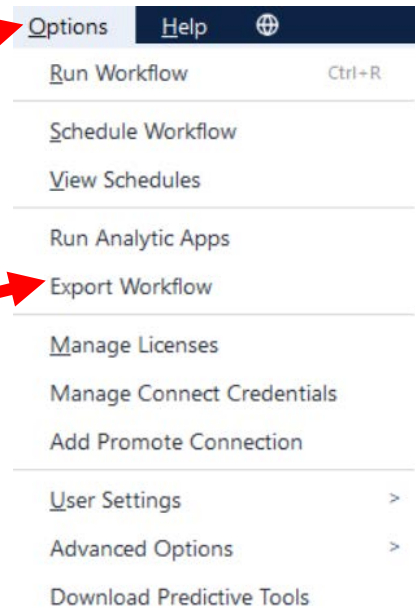


Select "Save".

**Export the workflow and the related input files so that the project can be completed on another computer or uploaded to the web.**

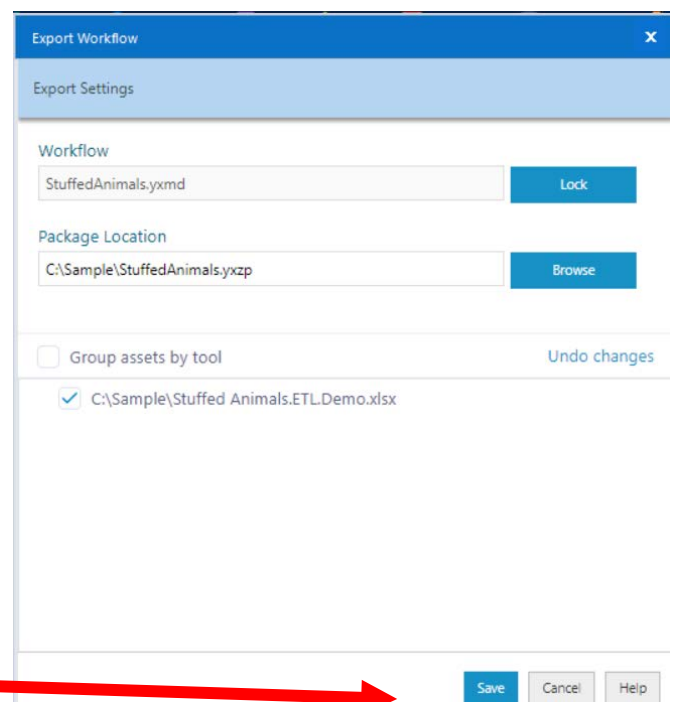
Select "Options".

Select "Export Workflow".



Verify the "Workflow".


Verify the "Package Location".

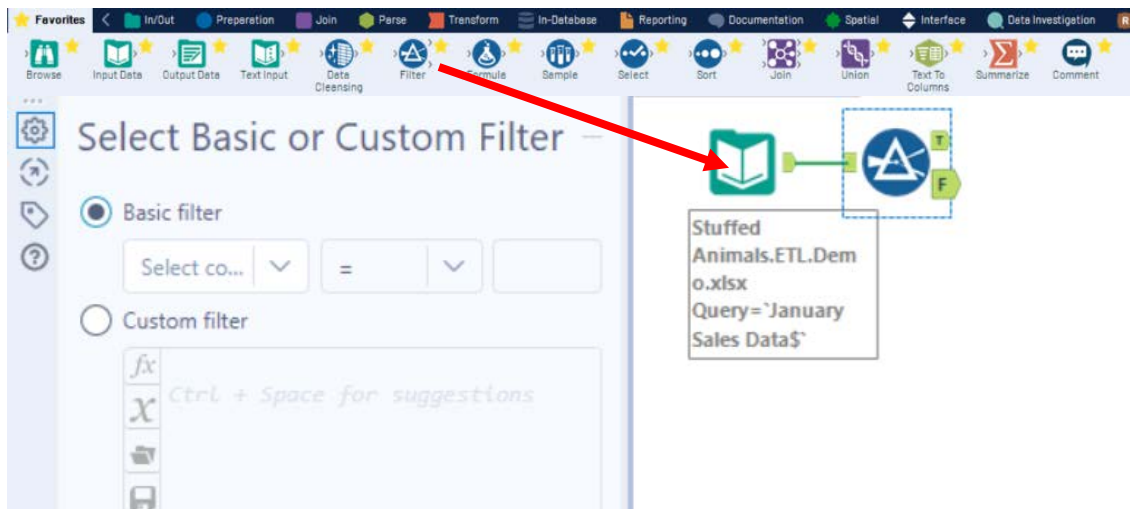


Select "Save".

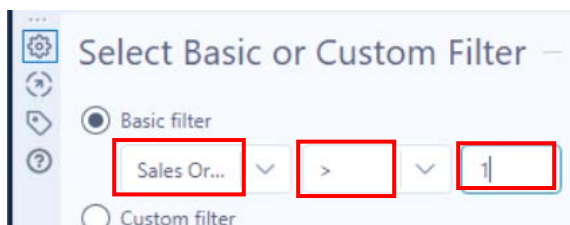
**Tool 2: Filter Tool – Exclude all rows that do not contain data**

There are several rows that do not contain an sales order number. We can modify the working dataset so that it includes only those rows that contain account numbers greater than one. Note that we are not deleting anything from the source data file. The working dataset will be split into two subsets. The first subset, “True”, will include all rows with account numbers greater than one. The second subset, “False”, will contain all rows with account numbers less than one.

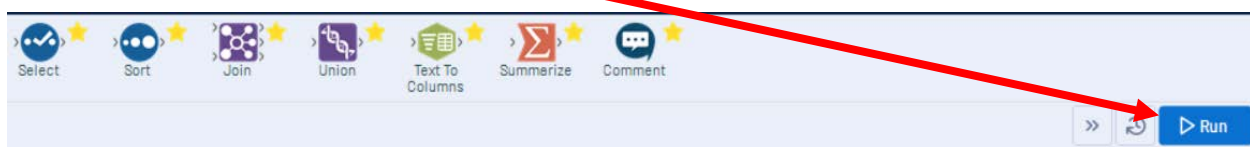
Drag the “**Filter Tool**”  from the Tools Palette to the right of the “**Input Data Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



With the “**Filter Tool**” selected, the “Basic” filter in the Configuration area can be modified to filter the field “Sales Order” for those accounts greater than “1”.



To apply the latest change, select “Run”.



We can view three different datasets in the Results window.

The records that meet the filtered conditions, “Sales Order > 1”, are displayed as T (True).

Results - Filter (3) - Out - True

11 of 11 Fields | Cell Viewer | 409 records displayed

Record	Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	35005	1304	Martin Van Buren	Sales Associate I	1908	3	South	TN	Stuffed Horse	144	3168
2	35006	1302	Grover Cleveland	Senior Sales Associate	936	1	Midwest	NE	Stuffed Panda	72	1656
3	35009	1301	Thomas Jefferson	Sales Associate I	2028	2	Northeast	PA	Stuffed Panda	156	3588
4	35011	1305	George Washington	Sales Associate I	1560	1	Midwest	MN	Stuffed Panda	120	2760
5	35014	1303	Ulysses Grant	Senior Sales Associate	1215	1	Midwest	MN	Stuffed Giraffe	108	2268
6	35017	1305	George Washington	Sales Associate I	708	2	Northeast	RI	Stuffed Elephant	48	1200
7	35025	1303	Ulysses Grant	Senior Sales Associate	1272	2	Northeast	ME	Stuffed Horse	96	2112
8	35026	1301	Thomas Jefferson	Sales Associate I	1716	4	West	WY	Stuffed Penguin	156	3120
9	35027	1301	Thomas Jefferson	Sales Associate I	1215	4	West	CA	Stuffed Giraffe	108	2268
10	35032	1303	Ulysses Grant	Senior Sales Associate	1584	1	Midwest	NE	Stuffed Penguin	144	2880

The records that do not meet the filtered conditions are displayed as F (False).

Results - Filter (3) - Out - False

11 of 11 Fields | Cell Viewer | 818 records displayed

Record	Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Horse	[Null]	3168
2	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
3	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	1656
4	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
5	[Null]	[Null]	[Null]	[Null]	2028	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]
6	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
7	[Null]	[Null]	[Null]	[Null]	1560	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]
8	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
9	[Null]	[Null]	[Null]	[Null]	1215	[Null]	[Null]	[Null]	Stuffed Giraffe	[Null]	[Null]
10	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]

The data being filtered can also be displayed.

Results - Filter (3) - Input

11 of 11 Fields | Cell Viewer | 1,227 records displayed

Record	Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	35005	1304	Martin Van Buren	Sales Associate I	1908	3	South	TN	Stuffed Horse	144	3168
2	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Horse	[Null]	3168
3	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
4	35006	1302	Grover Cleveland	Senior Sales Associate	936	1	Midwest	NE	Stuffed Panda	72	1656
5	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	1656
6	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
7	35009	1301	Thomas Jefferson	Sales Associate I	2028	2	Northeast	PA	Stuffed Panda	156	3588
8	[Null]	[Null]	[Null]	[Null]	2028	[Null]	[Null]	[Null]	Stuffed Panda	[Null]	[Null]
9	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]	[Null]
10	35011	1305	George Washington	Sales Associate I	1560	1	Midwest	MN	Stuffed Panda	120	2760



**Tool 3: Select Tool – Remove fields that contain no data, from “\*Unknown”**

Drag the “**Select Tool**” from the Tools Palette to the True output of the “**Filter Tool**” on the Canvas. The two will be connected automatically.

The screenshot shows the Alteryx interface with the Select Tool configuration pane on the left and a workflow diagram on the right. The Select Tool configuration pane lists the following fields:

Field	Type	Size	Rename	Description
<input checked="" type="checkbox"/> Sales Order #	Double	8		
<input checked="" type="checkbox"/> Salesperson #	Double	8		
<input checked="" type="checkbox"/> Salesperson	V_String	255		
<input checked="" type="checkbox"/> Title	V_String	255		
<input checked="" type="checkbox"/> Profit Margin	Double	8		
<input checked="" type="checkbox"/> Region #	Double	8		
<input checked="" type="checkbox"/> Region	V_String	255		
<input checked="" type="checkbox"/> State	V_String	255		
<input checked="" type="checkbox"/> Product	V_String	255		
<input checked="" type="checkbox"/> # of units	Double	8		
<input checked="" type="checkbox"/> Sales	Double	8		
<input checked="" type="checkbox"/> *Unknown	Unknown	0		Dynamic or Unk...

The workflow diagram on the right shows a 'Stuffed Animals.ETL.Demo o.xlsx' input connected to a 'Filter' tool with the query '[Sales Order #] > 1'. The 'True' output of the filter tool is connected to a 'Select' tool, which is highlighted with a red arrow.

Remove any extra fields by unchecking them.

The screenshot shows the 'Select (4) - Configuration' pane in Alteryx. The 'Options' dropdown is set to 'Up/Down'. The 'TIP: To reorder multiple rows: select, right-click and drag' is displayed. The configuration table is as follows:

Field	Type	Size	Rename	Description
<input checked="" type="checkbox"/> Sales Order #	Double	8		
<input checked="" type="checkbox"/> Salesperson #	Double	8		
<input checked="" type="checkbox"/> Salesperson	V_String	255		
<input checked="" type="checkbox"/> Title	V_String	255		
<input checked="" type="checkbox"/> Profit Margin	Double	8		
<input checked="" type="checkbox"/> Region #	Double	8		
<input checked="" type="checkbox"/> Region	V_String	255		
<input checked="" type="checkbox"/> State	V_String	255		
<input checked="" type="checkbox"/> Product	V_String	255		
<input checked="" type="checkbox"/> # of units	Double	8		
<input checked="" type="checkbox"/> Sales	Double	8		
<input type="checkbox"/> *Unknown	Unknown	0		Dynamic or Unk...

A red arrow points to the unchecked checkbox for the '\*Unknown' field.

Change the type of all numeric fields that will be used in calculations to "FixedDecimal". The "# of units" should have zero decimal places and dollar values should have two decimal places.

Select (5) - Configuration

Options | TIP: To reorder multiple fields, click and drag the field name.

Field	Type	Size
<input checked="" type="checkbox"/> Sales Order #	Double	8
<input checked="" type="checkbox"/> Salesperson #	Double	8
<input checked="" type="checkbox"/> Salesperson	V_String	255
<input checked="" type="checkbox"/> Title	V_String	255
<input checked="" type="checkbox"/> Profit Margin	FixedDecimal	19.2
<input checked="" type="checkbox"/> Region #	Double	8
<input checked="" type="checkbox"/> Region	V_String	255
<input checked="" type="checkbox"/> State	V_String	255
<input checked="" type="checkbox"/> Product	V_String	255
<input checked="" type="checkbox"/> # of units	FixedDecimal	19.0
<input checked="" type="checkbox"/> Sales	FixedDecimal	19.2
<input checked="" type="checkbox"/> *Unknown	Unknown	0

Before making changes:

Results - Select (5) - Input

11 of 11 Fields | Cell Viewer | 409 records displayed | Search | Data | Metadata | Actions | 000

Record	Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	1304	1304	Martin Van Buren	Sales Associate I	1908	3	South	TN	Stuffed Horse	144	3168
2	1302	1302	Grover Cleveland	Senior Sales Associate	936	1	Midwest	NE	Stuffed Panda	72	1656
3	1301	1301	Thomas Jefferson	Sales Associate I	2028	2	Northeast	PA	Stuffed Panda	156	3588
4	1305	1305	George Washington	Sales Associate I	1560	1	Midwest	MN	Stuffed Panda	120	2760
5	1303	1303	Ulysses Grant	Senior Sales Associate	1215	1	Midwest	MN	Stuffed Giraffe	108	2268
6	1305	1305	George Washington	Sales Associate I	708	2	Northeast	RI	Stuffed Elephant	48	1200
7	1303	1303	Ulysses Grant	Senior Sales Associate	1272	2	Northeast	ME	Stuffed Horse	96	2112
8	1301	1301	Thomas Jefferson	Sales Associate I	1716	4	West	WY	Stuffed Penguin	156	3120

Select Run.

Select the output area of the Select tool.

Start Here.yxmd x StuffedAnimals.yxmd x +

StuffedAnimals.ETL.Demo.odbc Query="January Sales Data"

[Sales Order #] > 1

Run

Results - Select (5) - Output

11 of 11 Fields | Cell Viewer | 409 records displayed | Search | Data | Metadata | Actions | 000

Record	Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
1	1304	1304	Martin Van Buren	Sales Associate I	1908.00	3	South	TN	Stuffed Horse	144	3168.00
2	1302	1302	Grover Cleveland	Senior Sales Associate	936.00	1	Midwest	NE	Stuffed Panda	72	1656.00
3	1301	1301	Thomas Jefferson	Sales Associate I	2028.00	2	Northeast	PA	Stuffed Panda	156	3588.00
4	1305	1305	George Washington	Sales Associate I	1560.00	1	Midwest	MN	Stuffed Panda	120	2760.00
5	1303	1303	Ulysses Grant	Senior Sales Associate	1215.00	1	Midwest	MN	Stuffed Giraffe	108	2268.00
6	1305	1305	George Washington	Sales Associate I	708.00	2	Northeast	RI	Stuffed Elephant	48	1200.00
7	1303	1303	Ulysses Grant	Senior Sales Associate	1272.00	2	Northeast	ME	Stuffed Horse	96	2112.00
8	1301	1301	Thomas Jefferson	Sales Associate I	1716.00	4	West	WY	Stuffed Penguin	156	3120.00

Change the order of the fields by moving “Profit Margin” to the end.

In the Configuration section select “Profit Margin”.

Select (5) - Configuration

Options | TIP: To reorder multiple fields, click and drag the field name.

	Field	Type	Size
<input checked="" type="checkbox"/>	Sales Order #	Double	8
<input checked="" type="checkbox"/>	Salesperson #	Double	8
<input checked="" type="checkbox"/>	Salesperson	V_String	255
<input checked="" type="checkbox"/>	Title	V_String	255
<input checked="" type="checkbox"/>	Profit Margin	FixedDecimal	10.2
<input checked="" type="checkbox"/>	Region #	Double	8
<input checked="" type="checkbox"/>	Region	V_String	255
<input checked="" type="checkbox"/>	State	V_String	255
<input checked="" type="checkbox"/>	Product	V_String	255
<input checked="" type="checkbox"/>	# of units	FixedDecimal	10.0
<input checked="" type="checkbox"/>	Sales	FixedDecimal	10.2
<input type="checkbox"/>	*Unknown	Unknown	0

Use the down arrow to move “Profit Margin” to the end of the list.

Select (5) - Configuration

Options | TIP: To reorder multiple fields, click and drag the field name.

	Field	Type	Size
<input checked="" type="checkbox"/>	Sales Order #	Double	8
<input checked="" type="checkbox"/>	Salesperson #	Double	8
<input checked="" type="checkbox"/>	Salesperson	V_String	255
<input checked="" type="checkbox"/>	Title	V_String	255
<input checked="" type="checkbox"/>	Region #	Double	8
<input checked="" type="checkbox"/>	Region	V_String	255
<input checked="" type="checkbox"/>	State	V_String	255
<input checked="" type="checkbox"/>	Product	V_String	255
<input checked="" type="checkbox"/>	# of units	FixedDecimal	10.0
<input checked="" type="checkbox"/>	Sales	FixedDecimal	10.2
<input checked="" type="checkbox"/>	Profit Margin	FixedDecimal	10.2
<input type="checkbox"/>	*Unknown	Unknown	0

Select Run.

Results - Select (5) - Output

11 of 11 Fields | Cell Viewer | 409 records displayed

Record	Sales Order #	Salesperson #	Salesperson	Title	Region #	Region	State	Product	# of units	Sales	Profit Margin
1	35005	1304	Martin Van Buren	Sales Associate I	3	South	TN	Stuffed Horse	144	3168.00	1908.00
2	35006	1302	Grover Cleveland	Senior Sales Associate	1	Midwest	NE	Stuffed Panda	72	1656.00	936.00
3	35009	1301	Thomas Jefferson	Sales Associate I	2	Northeast	PA	Stuffed Panda	156	3588.00	2028.00
4	35011	1305	George Washington	Sales Associate I	1	Midwest	MN	Stuffed Panda	120	2760.00	1560.00
5	35014	1303	Ulysses Grant	Senior Sales Associate	1	Midwest	MN	Stuffed Giraffe	108	2268.00	1215.00
6	35017	1305	George Washington	Sales Associate I	2	Northeast	RI	Stuffed Elephant	48	1200.00	708.00
7	35025	1303	Ulysses Grant	Senior Sales Associate	2	Northeast	ME	Stuffed Horse	96	2112.00	1272.00
8	35026	1301	Thomas Jefferson	Sales Associate I	4	West	WY	Stuffed Penguin	156	3120.00	1716.00

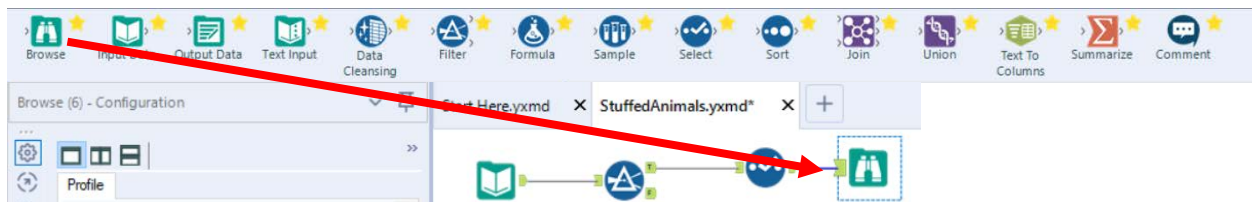
**Temporary Tool 4: Browse Tool – The Data in the Fields Must Conform to Predefined Rules.**

In the original Excel file, The Cuddly Stuffed Animals company provided the only acceptable values for “Product”, “Salesperson” and “Region”. Sometime data is entered incorrectly into the data.

Product ID	Product	Code	Salesperson	Code	Region
101	Stuffed Penguin	1301	Thomas Jefferson	1	Midwest
102	Stuffed Horse	1302	Grover Cleveland	2	Northeast
103	Stuffed Unicorn	1303	Ulysses Grant	3	South
104	Stuffed Giraffe	1304	Martin Van Buren	4	West
105	Stuffed Panda	1305	George Washington		
106	Stuffed Elephant	1306	John Tyler		

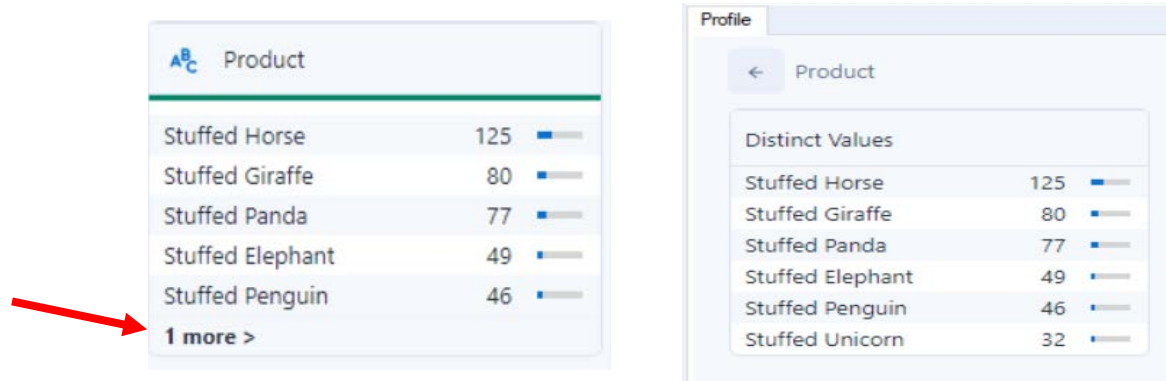
The “Product” field can only contain one of the six products. Browse the data in the “Product” field to verify that all the data is correct. Make any changes that are required.

Drag the “**Browse Tool**” from the Tools Palette to the True output of the “**Select Tool**” on the Canvas. The two will be connected automatically.



Select Run.

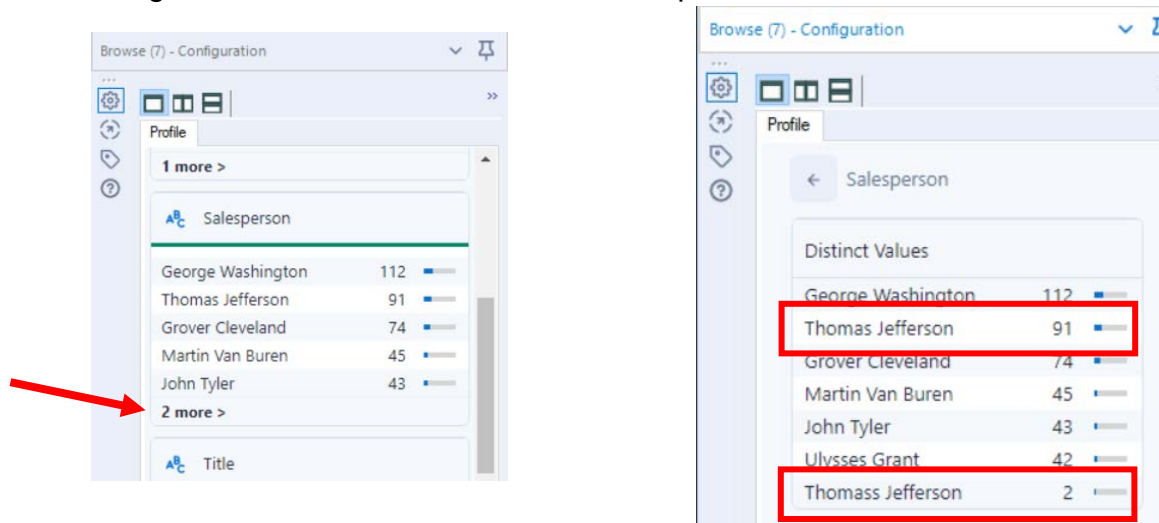
In the Configuration section scroll down to “Product” and select “1 more”.



The data is clean, there are only six products listed.

The “Salesperson” field can only contain one of the six names. Browse the data in the “Salesperson” field to verify that all the data is correct. Make any changes that are required.

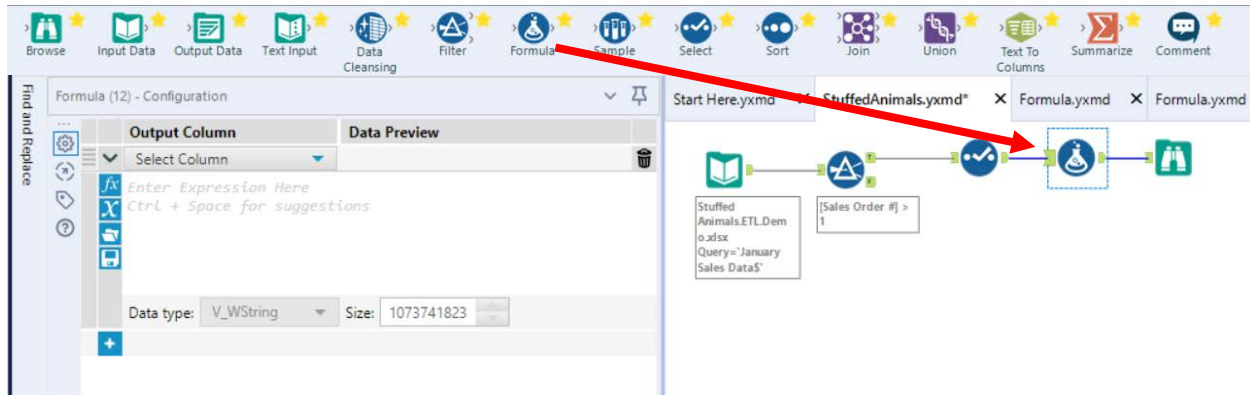
In the Configuration section scroll down to “Salesperson” and select “2 more”.



“Thomass Jefferson” must be replaced with “Thomas Jefferson” for a total of 93 distinct values.

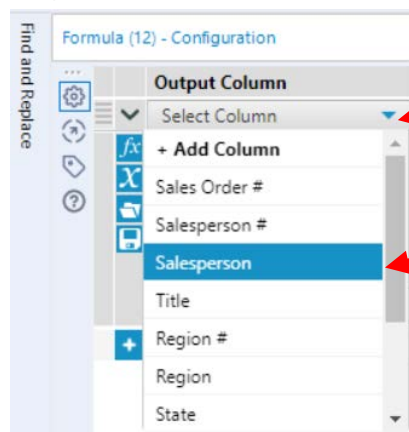
**Tool 4: Formula Tool – The Data in the Fields Must Conform to Predefined Rules.**

Drag the “Formula Tool” from the Tools Palette between the output of the “Select Tool” and the “Browse Tool” on the Canvas. The three will be connected automatically.



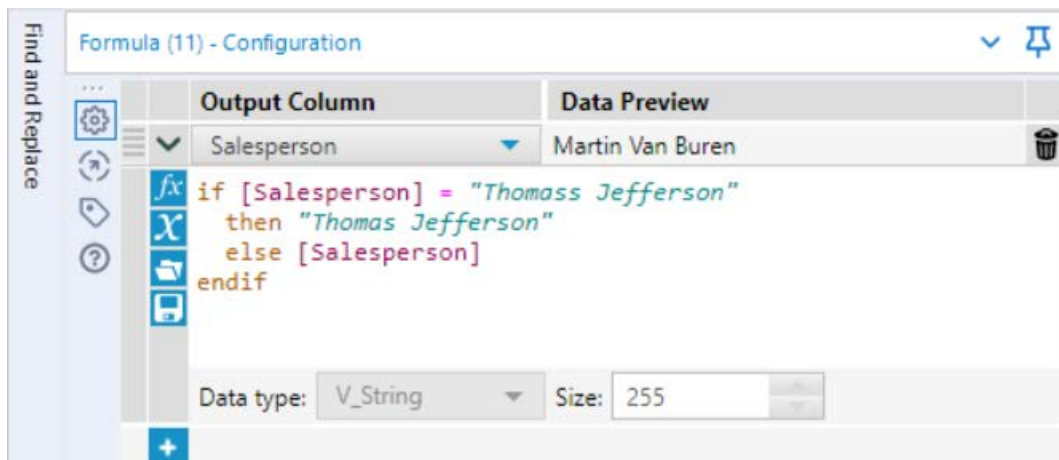
If the salesperson's name is “Thomass Jefferson” replace it with “Thomas Jefferson” otherwise leave the existing name in the field. Do not create a new field, put the output back into the “Salesperson” field.

In the configuration section select the field Salesperson from the pull-down list.





Type in the formula.



Select the Browse step.

Select Run.

Profile

← Salesperson

Distinct Values		
George Washington	112	
Thomas Jefferson	93	
Grover Cleveland	74	
Martin Van Buren	45	
John Tyler	43	
Ulysses Grant	42	

In the Configuration section scroll down to "Salesperson". There are only six salespersons and Thomas Jefferson has 93 distinct values.

While in the Browse step, verify the field "Region"

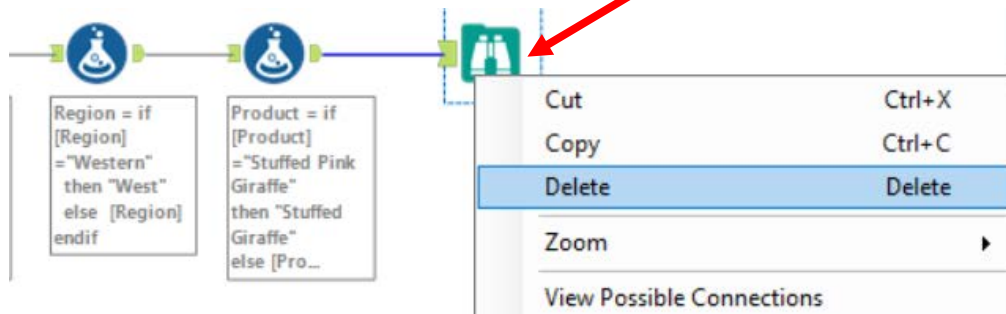
Region

South	126	
Northeast	110	
West	104	
Midwest	69	

The data is clean, only the four regions are listed.




Right click on the Browse step and select delete.



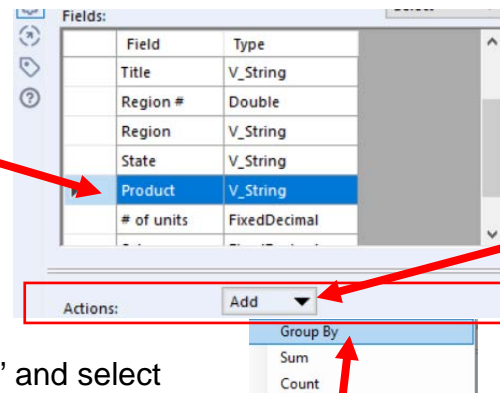
**Tool 5: Select Tool Summary:** We now want to create a report by product by first summarizing on “# of units” by product.

Product	# of units	Sales	Profit Margin
Stuffed Frog	1,524	\$ 33,528	\$20,574
Stuffed Unicorr	408	8,160	4,692
Stuffed Panda	1,140	26,220	15,675
Stuffed Koala	624	14,976	8,112
Stuffed Elepha	4,044	84,924	49,539
Stuffed Bear	2,376	59,400	35,046
Total	10,116	\$227,208	\$133,638

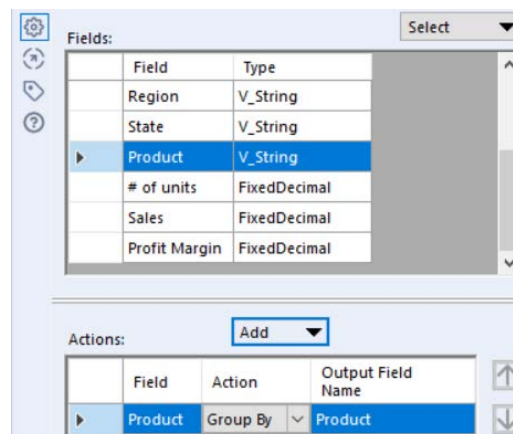
Drag a “**Summary Tool**”  to the right of the “**Formula tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



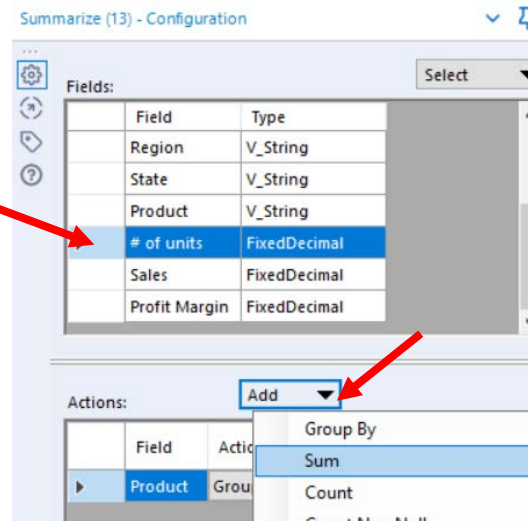
The first column will be Product. In the output Configuration area, select “Product”.



Click on the drop-down arrow on “Add” in “Actions” and select “Group By”.

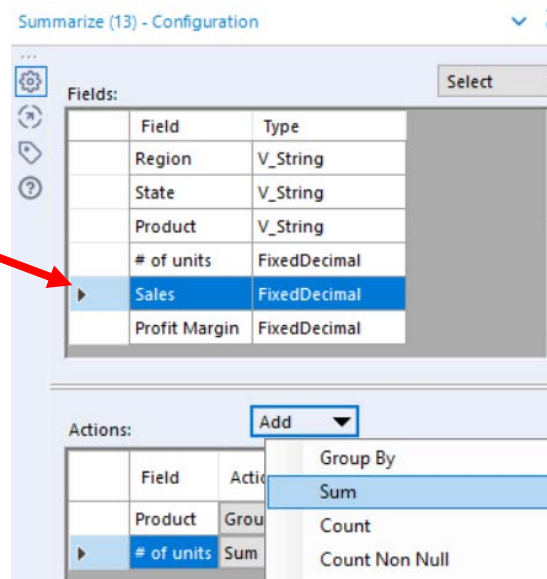


The second column will be “# of units”.



Click on the drop-down arrow on “Add” in the “Actions” and select “Sum”.

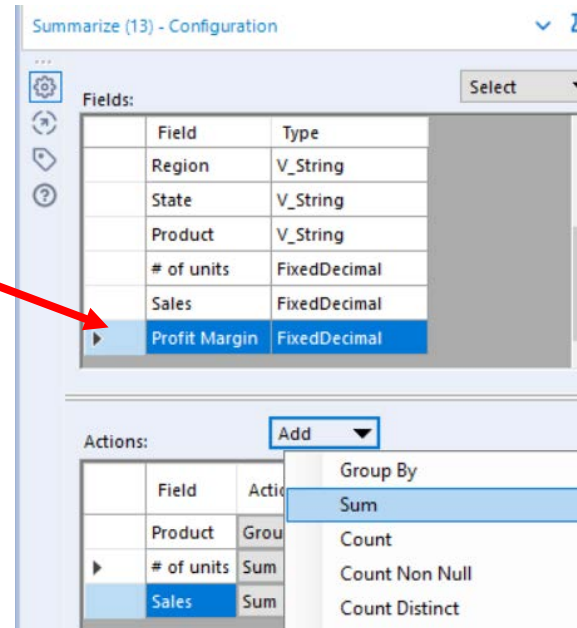
The third column will be “Sales”.



Click on the drop-down arrow on “Add” in the “Actions” and select “Sum”.

The fourth column will be "Profit Margin".

Click on the drop-down arrow on "Add" in the "Actions" and select "Sum".



Select "Run".

The report is created.

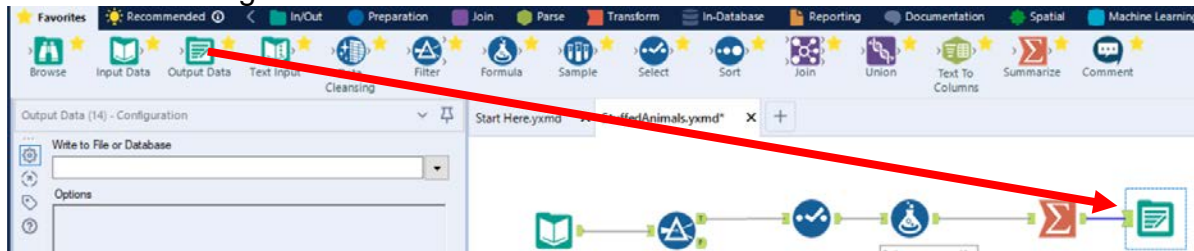
Record	Product	Sum_# of units	Sum_Sales	Sum_Profit Margin
1	Stuffed Elephant	4392	109800.00	64782.00
2	Stuffed Giraffe	8052	169092.00	90585.00
3	Stuffed Horse	12120	266640.00	160590.00
4	Stuffed Panda	7488	172224.00	97344.00
5	Stuffed Penguin	5016	100320.00	55176.00
6	Stuffed Unicorn	3060	73440.00	40545.00

Change the "Output Field Names" and select "Run"

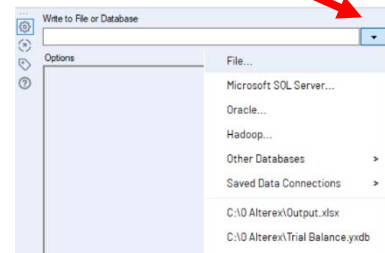
Record	Product	Units	Sales	Profit Margin
1	Stuffed Elephant	4392	109800.00	64782.00
2	Stuffed Giraffe	8052	169092.00	90585.00
3	Stuffed Horse	12120	266640.00	160590.00
4	Stuffed Panda	7488	172224.00	97344.00
5	Stuffed Penguin	5016	100320.00	55176.00
6	Stuffed Unicorn	3060	73440.00	40545.00

**Tool 6: Select Tool Output Data Tool:** We now want to export the cleaned and assembled Product Report to Excel.

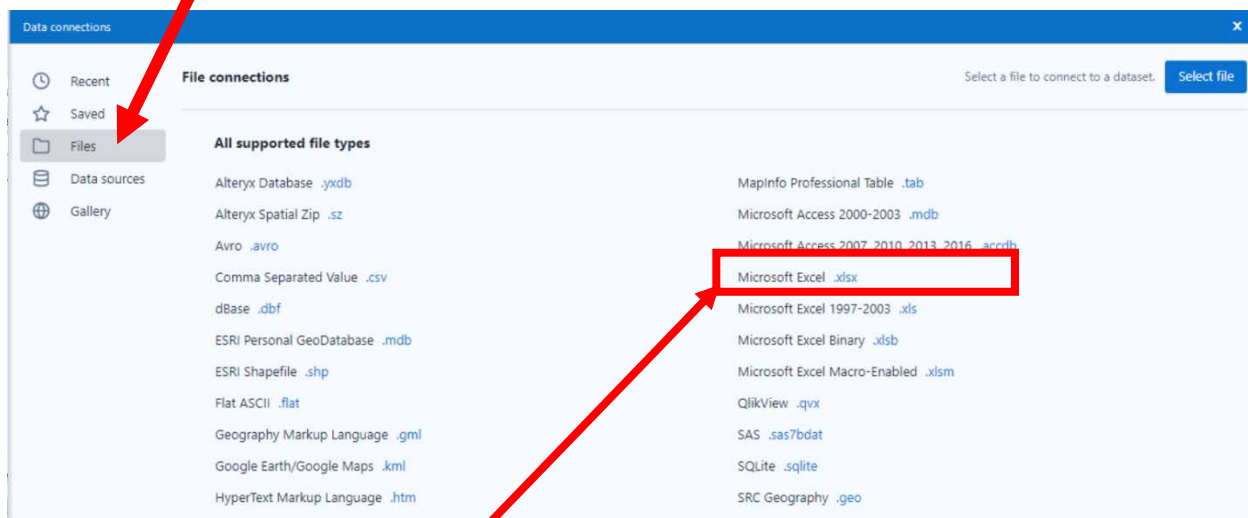
Drag an “**Output Data Tool**” to the right of the “**Summary Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



In the output Configuration area, select the drop-down arrow.



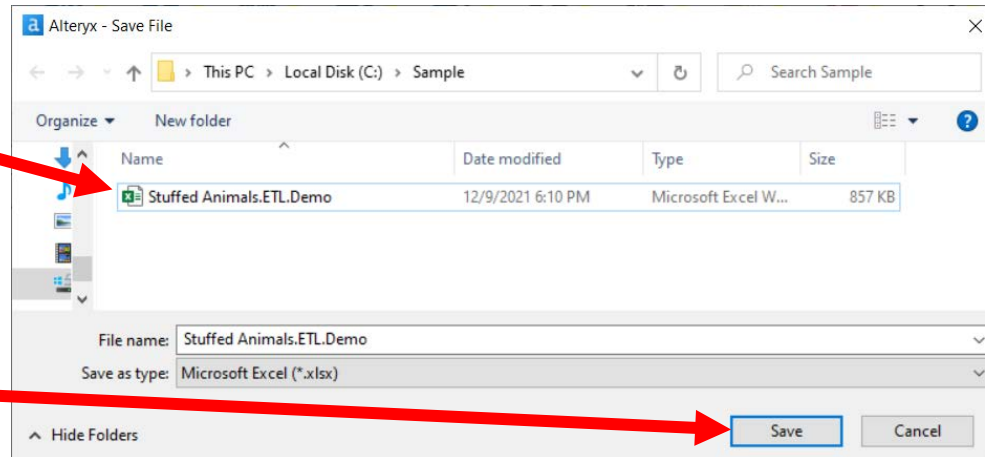
Select “File”.



Select “Microsoft Excel .xlsx”

Select the required file name.

Select "Save".



Click on "Yes" to confirm "Save".

Confirm Save As



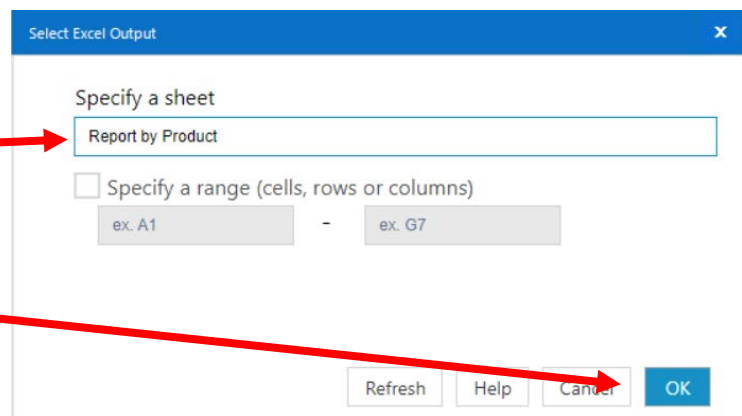
Stuffed Animals.ETL.Demo.xlsx already exists.  
Do you want to replace it?

Yes

No

Enter the sheet name.

Select "OK".



Select "Run".

Open the file in Excel.

	A	B	C	D	E	F	G	H	I	J
1	Product	Units	Sales	Profit Margin						
2	Stuffed Ele	4392	#####	64782.00						
3	Stuffed Gir	8052	#####	90585.00						
4	Stuffed Ho	12120	#####	#####						
5	Stuffed Pa	7488	#####	97344.00						
6	Stuffed Pe	5016	#####	55176.00						
7	Stuffed Un	3060	73440.00	40545.00						
8										
9										
February-December Sales Data   Products   Salesperson   Region   <b>Report by Product</b>										

Change the columns' widths and formats.

	A	B	C	D	E	F	G	H	I
1	Product	Units	Sales	Profit Margin					
2	Stuffed Elephant	4,392	\$ 109,800.00	\$ 64,782.00					
3	Stuffed Giraffe	8,052	\$ 169,092.00	\$ 90,585.00					
4	Stuffed Horse	12,120	\$ 266,640.00	\$ 160,590.00					
5	Stuffed Panda	7,488	\$ 172,224.00	\$ 97,344.00					
6	Stuffed Penguin	5,016	\$ 100,320.00	\$ 55,176.00					
7	Stuffed Unicorn	3,060	\$ 73,440.00	\$ 40,545.00					
8	Total	40,128	\$ 891,516.00	\$ 509,022.00					
9									
February-December Sales Data   Products   Salesperson   Region   <b>Report by Product</b>									

“Save” and “Close” the Excel file.

Return to Alteryx and select “Run” for the second time.

But, there is an error! The sheet already exists.

Results - Workflow - Messages

Designer x64 Started running C:\Sample\StuffedAnimals.yxmd at 12/09/2021 21:36:29

Input Data (1) 1227 records were read from "C:\Sample\StuffedAnimals.ETL.Demo.xlsx" ("January Sales Data")

Filter (3) 409 records were True and 818 were False

Output Data (15) The sheet "Report by Product" already exists in file "C:\Sample\Stuffed Animals.ETL.Demo.xlsx". Select a new sheet or file for output, or select an overwrite output option for the current file.

Summarize (13) 409 records were summarized to 6 groups

Output Data (15) 0 records were written to "C:\Sample\Stuffed Animals.ETL.Demo.xlsx" ("Report by Product")

Designer x64 Finished running StuffedAnimals.yxmd in 0.9 seconds with 1 error

In the output Configuration area, select "Output Options" number 3.

Select "Overwrite Sheet".

Write to File or Database

C:\Sample\Stuffed Animals.ETL.Demo.xlsx|||Report by Product

Options

Name	Value
1 Max Records Per File	
2 File Format	Microsoft Excel (*.xlsx)
3 Output Options	Create New Sheet
4 Append Field Map	Append To Existing Sheet
5 Skip Field Names	Overwrite Sheet or Range
6 Preserve Formatting on Overwrite (Range Required)	Overwrite File (Remove)

Select "Run".

Open the Excel file.

	A	B	C	D	E	F	G	H	I	J
1	Product	Units	Sales	Profit Margin						
2	Stuffed Ele	4392	#####	64782.00						
3	Stuffed Gir	8052	#####	90585.00						
4	Stuffed Ho	12120	#####	#####						
5	Stuffed Pa	7488	#####	97344.00						
6	Stuffed Pe	5016	#####	55176.00						
7	Stuffed Un	3060	73440.00	40545.00						
8										
9										
	February-December Sales Data	Products	Salesperson	Region	Report by Product					



	A	B	C	D	E	F	G	H	I
1	Product	Units	Sales	Profit Margin					
2	Stuffed Elephant	4,392	\$ 109,800.00	\$ 64,782.00					
3	Stuffed Giraffe	8,052	\$ 169,092.00	\$ 90,585.00					
4	Stuffed Horse	12,120	\$ 266,640.00	\$ 160,590.00					
5	Stuffed Panda	7,488	\$ 172,224.00	\$ 97,344.00					
6	Stuffed Penguin	5,016	\$ 100,320.00	\$ 55,176.00					
7	Stuffed Unicorn	3,060	\$ 73,440.00	\$ 40,545.00					
8	Total	40,128	\$ 891,516.00	\$ 509,022.00					
9									
10									
<div> <span>◀ ▶ ...</span> <span>February-December Sales Data</span> <span>Products</span> <span>Salesperson</span> <span>Region</span> <span><b>Jan Report by Product</b></span> </div>									

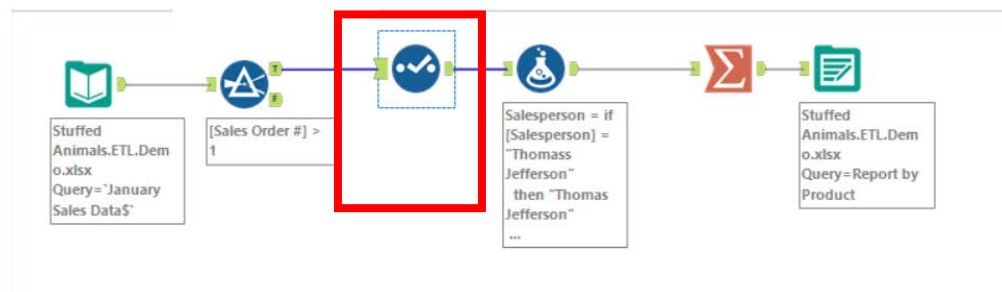
Reformat the Excel sheet and rename the formatted sheet “Jan Report by Product”.  
When the Alteryx flow runs it will create a new unformatted sheet “Report by Product”.

The “Salesperson” report will summarize the data by “Salesperson #” with the salesperson’s name attached for clarity. We now want to combine the fields with a space, a dash and another space between the two fields.

Salesperson	# of units	Sales	Profit Margin
1405 - James Polk	1,812	\$41,568	\$24,438
1425 - John Tyler	2,172	48,336	28,110
1541 - Ulysses Grant	756	17,112	10,062
1576 - James Madison	1,776	39,216	23,160
1588 - George Washington	1,584	35,784	21,168
1776 - James Monroe	2,016	45,192	26,700
<b>Total</b>	<b>10,116</b>	<b>\$227,208</b>	<b>\$133,638</b>

One field, “Salesperson #” is a numeric field, while the other field, “Salesperson” is a string. It is easier to combine fields if they are both strings.

Select the third tool, the Select Tool from the flow.



In the configuration section select the pull down in the “Type” column for the “Salesperson #” field and select “String”.

Options | TIP: To reorder multiple rows:

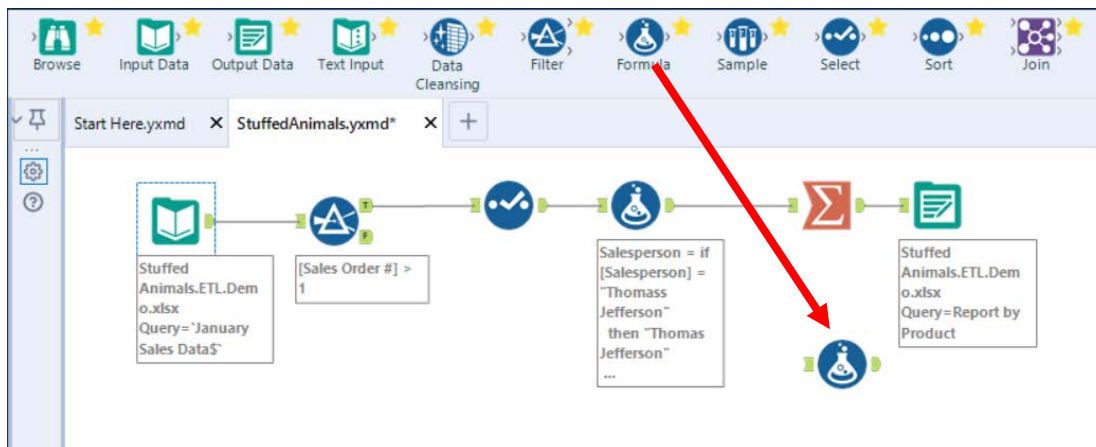
Field	Type	Size
<input checked="" type="checkbox"/> Sales Order #	Double	8
<input checked="" type="checkbox"/> Salesperson #	Double	8
<input checked="" type="checkbox"/> Salesperson	Bool	
<input checked="" type="checkbox"/> Title	Byte	
<input checked="" type="checkbox"/> Region #	Int16	
<input checked="" type="checkbox"/> Region	Int32	
<input checked="" type="checkbox"/> State	Int64	
<input checked="" type="checkbox"/> Product	FixedDecimal	
<input checked="" type="checkbox"/> # of units	Float	
<input checked="" type="checkbox"/> Sales	Double	
	Double: Forced	
	String	
	WString	
	V_String	
	V_WString	

Options | TIP: To reorder multiple rows:

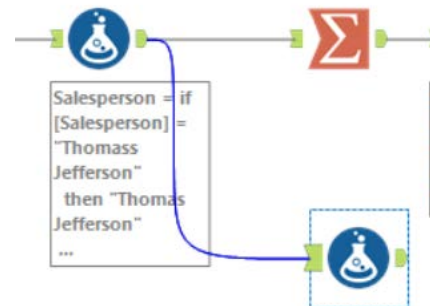
Field	Type	Size	Renam
<input checked="" type="checkbox"/> Sales Order #	Double	8	
<input checked="" type="checkbox"/> Salesperson #	String	19	
<input checked="" type="checkbox"/> Salesperson	V_String	255	

**Tool 7: Select Tool Formula:** We can now want to combine the fields “Salesperson #” and “Salesperson”.

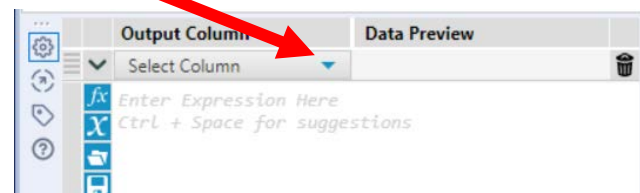
Drag a “**Formula Tool**” under the “**Running Balance Tool**” branching from the “**Formula Tool**” on the Canvas.



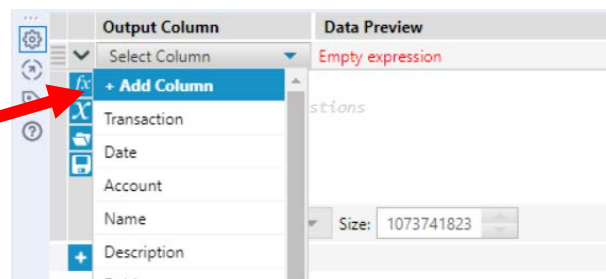
To connect the tools, drag from the outflow of the Tool 4, Formula Tool to the left inflow of the Tool 7, Formula tool.



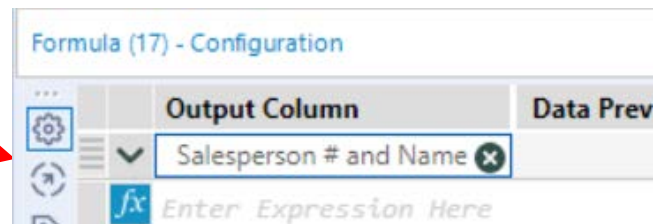
In the output Configuration area, click on the drop-down arrow of “Select Column”.



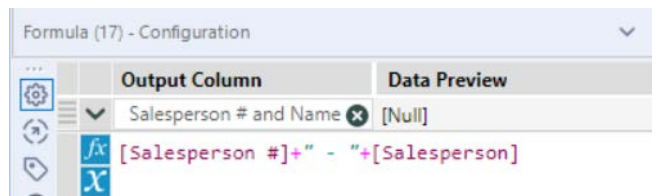
Select “Add Column”.



Type "Salesperson # And Name".




Type the following formula  
[Salesperson #]+ " - "+[Salesperson]

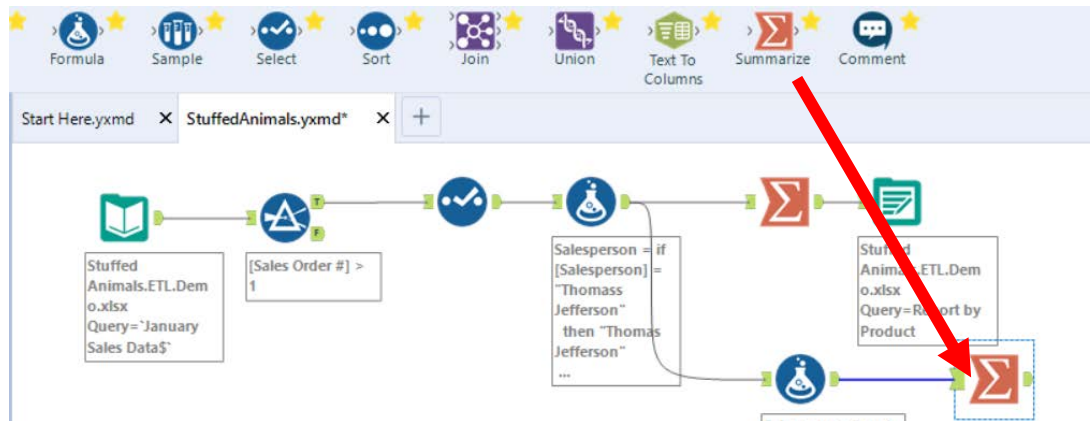


Select "Run".

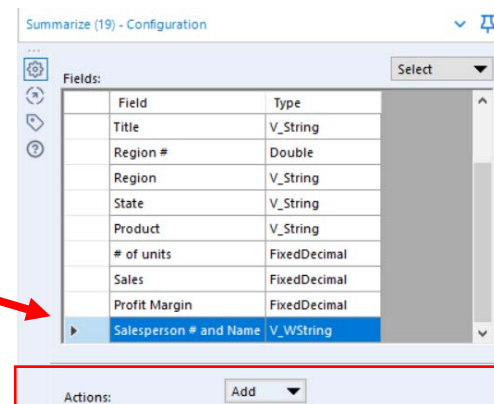
Record	Title	Region #	Region	State	Product	# of units	Sales	Profit Margin	Salesperson # and Name
1	Sales Associate I	3	South	TN	Stuffed Horse	144	3168.00	1908.00	1304 - Martin Van Buren
2	Senior Sales Associate	1	Midwest	NE	Stuffed Panda	72	1656.00	936.00	1302 - Grover Cleveland
3	Sales Associate I	2	Northeast	PA	Stuffed Panda	156	3588.00	2028.00	1301 - Thomas Jefferson
4	Sales Associate I	1	Midwest	MN	Stuffed Panda	120	2760.00	1560.00	1305 - George Washington
5	Senior Sales Associate	1	Midwest	MN	Stuffed Giraffe	108	2268.00	1215.00	1303 - Ulysses Grant
6	Sales Associate I	2	Northeast	RI	Stuffed Elephant	48	1200.00	708.00	1305 - George Washington
7	Senior Sales Associate	2	Northeast	ME	Stuffed Horse	96	2112.00	1272.00	1303 - Ulysses Grant
8	Sales Associate I	4	West	WY	Stuffed Penguin	156	3120.00	1716.00	1301 - Thomas Jefferson

**Tool 8: Select Tool Summary:** We now want to create a “Salesperson Report”.

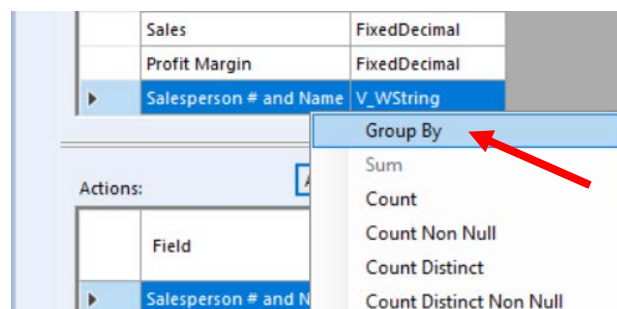
Drag a “**Summary Tool**”  to the right of the “**Formula Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



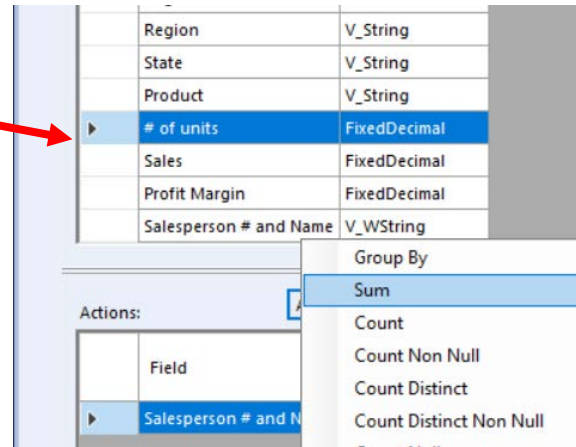
Select the first column, “Salesperson # and Name”.



Click on the drop-down arrow on “Add” in “Actions” and select “Group By”.

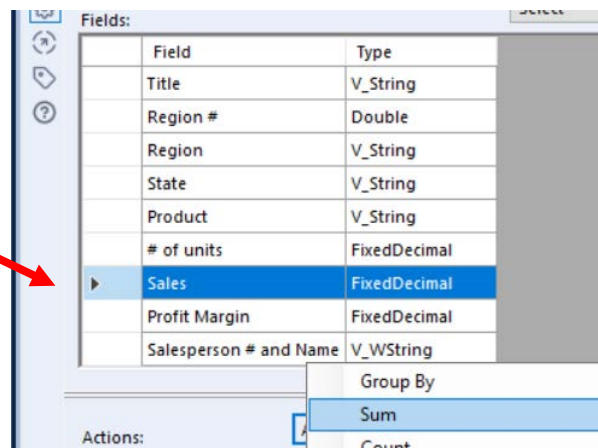


The second column will be “# of units”.



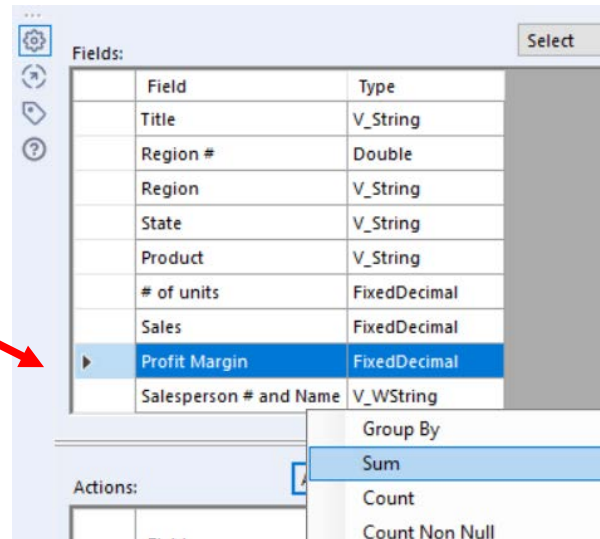
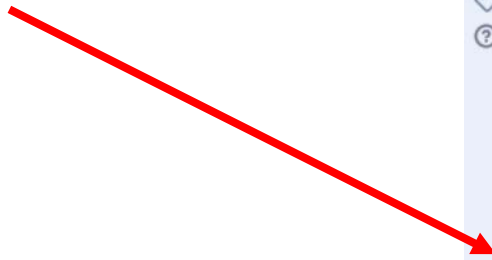
Click on the drop-down arrow on “Add” in “Actions” and select “Sum”.

The third column will be “Sales”.



Click on the drop-down arrow on “Add” in “Actions” and select “Sum”.

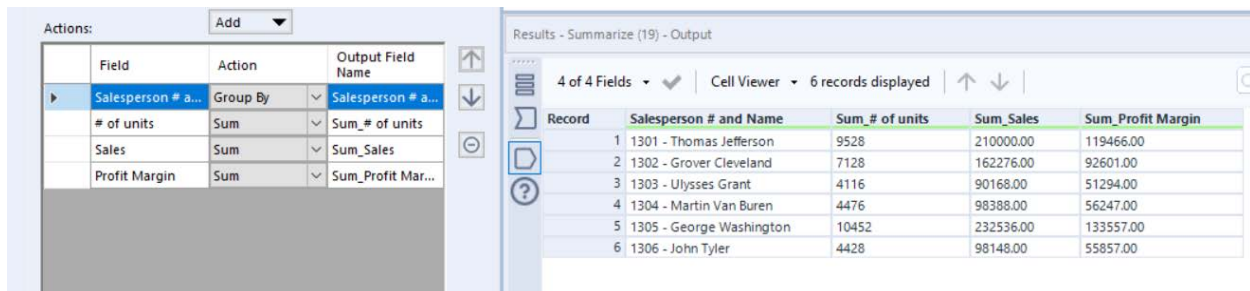
The fourth column will be “Profit Margin”.



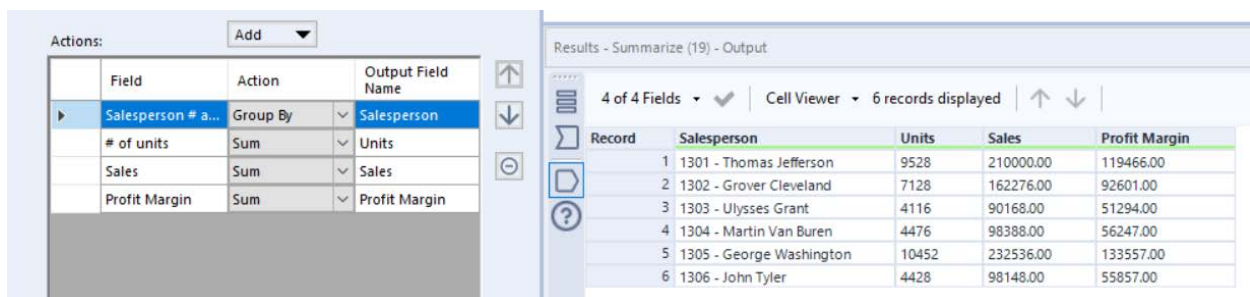
Click on the drop-down arrow on “Add” in “Actions” and select “Sum”.

Select “Run”.

And, the report is created, right click on the output arrow if nessacary.



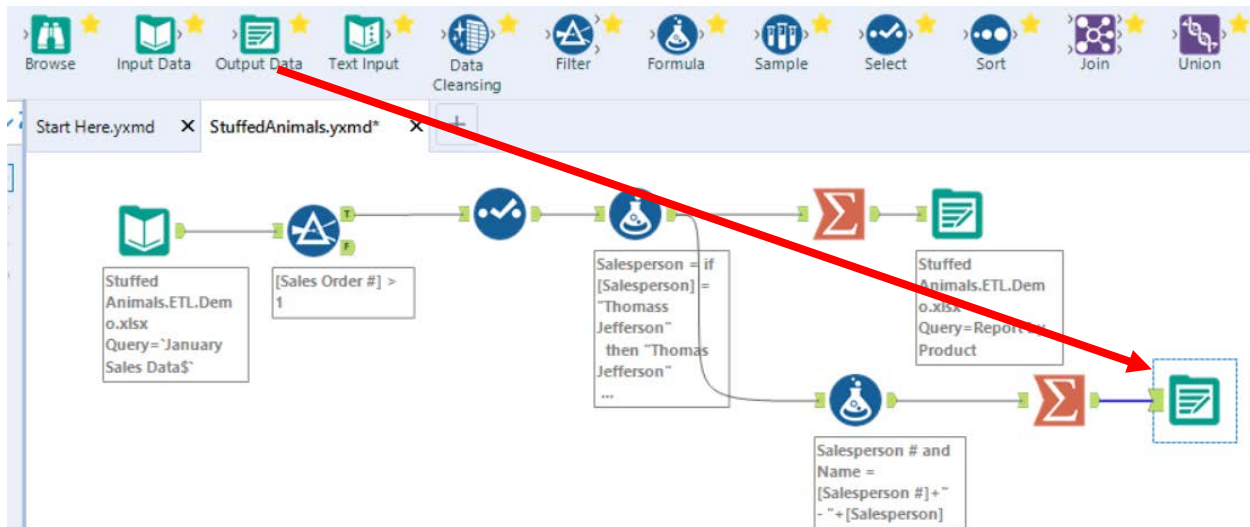
Change the “Output Field Names” and select “Run”



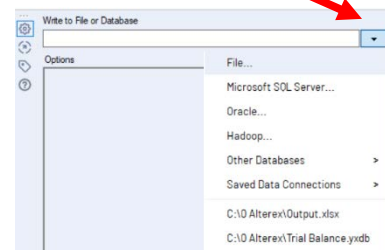


**Tool 9: Select Output Data Tool:** We now want to export the cleaned and assembled Salesperson Report to Excel.

Drag an “**Output Data Tool**” to the right of the “**Summary Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.

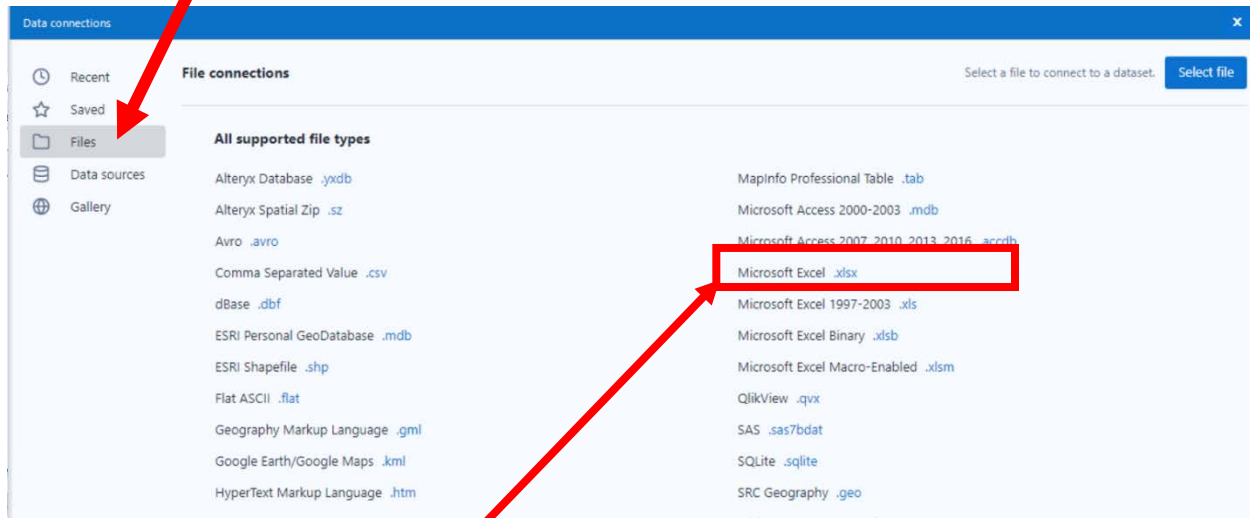


In the output Configuration area, select the drop-down arrow.



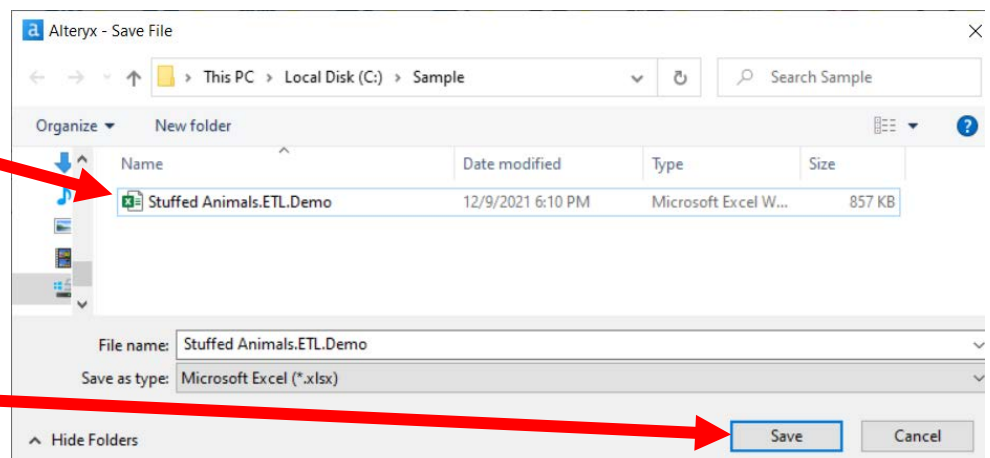


Select "File".



Select "Microsoft Excel .xlsx"

Select the required file name.



Select "Save".

Confirm Save As

Click on "Yes" to confirm "Save".

! Stuffed Animals.ETL.Demo.xlsx already exists.  
Do you want to replace it?

Yes

No

Enter the sheet name.

Select "OK".

Specify a sheet

Report by Salesperson

☐ Specify a range (cells, rows or columns)

ex. A1 - ex. G7

Refresh Help OK

In the output Configuration area,  
select "Output Options" number 3.

Select "Overwrite Sheet"  
(which drops the old sheet)

Write to File or Database

C:\Sample\Stuffed Animals.ETL.Demo.xlsx|||Report by Salesperson

Options

Name	Value
1 Max Records Per File	
2 File Format	Microsoft Excel (*.xlsx)
3 Output Options	Create New Sheet
4 Append Field Map	Append To Existing Sheet
5 Skip Field Names	Overwrite Sheet or Range
6 Preserve Formatting on Overwrite (Range Required)	Overwrite File (Remove)
	Create New Sheet

Select Run  
Open the Excel file

	A	B	C	D	E	F	G	H	I
1	Salesperson	Units	Sales	Profit Margin					
2	1301 - Tho	9528	#####	#####					
3	1302 - Gro	7128	#####	92601.00					
4	1303 - Uly	4116	90168.00	51294.00					
5	1304 - Ma	4476	98388.00	56247.00					
6	1305 - Gec	10452	#####	#####					
7	1306 - Joh	4428	98148.00	55857.00					
8									
9									
10									

Jan Report by Product | Report by Product | **Report by Salesperson**

Ready Scroll Lock

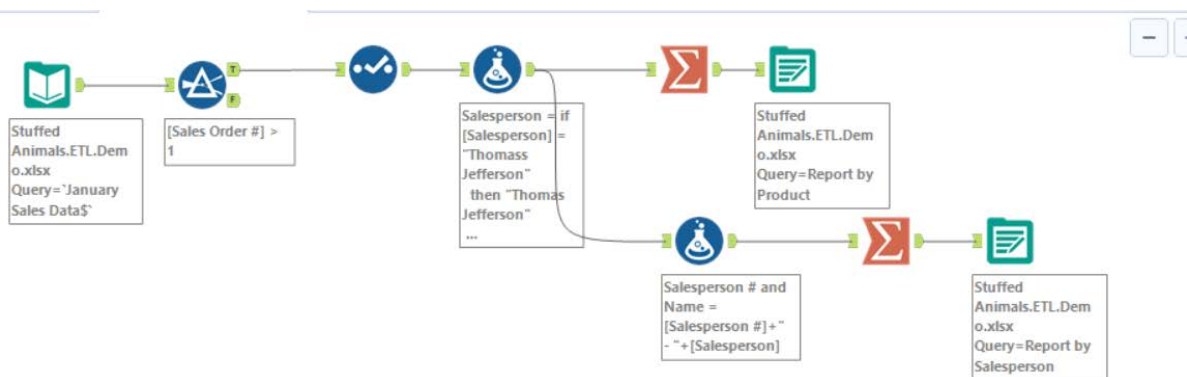
Change the format and rename the sheet so the format changes are not lost, save, close Excel and return to Alteryx.

	A	B	C	D	E	F	G
1	Salesperson	Units	Sales	Profit Margin			
2	1301 - Thomas Jefferson	9,528	\$ 210,000.00	\$ 119,466.00			
3	1302 - Grover Cleveland	7,128	\$ 162,276.00	\$ 92,601.00			
4	1303 - Ulysses Grant	4,116	\$ 90,168.00	\$ 51,294.00			
5	1304 - Martin Van Buren	4,476	\$ 98,388.00	\$ 56,247.00			
6	1305 - George Washington	10,452	\$ 232,536.00	\$ 133,557.00			
7	1306 - John Tyler	4,428	\$ 98,148.00	\$ 55,857.00			
8	Total	40,128	\$ 891,516.00	\$ 509,022.00			
9							
10							

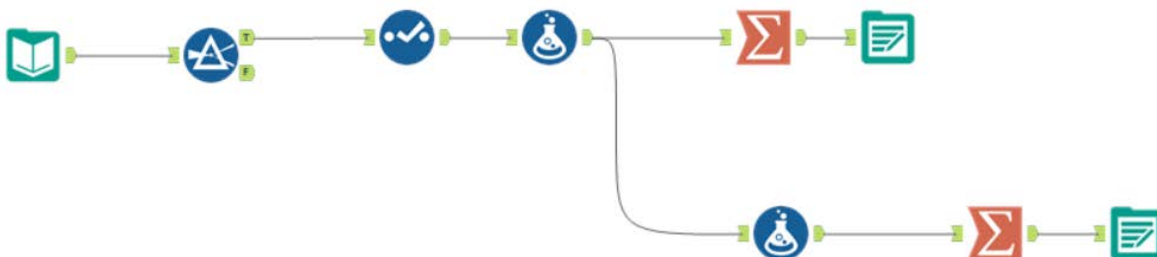
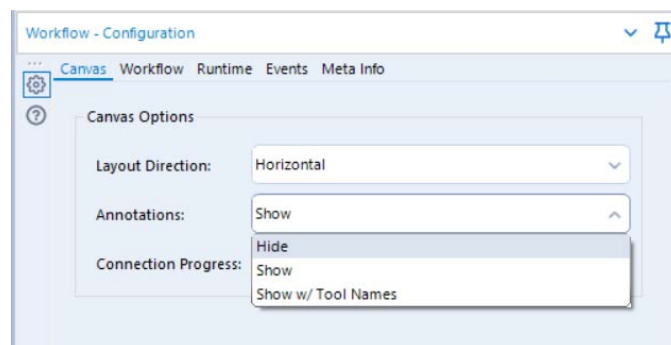
Ready Scroll Lock

Jan Report by Product Report by Product **Jan Report by Salesperson**

The canvas is very busy looking because of the annotations.



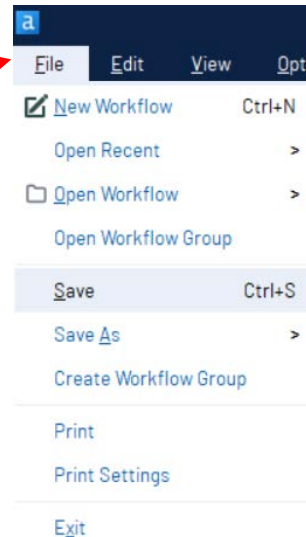
Select any blank area on the canvas and in the Configuration section change "Annotations" to "Hide".



**The workflow must be saved.**

Select "File".

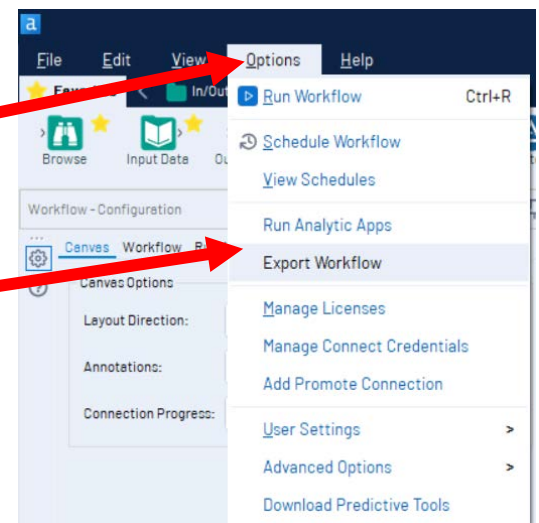
Select "Save".



**Export the workflow and the related input files so that the project can be completed on another computer or uploaded to the web.**

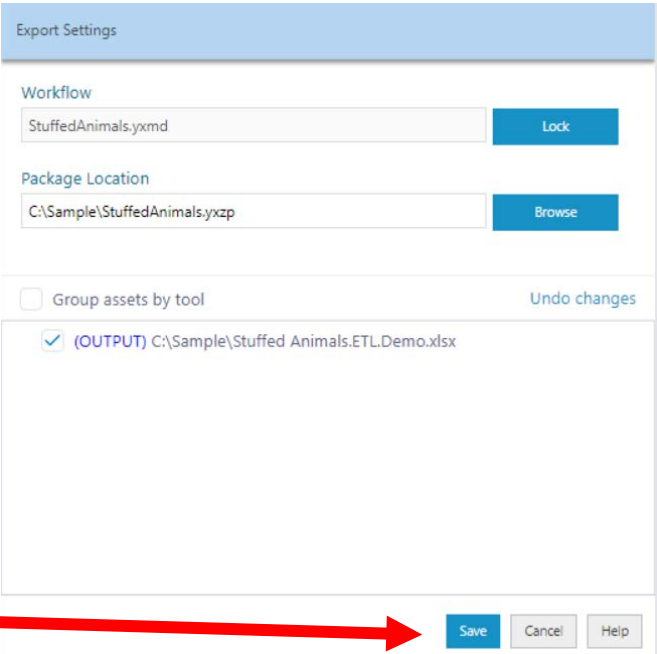
Select "Options".

Select "Export Workflow".



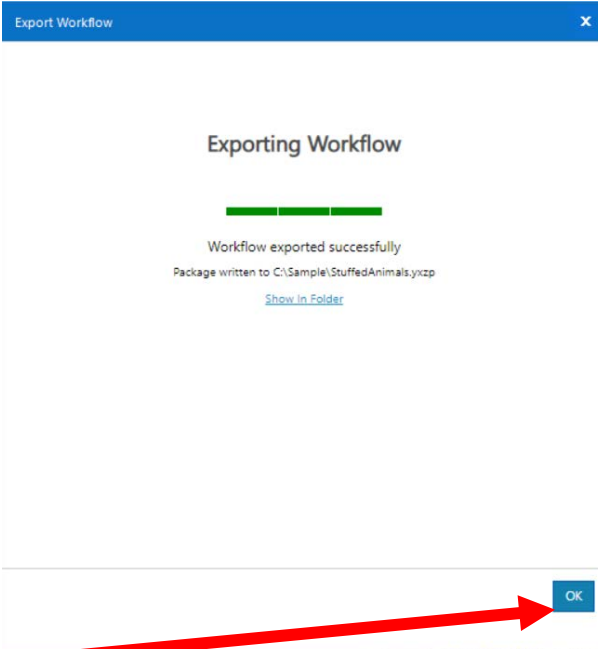
Verify the name of the "Workflow".

Verify the "Package Location".



The "Export Settings" dialog box is shown. It has a title bar "Export Settings". Below it, there are two sections: "Workflow" and "Package Location". The "Workflow" section has a text field containing "StuffedAnimals.yxmd" and a "Lock" button. The "Package Location" section has a text field containing "C:\Sample\StuffedAnimals.yxzp" and a "Browse" button. Below these sections, there is a checkbox labeled "Group assets by tool" which is unchecked, and a link "Undo changes". Below that, there is a list of assets with a checked item: "(OUTPUT) C:\Sample\Stuffed Animals.ETL.Demo.xlsx". At the bottom right, there are three buttons: "Save", "Cancel", and "Help".

Select "Save".



The "Export Workflow" dialog box is shown. It has a title bar "Export Workflow" with a close button. The main content area says "Exporting Workflow" and shows a progress bar that is almost full. Below the progress bar, it says "Workflow exported successfully" and "Package written to C:\Sample\StuffedAnimals.yxzp". There is a link "Show in Folder" below that. At the bottom right, there is an "OK" button.

Select "OK".

## Part 2

The “February-December Sales Data” tab contains data that was created in a different system than the “January Sales Data”. You cannot append two data sets unless the field names and field types are identical. The fields however, may be ordered differently.

### January Sales Data

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												

**Cuddly Stuffed Animals**

**January Sales Data**

Sales Order #	Salesperson #	Salesperson	Title	Profit Margin	Region #	Region	State	Product	# of units	Sales
35005	1304	Martin Van Bure	Sales Associate I	1,908.00	3	South	TN	Stuffed Horse	144	3,168.00
								Stuffed Horse		3,168.00
35006	1302	Grover Cleveland	Senior Sales Associat	936.00	1	Midwest	NE	Stuffed Panda	72	1,656.00

Introduction January Sales Data February-December Sales Data Products Salesperson Region

### February-December Sales Data

	A	B	C	D	E	F	G	H	I	J	K
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

**Cuddly Stuffed Animals**

**February-December Sales**

Order #	SalesPerson	Title	Region Name	Region Code	*State*	Article	# of pieces sold	Selling Price Per Unit	Profit Margin
37060	1303 : Ulysses Grant	Senior Sales Associate	South	3	TX	Stuffed Horse	120	22.00	1,590.00
						Stuffed Horse			1,590.00
37064	1301 : Thomas Jefferson	Sales Associate I	Northeast	2	CT	Stuffed Horse	144	22.00	1,908.00
						Stuffed Horse			

Introduction January Sales Data February-December Sales Data Products Salesperson Region

As you review the new sheet note the differences:

- The column headings are in row 4.
- The column headings are different.
- The columns are in a different order.
- Column B contains both the Salesperson's number and name.
- Selling Price Per Units has replaced Sales.

### Sample Reports

Product	# of units	Sales	Profit Margin
Stuffed Frog	1,524	\$ 33,528	\$20,574
Stuffed Unicorr	408	8,160	4,692
Stuffed Panda	1,140	26,220	15,675
Stuffed Koala	624	14,976	8,112
Stuffed Elepha	4,044	84,924	49,539
Stuffed Bear	2,376	59,400	35,046
Total	10,116	\$227,208	\$133,638

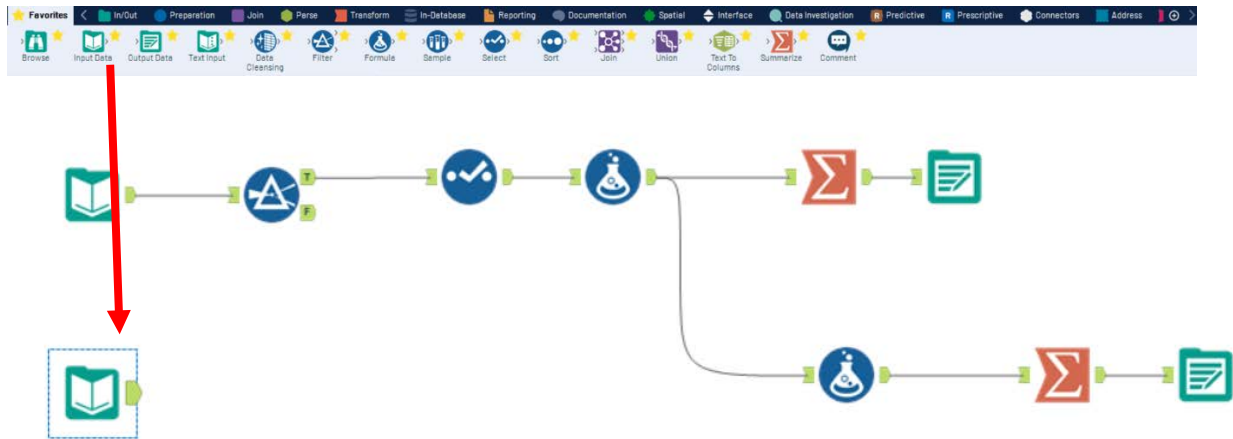
Salesperson	# of units	Sales	Profit Margin
1405 - James Polk	1,812	\$41,568	\$24,438
1425 - John Tyler	2,172	48,336	28,110
1541 - Ulysses Grant	756	17,112	10,062
1576 - James Madison	1,776	39,216	23,160
1588 - George Washington	1,584	35,784	21,168
1776 - James Monroe	2,016	45,192	26,700
Total	10,116	\$227,208	\$133,638

**Tool 10: Input Data Tool – Input Excel file**

Drag the “Input Data Tool”

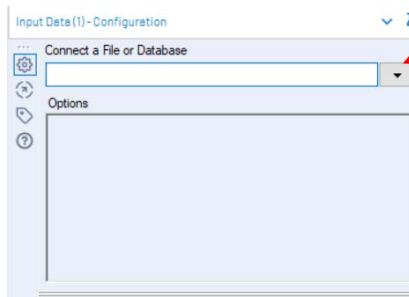


from the Tools Palette to the Canvas.

**Run**



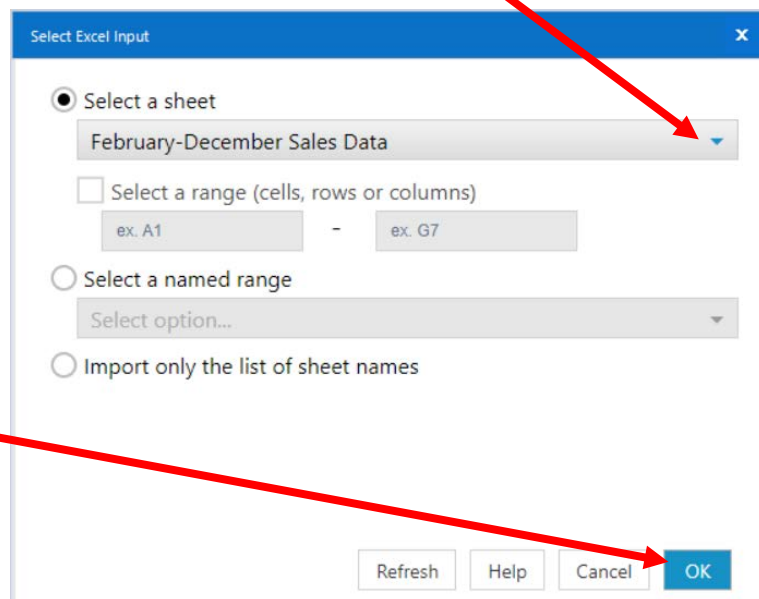
In the Configuration area, select the “Connect a File or Database” drop-down arrow.



Select “Recent connection”.



Select “February-December Sales Data”.



Select “OK”.

Remember that the field names are in the fourth row.

In the Configuration area, scroll down to option 7.

Change the number in “Start Data Import on Line” to “4”.

Select “Run”.

The Results window will display the field headings and the data.

Input Data (1) - Configuration

Connect a File or Database

C:\Sample\Stuffed Animals.ETL.Demo.xlsx

Options

Name	Value
1 Record Limit	
2 File Format	Microsoft Excel (*.xlsx)
3 Table or Query	'January Sales Data\$'
4 Search SubDirs	<input type="checkbox"/>
5 Output File Name as Field	No
6 First Row Contains Data	<input type="checkbox"/>
7 Start Data Import on Line	4

Preview (first 100 records)

Refresh


Results - Workflow - Messages

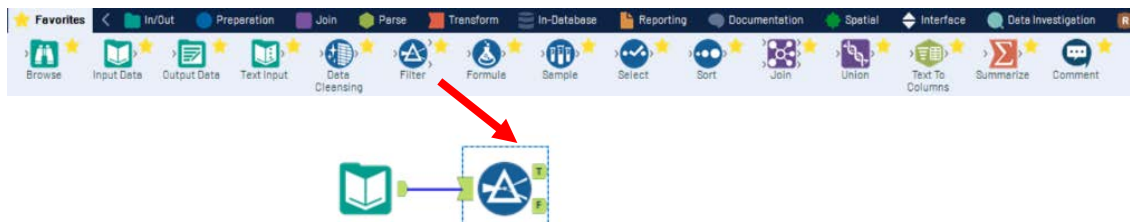
10 of 10 Fields | Cell Viewer | \* 11,728 of 19,323 records displayed (partial results)

Record	Sales Order #	SalesPerson	Title	Region	Region #	State	Article	# of units	Selling Price Per Unit
1	37060	1303 : Ulysses Grant	Senior Sales Associate	South	3	TX	Stuffed Horse	120	22
2	[Null]	[Null]	[Null]		[Null]	[Null]	Stuffed Horse	[Null]	[Null]
3	[Null]	[Null]	[Null]		[Null]	[Null]	[Null]	[Null]	[Null]
4	[Null]	[Null]	[Null]		[Null]	[Null]	[Null]	[Null]	[Null]
5	37064	1301 : Thomas Jefferson	Sales Associate I	Northeast	2	CT	Stuffed Horse	144	22
6	[Null]	[Null]	[Null]		[Null]	[Null]	Stuffed Horse	[Null]	[Null]
7	[Null]	[Null]	[Null]		[Null]	[Null]	[Null]	[Null]	[Null]

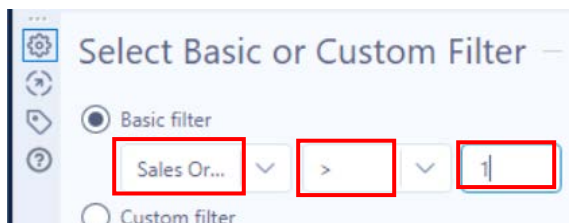
**Tool 11: Filter Tool – Exclude all rows that do not contain data**

There are several rows that do not contain an sales order number. We can modify the working dataset so that it includes only those rows that contain account numbers greater than one. Note that we are not deleting anything from the source data file. The working dataset will be split into two subsets. The first subset, “True”, will include all rows with account numbers greater than one. The second subset, “False”, will contain all rows with account numbers less than one.

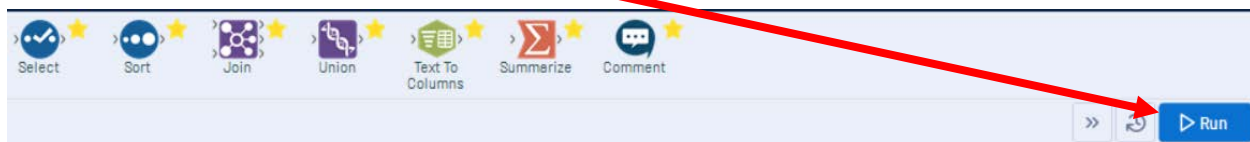
Drag the “**Filter Tool**”  from the Tools Palette to the right of the “**Input Data Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



With the “**Filter Tool**” selected, the “Basic” filter in the Configuration area can be modified to filter the field “Sales Order” for those accounts greater than “1”.

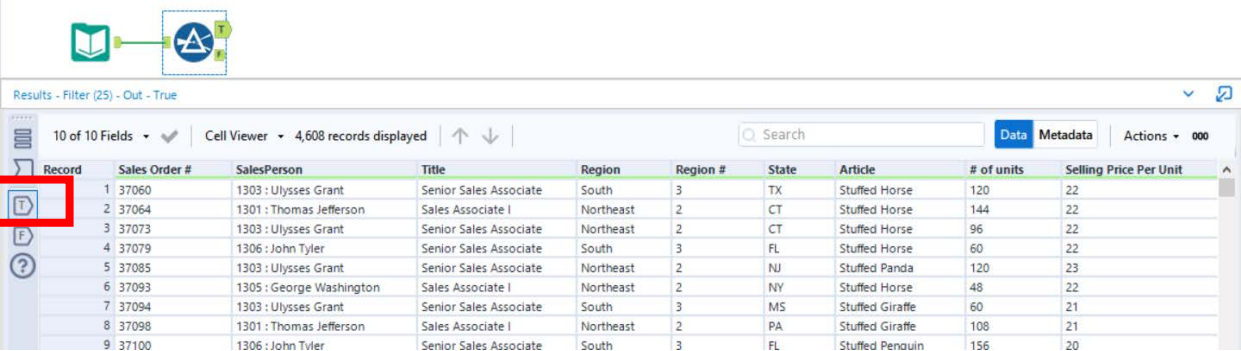


To apply the latest change, select “Run”.



We can view three different datasets in the Results window.

The records that meet the filtered conditions, “Sales Order > 1”, are displayed as T (True).



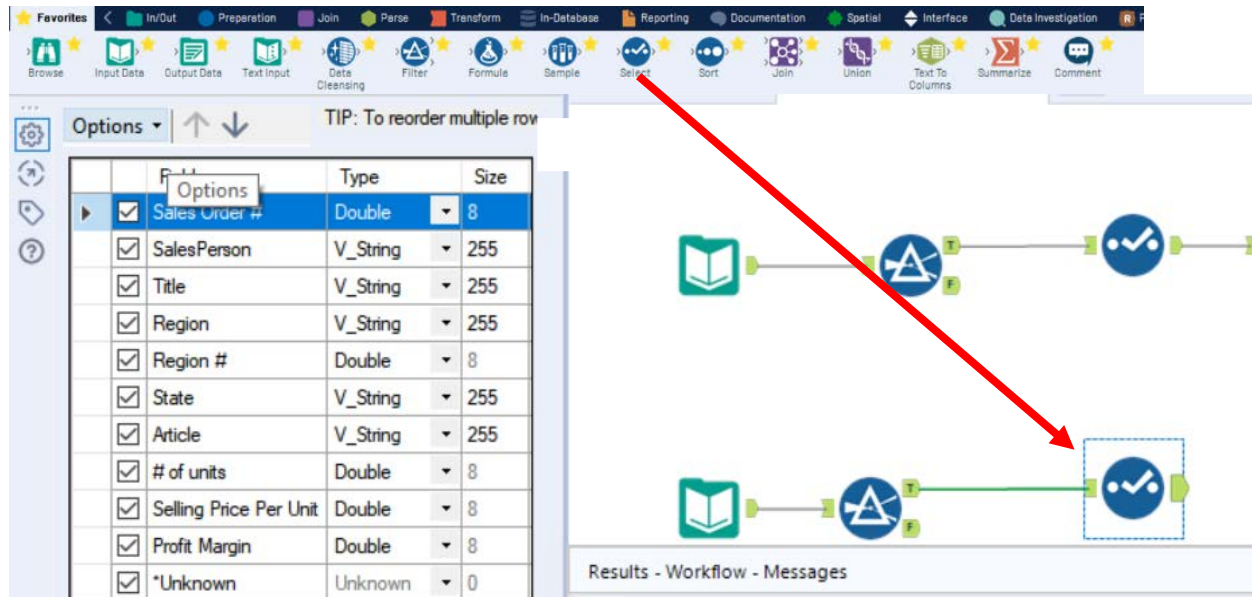
Results - Filter (25) - Out - True

10 of 10 Fields | Cell Viewer | 4,608 records displayed | Search | Data | Metadata | Actions | 000

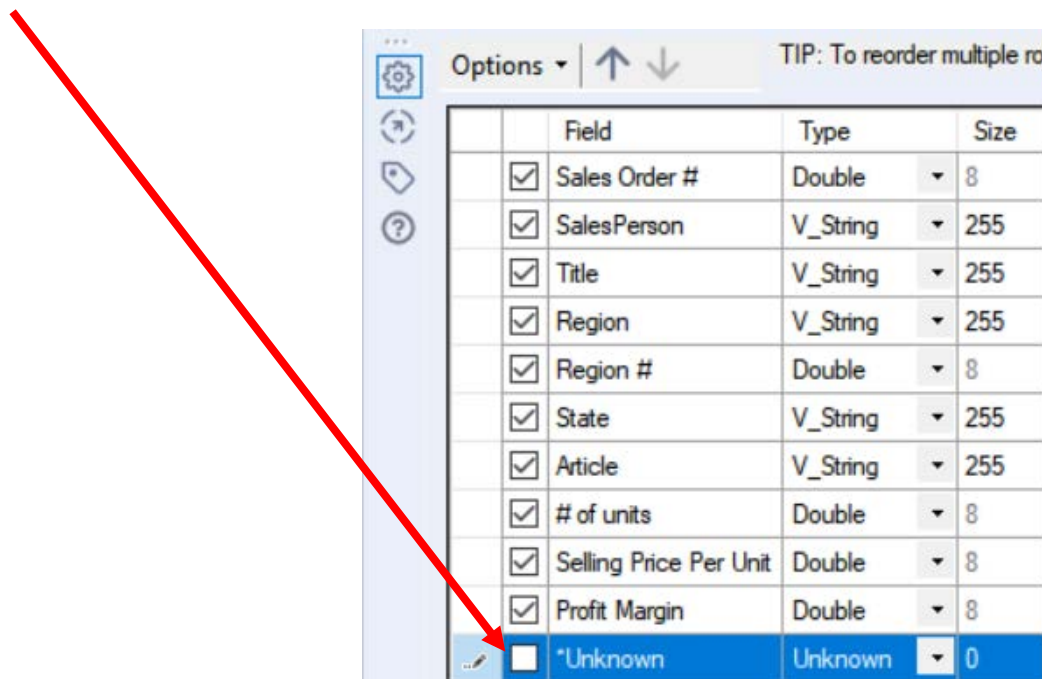
Record	Sales Order #	SalesPerson	Title	Region	Region #	State	Article	# of units	Selling Price Per Unit
1	37060	1303 : Ulysses Grant	Senior Sales Associate	South	3	TX	Stuffed Horse	120	22
2	37064	1301 : Thomas Jefferson	Sales Associate I	Northeast	2	CT	Stuffed Horse	144	22
3	37073	1303 : Ulysses Grant	Senior Sales Associate	Northeast	2	CT	Stuffed Horse	96	22
4	37079	1306 : John Tyler	Senior Sales Associate	South	3	FL	Stuffed Horse	60	22
5	37085	1303 : Ulysses Grant	Senior Sales Associate	Northeast	2	NJ	Stuffed Panda	120	23
6	37093	1305 : George Washington	Sales Associate I	Northeast	2	NY	Stuffed Horse	48	22
7	37094	1303 : Ulysses Grant	Senior Sales Associate	South	3	MS	Stuffed Giraffe	60	21
8	37098	1301 : Thomas Jefferson	Sales Associate I	Northeast	2	PA	Stuffed Giraffe	108	21
9	37100	1306 : John Tyler	Senior Sales Associate	South	3	FL	Stuffed Penguin	156	20

**Tool 3: Select Tool – Remove fields that contain no data, from “\*Unknown”**

Drag the “**Select Tool**” from the Tools Palette to the True output of the “**Filter Tool**” on the Canvas. The two will be connected automatically.



Remove any extra fields by unchecking them.



To apply the latest change, select “Run.”

## Transforming and cleaning the data

To append the sets of data the “Field Names” and “Types” of “February-December Sales Data” must be the same as those in the data set “January Sales Data”. There are ten fields in the “February-December Sales Data” stream, and we will review them one by one making all necessary changes.

January Sales Data

	Field	Type	Size	Rename
<input checked="" type="checkbox"/>	Sales Order #	Double	8	
<input checked="" type="checkbox"/>	SalesPerson	V_String	255	
<input checked="" type="checkbox"/>	Title	V_String	255	
<input checked="" type="checkbox"/>	Region	V_String	255	
<input checked="" type="checkbox"/>	Region #	Double	8	
<input checked="" type="checkbox"/>	State	V_String	255	
<input checked="" type="checkbox"/>	Article	V_String	255	
<input checked="" type="checkbox"/>	# of units	FixedDecimal	10.2	
<input checked="" type="checkbox"/>	Selling Price Per Unit	FixedDecimal	10.2	
<input checked="" type="checkbox"/>	Profit Margin	FixedDecimal	10.2	


February-December Sales Data

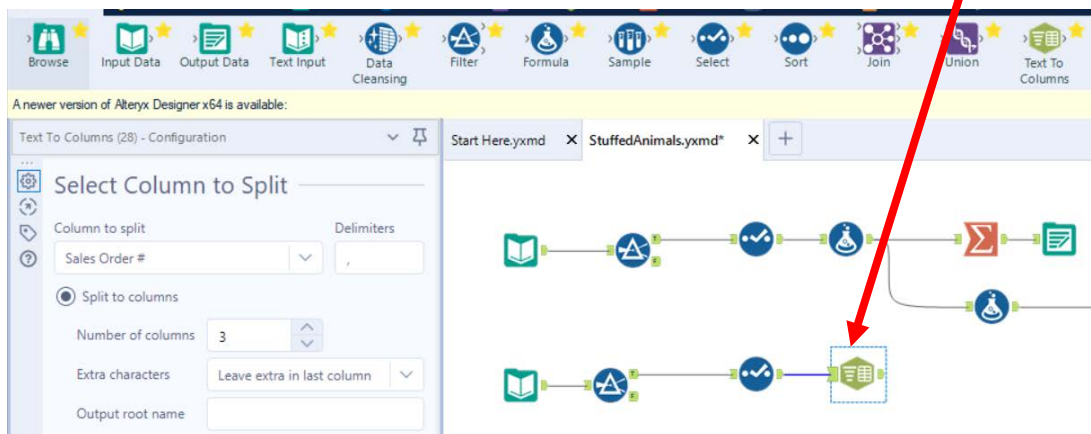
	Field	Type	Size	Rename
<input checked="" type="checkbox"/>	Sales Order #	Double	8	
<input checked="" type="checkbox"/>	SalesPerson	V_String	255	
<input checked="" type="checkbox"/>	Title	V_String	255	
<input checked="" type="checkbox"/>	Region	V_String	255	
<input checked="" type="checkbox"/>	Region #	Double	8	
<input checked="" type="checkbox"/>	State	V_String	255	
<input checked="" type="checkbox"/>	Article	V_String	255	
<input checked="" type="checkbox"/>	# of units	Double	8	
<input checked="" type="checkbox"/>	Selling Price Per Unit	Double	8	
<input checked="" type="checkbox"/>	Profit Margin	Double	8	

- 1) The field “**Sales Order #**” has no changes
- 2) The field “**SalesPerson**” contains two fields, “Salesperson #” (1303) and “Salesperson” (Ulysses Grant) separated by, “ : ”, a space, a colon and another space. The characters that separate two fields are referred to as delimiters. Common delimiters are commas, dashes, and semicolons.

We will convert one field into two fields. Click on the plus sign to the right of the “February-December Sales Data”.

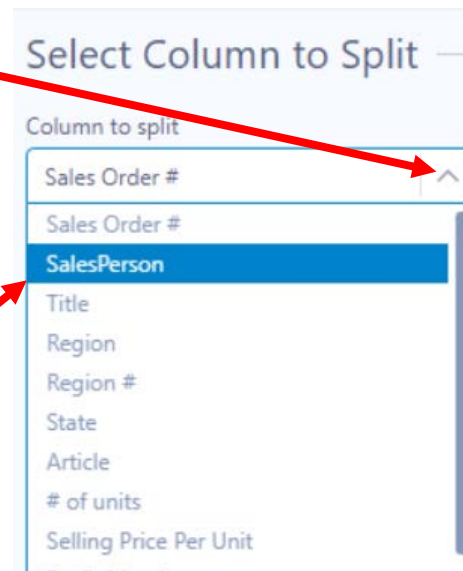
## Tool 2: **Text To Columns Tool** – Separate one column into many columns

Drag the “**Text To Columns Tool**”  from the Tools Palette to the right of the “**Input Data Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



With the “**Text To Columns Tool**” selected, click the drop-down arrow on the “Column to Split” option.

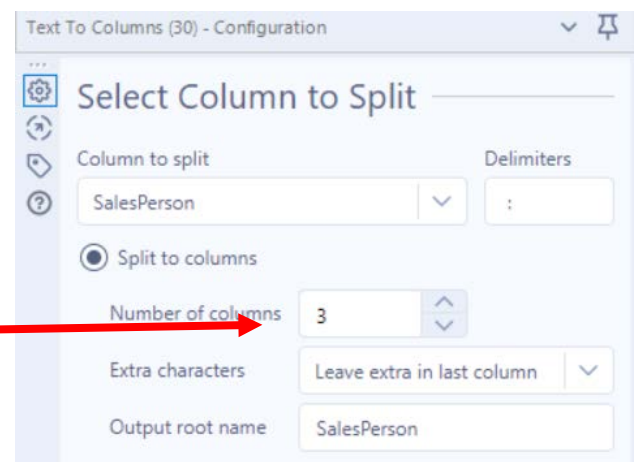
Select the field “SalesPerson”.



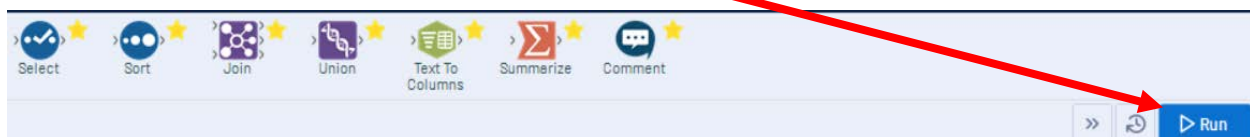
Enter “a space, a colon and another space” as the delimiter.

Enter “3” as the number of columns.

The defaults are OK.




To apply the latest change, select “Run”.





Select the output connector on the **Text To Columns Tool**.



The diagram shows a workflow with four tools: a Data Source, a Join tool, a Filter tool, and a Text To Columns tool. A red arrow points to the output connector of the Text To Columns tool.

The Results window displays the following data:

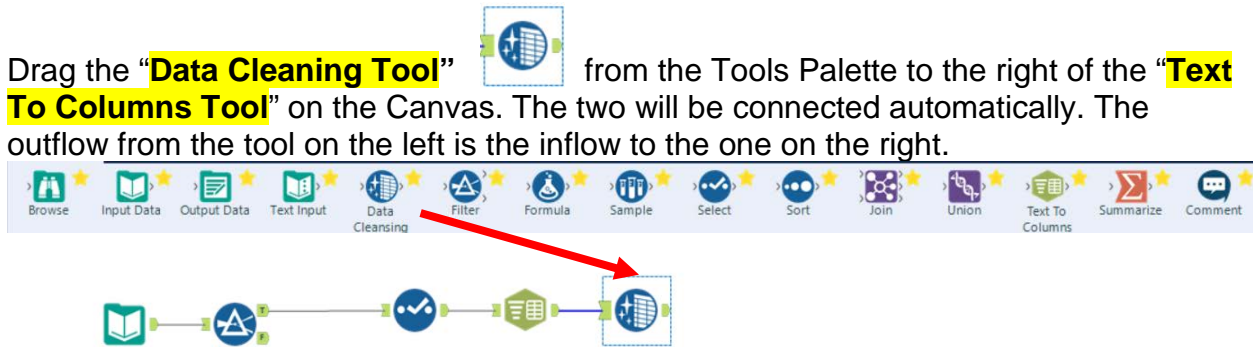
# of units	Selling Price Per Unit	Profit Margin	SalesPerson1	SalesPerson2	SalesPerson3
120.00	22.00	1590.00	1303		Ulysses Grant
144.00	22.00	1908.00	1301		Thomas Jefferson
96.00	22.00	1272.00	1303		Ulysses Grant
60.00	22.00	795.00	1306		This cell has leading spaces.
120.00	23.00	1560.00	1303		Ulysses Grant
48.00	22.00	636.00	1305		George Washington
60.00	21.00	675.00	1303		Ulysses Grant
108.00	21.00	1215.00	1301		Thomas Jefferson
156.00	20.00	1716.00	1306		John Tyler
168.00	22.00	2226.00	1301		Thomas Jefferson
156.00	25.00	2301.00	1306		John Tyler

The "Results" window will display the field headings and the data.

Three fields were created, SalesPerson1, SalesPerson2 and SalesPerson3 that has a leading space.

**Tool 2: Data Cleaning Tool – Remove Leading Spaces**

Drag the “**Data Cleaning Tool**” from the Tools Palette to the right of the “**Text To Columns Tool**” on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.



In the configuration area, select None for the “Select Fields to Cleanse”.

Check the field “SalesPerson3”.

Select Fields to Cleanse All None

- ☒ Sales Order #
- ☒ SalesPerson
- ☒ Title
- ☒ Region
- ☒ Region #
- ☒ State
- ☒ Article
- ☐ Selling Price Per Unit
- ☐ Profit Margin
- ☐ SalesPerson1
- ☐ SalesPerson2
- ☒ SalesPerson3

Replace Nulls

- ☒ Replace with Blanks (String Fields)
- ☒ Replace with 0 (Numeric Fields)

Remove Unwanted Characters

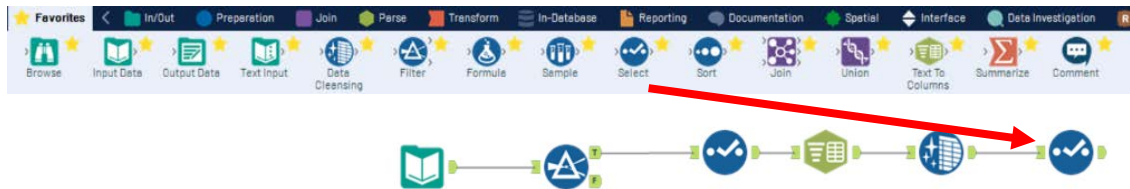
- ☒ Leading and Trailing Whitespace

To apply the latest change, select “Run”.

SalesPerson1	SalesPerson2	SalesPerson3
1303		Ulysses Grant
1301		Thomas Jefferson
1303		Ulysses Grant
1306		John Tyler
1303		Ulysses Grant
1305		George Washington
1303		Ulysses Grant
1301		Thomas Jefferson
1306		John Tyler
1301		Thomas Jefferson

**Tool 3: Select Tool – Change the names of fields and remove fields.**

Drag the “**Select Tool**” from the Tools Palette to the True output of the “**Data Cleaning Tool**” on the Canvas. The two will be connected automatically.



- 2 The original field “**SalesPerson**” must be removed.

		Field	Type	Size	Rename
1	<input checked="" type="checkbox"/>	Sales Order #	Double	8	
2	<input type="checkbox"/>	SalesPerson	V_String	255	
3	<input checked="" type="checkbox"/>	Title	V_String	255	
4	<input checked="" type="checkbox"/>	Region	V_String	255	
5	<input checked="" type="checkbox"/>	Region #	Double	8	
6	<input checked="" type="checkbox"/>	State	V_String	255	
7	<input checked="" type="checkbox"/>	Article	V_String	255	
8	<input checked="" type="checkbox"/>	# of units	Double	8	
9	<input checked="" type="checkbox"/>	Selling Price Per Unit	Double	8	
10	<input checked="" type="checkbox"/>	Profit Margin	Double	8	
11	<input checked="" type="checkbox"/>	SalesPerson1	V_String	255	
12	<input checked="" type="checkbox"/>	SalesPerson2	V_String	255	
13	<input checked="" type="checkbox"/>	SalesPerson3	V_String	255	

- 3 The field “**Title**” has no changes.  
 4 The field “**Region**” has no changes.  
 5 The field “**Region #**” has no changes.  
 6 The field “**State**” has no changes.  
 7 The field “**Article**” has to be renamed “**Product**”.

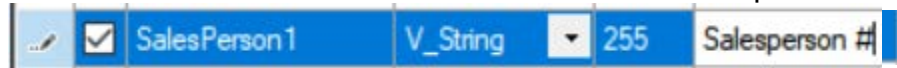
<input checked="" type="checkbox"/>	Article	V_String	255	Product
-------------------------------------	---------	----------	-----	---------

- 8 The fields “# of units”, Selling Price Per Unit and Profit Margin must be changed.

9  
10

<input checked="" type="checkbox"/>	# of units	FixedDecimal	10.0
<input checked="" type="checkbox"/>	Selling Price Per Unit	FixedDecimal	10.2
<input checked="" type="checkbox"/>	Profit Margin	FixedDecimal	10.2

- 11 The field **"SalesPerson1"** has to be renamed **"Salesperson #"**.



- 12 The field **"SalesPerson2"** should be removed.

- 13 The field **"SalesPerson3"** must be renamed **"Salesperson"**.



To apply the latest change, select **"Run"**.

Sales Order #	Title	Region	Region #	State	Product	# of units	Selling Price Per Unit	Profit Margin	Salesperson #	Salesperson
1 37060	Senior Sales Associate	South	3	TX	Stuffed Horse	120.00	22.00	1590.00	1303	Ulysses Grant
2 37064	Sales Associate I	Northeast	2	CT	Stuffed Horse	144.00	22.00	1908.00	1301	Thomas Jefferson
3 37073	Senior Sales Associate	Northeast	2	CT	Stuffed Horse	96.00	22.00	1272.00	1303	Ulysses Grant
4 37079	Senior Sales Associate	South	3	FL	Stuffed Horse	60.00	22.00	795.00	1306	John Tyler
5 37085	Senior Sales Associate	Northeast	2	NJ	Stuffed Panda	120.00	23.00	1560.00	1303	Ulysses Grant
6 37093	Sales Associate I	Northeast	2	NY	Stuffed Horse	48.00	22.00	636.00	1305	George Washington
7 37094	Senior Sales Associate	South	3	MS	Stuffed Giraffe	60.00	21.00	675.00	1303	Ulysses Grant
8 37098	Sales Associate I	Northeast	2	PA	Stuffed Giraffe	108.00	21.00	1215.00	1301	Thomas Jefferson
9 37100	Senior Sales Associate	South	3	FL	Stuffed Penguin	156.00	20.00	1716.00	1306	John Tyler
10 37109	Sales Associate I	Midwest	1	WI	Stuffed Horse	168.00	22.00	2226.00	1301	Thomas Jefferson
11 37117	Senior Sales Associate	West	4	WY	Stuffed Elephant	156.00	25.00	2301.00	1306	John Tyler

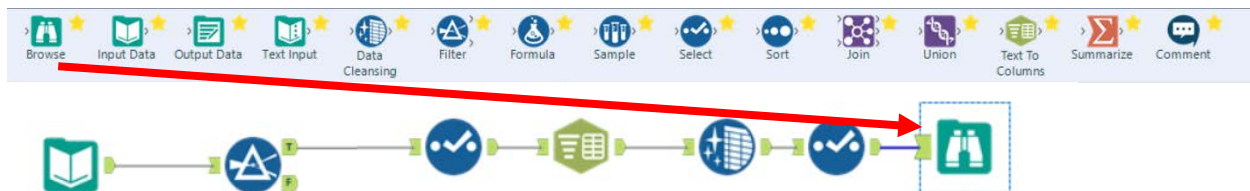
**Temporary Tool 4: Browse Tool – The Data in the Fields Must Conform to Predefined Rules.**

In the original Excel file, The Cuddly Stuffed Animals company provided the only acceptable values for “Product”, “Salesperson” and “Region”. Sometime data is entered incorrectly into the data.

Product ID	Product	Code	Salesperson	Code	Region
101	Stuffed Penguin	1301	Thomas Jefferson	1	Midwest
102	Stuffed Horse	1302	Grover Cleveland	2	Northeast
103	Stuffed Unicorn	1303	Ulysses Grant	3	South
104	Stuffed Giraffe	1304	Martin Van Buren	4	West
105	Stuffed Panda	1305	George Washington		
106	Stuffed Elephant	1306	John Tyler		

The “Product” field can only contain one of the six products. Browse the data in the “Product” field to verify that all the data is correct. Make any changes that are required.

Drag the “**Browse Tool**” from the Tools Palette to the output of the “**Select Select**” on the Canvas. The two will be connected automatically.



Select Run.

In the Configuration section scroll down to “Region”

Region		
South	1,420	
Northeast	1,300	
West	1,097	
Midwest	791	

The data is clean, there are only four Regions listed.

The “Salesperson” field can only contain one of the six names. Browse the data in the “Salesperson” field to verify that all the data is correct. Make any changes that are required.

In the Configuration section scroll down to “Salesperson” and select “2 more”.

Salesperson		
George Washington	1,267	
Thomas Jefferson	1,138	
Grover Cleveland	648	
John Tyler	569	
Martin Van Buren	554	
2 more >		

Salesperson		
Distinct Values		
George Washington	1,267	
Thomas Jefferson	1,138	
Grover Cleveland	648	
John Tyler	569	
Martin Van Buren	554	
Ulysses Grant	424	
Thomass Jefferson	8	

“Thomass Jefferson” must be replaced with “Thomas Jefferson” for a total of 1,146 distinct values.

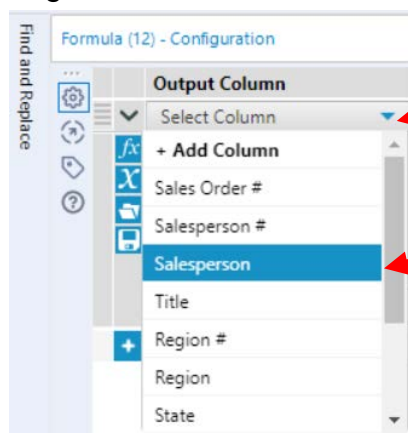
**Tool 4: Formula Tool – The Data in the Fields Must Conform to Predefined Rules.**

Drag the “**Formula Tool**” from the Tools Palette between the output of the “**Select Tool**” and the “**Browse Tool**” on the Canvas. The three will be connected automatically.

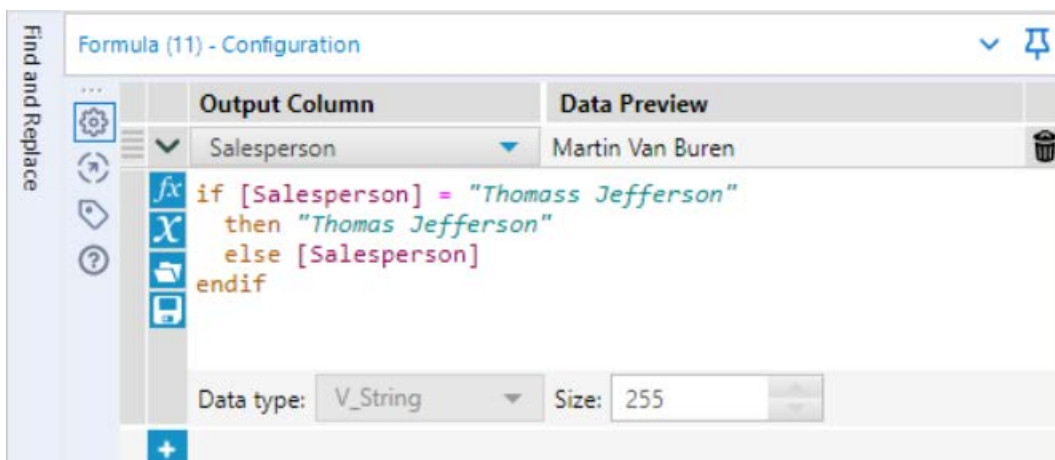


If the salesperson's name is “Thomass Jefferson” replace it with “Thomas Jefferson” otherwise leave the existing name in the field. Do not create a new field, put the output back into the “Salesperson” field.

In the configuration section select the field Salesperson from the pull-down list.



Type in the formula.

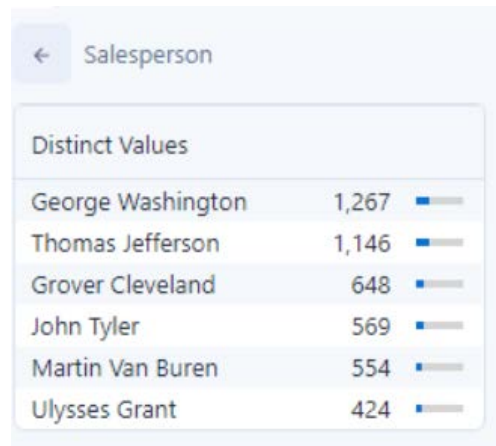




Select Run.

Select the Browse step.

In the Configuration section scroll down to “Salesperson”. There are only six salespersons and Thomas Jefferson has 1,146 distinct values.



← Salesperson

Distinct Values		
George Washington	1,267	▬
Thomas Jefferson	1,146	▬
Grover Cleveland	648	▬
John Tyler	569	▬
Martin Van Buren	554	▬
Ulysses Grant	424	▬

While in the Browse step, verify the field “Product” and select “1 more”.



Product

Stuffed Horse	1,363	▬
Stuffed Giraffe	922	▬
Stuffed Panda	859	▬
Stuffed Elephant	499	▬
Stuffed Penguin	484	▬
1 more >		



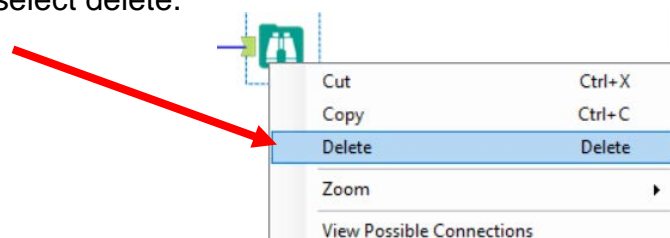
Profile

← Product

Distinct Values		
Stuffed Horse	1,363	▬
Stuffed Giraffe	922	▬
Stuffed Panda	859	▬
Stuffed Elephant	499	▬
Stuffed Penguin	484	▬
Stuffed Unicorn	481	▬

The data is clean, there are only six Products listed.

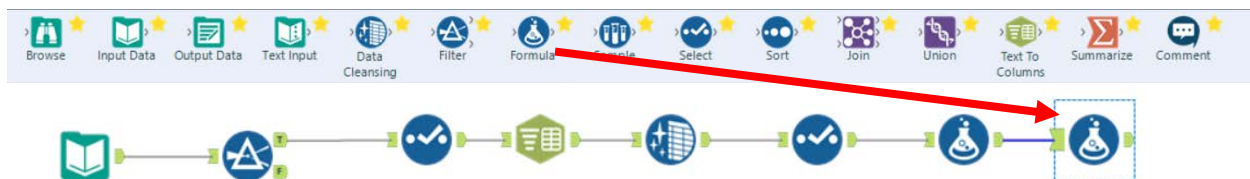
Right click on the Browse step and select delete.



The field “**Selling Price Per Unit**” does not exist in the “January Sales Data” stream of data. Instead, there is a field “Sales”, the product of the “# of units” and the “Selling Price Per Unit”.

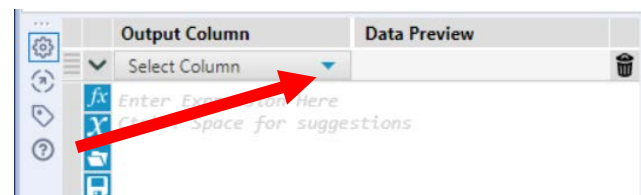
#### Tool 4: **Formula Tool** – Calculate Sales

Drag the “**Formula Tool**” from the Tools Palette between the output of the “**Select Tool**” and the “**Browse Tool**” on the Canvas. The three will be connected automatically.

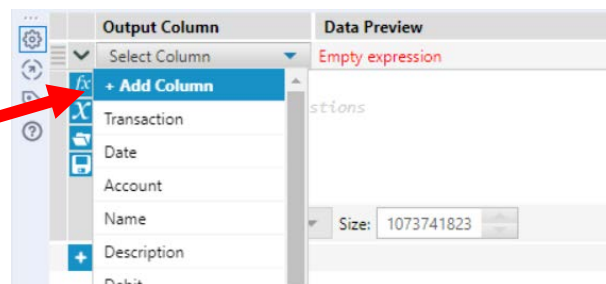


In the configuration section select the Add Column from the pull-down list.

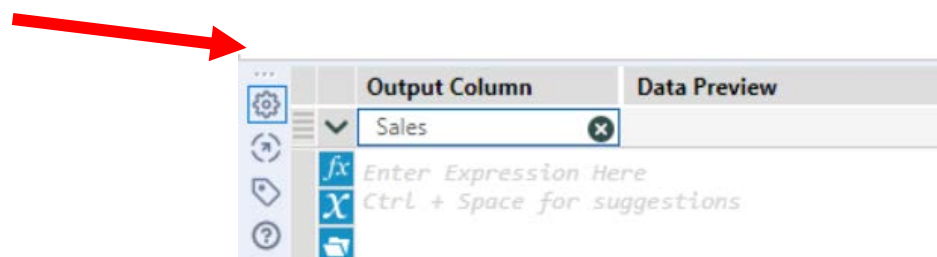
In the output Configuration area, click on the drop-down arrow of “Select Column”.



Select “Add Column”.



Type “Sales”.



Type the following formula [# of units]\*[Selling Price Per unit].

The screenshot shows the Alteryx formula editor. The 'Output Column' is 'Sales' with a data preview of 2640. The formula entered is `[# of units]*[Selling Price Per Unit]`. The data type is set to 'FixedDecimal' with a precision of 19 and a scale of 2.

Change the Data type to FixedDecimal with two decimal places.

Select "Run".

# of units	Selling Price Per Unit	Profit Margin	Salesperson #	Salesperson	Sales
120.00	22.00	1590.00	1303	Ulysses Grant	2640.00
144.00	22.00	1908.00	1301	Thomas Jefferson	3168.00
96.00	22.00	1272.00	1303	Ulysses Grant	2112.00
60.00	22.00	795.00	1306	John Tyler	1320.00

The “Field Names” and “Types” of “February-December Sales Data” must be the same as those in the data set “January Sales Data”.

January Sales Data

	Field	Type	Size
<input checked="" type="checkbox"/>	Sales Order #	Double	8
<input checked="" type="checkbox"/>	Salesperson #	String	19
<input checked="" type="checkbox"/>	Salesperson	V_String	255
<input checked="" type="checkbox"/>	Title	V_String	255
<input checked="" type="checkbox"/>	Region #	Double	8
<input checked="" type="checkbox"/>	Region	V_String	255
<input checked="" type="checkbox"/>	State	V_String	255
<input checked="" type="checkbox"/>	Product	V_String	255
<input checked="" type="checkbox"/>	# of units	FixedDecimal	10.0
<input checked="" type="checkbox"/>	Sales	FixedDecimal	10.2
<input checked="" type="checkbox"/>	Profit Margin	FixedDecimal	10.2

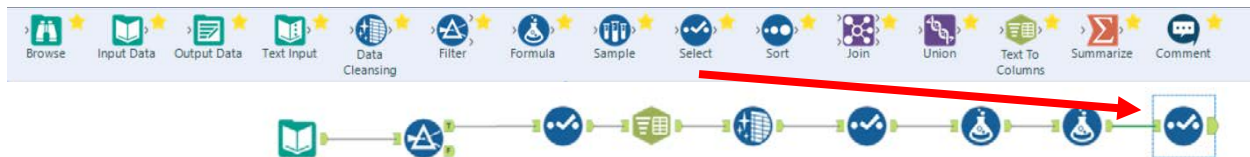
February-December Sales Data

	Field	Type	Size
<input checked="" type="checkbox"/>	Sales Order #	Double	8
<input checked="" type="checkbox"/>	Title	V_String	255
<input checked="" type="checkbox"/>	Region	V_String	255
<input checked="" type="checkbox"/>	Region #	Double	8
<input checked="" type="checkbox"/>	State	V_String	255
<input checked="" type="checkbox"/>	Product	V_String	255
<input checked="" type="checkbox"/>	# of units	FixedDecimal	10.0
<input checked="" type="checkbox"/>	Selling Price Per Unit	FixedDecimal	10.2
<input checked="" type="checkbox"/>	Profit Margin	FixedDecimal	10.2
<input checked="" type="checkbox"/>	Salesperson #	V_String	255
<input checked="" type="checkbox"/>	Salesperson	V_String	255
<input checked="" type="checkbox"/>	Sales	FixedDecimal	19.2
<input checked="" type="checkbox"/>	*Unknown	Unknown	0

Rearrange the February-December Data fields to match the January Sales Data.

**Tool 3: Select Tool – Change the order of fields and remove fields.**

Drag the “**Select Tool**” from the Tools Palette to the True output of the “**Data Cleaning Tool**” on the Canvas. The two will be connected automatically.



Select “Salesperson #”

Press the up arrow to move “Salesperson #” to the second field.

The screenshot shows the configuration window for the Select tool. It has a table of fields with checkboxes and up/down arrows. The 'Salesperson #' field is selected and highlighted in blue. A red box highlights the 'Salesperson #' row. A red arrow points from the text 'Press the up arrow to move “Salesperson #” to the second field.' to the up arrow icon in the configuration window.

Field	Type	Size	R
<input checked="" type="checkbox"/> Sales Order #	Double	8	
<input checked="" type="checkbox"/> Title	V_String	255	
<input checked="" type="checkbox"/> Region	V_String	255	
<input checked="" type="checkbox"/> Region #	Double	8	
<input checked="" type="checkbox"/> State	V_String	255	
<input checked="" type="checkbox"/> Product	V_String	255	
<input checked="" type="checkbox"/> # of units	FixedDecimal	10.0	
<input checked="" type="checkbox"/> Selling Price Per Unit	FixedDecimal	10.2	
<input checked="" type="checkbox"/> Salesperson #	V_String	255	
<input checked="" type="checkbox"/> Sales	FixedDecimal	19.2	
<input checked="" type="checkbox"/> *Unknown	Unknown	0	

Change the type of the field “Salesperson #” to String with a size of 19.

Rearrange the February-December Data fields to match the January Sales Data and remove the Selling Price Per Unit field.

## January Sales Data

	Field	Type	Size
<input checked="" type="checkbox"/>	Sales Order #	Double	8
<input checked="" type="checkbox"/>	Salesperson #	String	19
<input checked="" type="checkbox"/>	Salesperson	V_String	255
<input checked="" type="checkbox"/>	Title	V_String	255
<input checked="" type="checkbox"/>	Region #	Double	8
<input checked="" type="checkbox"/>	Region	V_String	255
<input checked="" type="checkbox"/>	State	V_String	255
<input checked="" type="checkbox"/>	Product	V_String	255
<input checked="" type="checkbox"/>	# of units	FixedDecimal	10.0
<input checked="" type="checkbox"/>	Sales	FixedDecimal	10.2
<input checked="" type="checkbox"/>	Profit Margin	FixedDecimal	10.2

## February-December Sales Data

	Field	Type	Size
<input checked="" type="checkbox"/>	Sales Order #	Double	8
<input checked="" type="checkbox"/>	Salesperson #	String	19
<input checked="" type="checkbox"/>	Salesperson	V_String	255
<input checked="" type="checkbox"/>	Title	V_String	255
<input checked="" type="checkbox"/>	Region #	Double	8
<input checked="" type="checkbox"/>	Region	V_String	255
<input checked="" type="checkbox"/>	State	V_String	255
<input checked="" type="checkbox"/>	Product	V_String	255
<input checked="" type="checkbox"/>	# of units	FixedDecimal	10.0
<input type="checkbox"/>	Selling Price Per Unit	FixedDecimal	10.2
<input checked="" type="checkbox"/>	Profit Margin	FixedDecimal	10.2
<input checked="" type="checkbox"/>	Sales	FixedDecimal	19.2

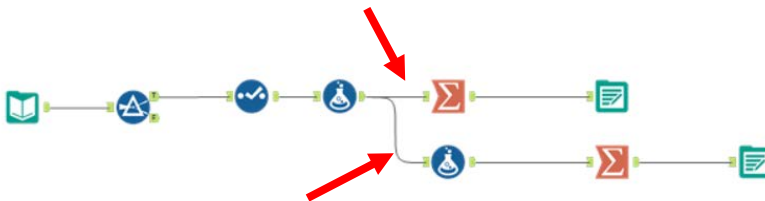
**Tool 4: Union Tool – Append Streams**

Now that the data streams are the same, field names and types, we can append the second stream to the first stream. First separate the report section from stream one.



Right click between the Formula Tool and the Summarize Tool on the first stream and select "Delete Connection."

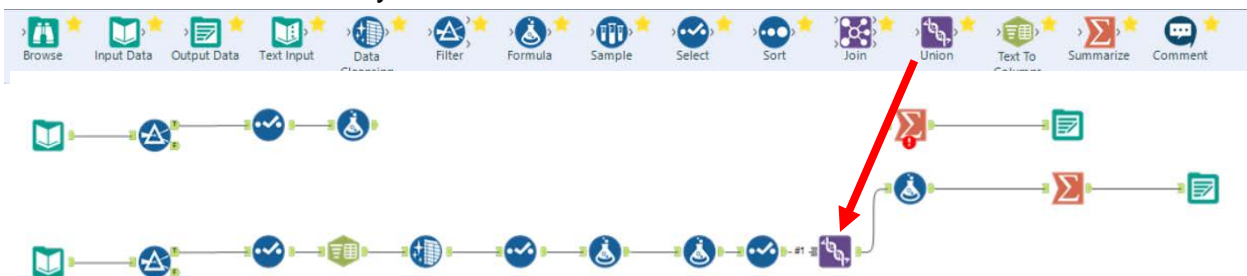
Right click between the Formula Tool and the Formula Tool on the first stream and select "Delete Connection."



Drag the section to the right.

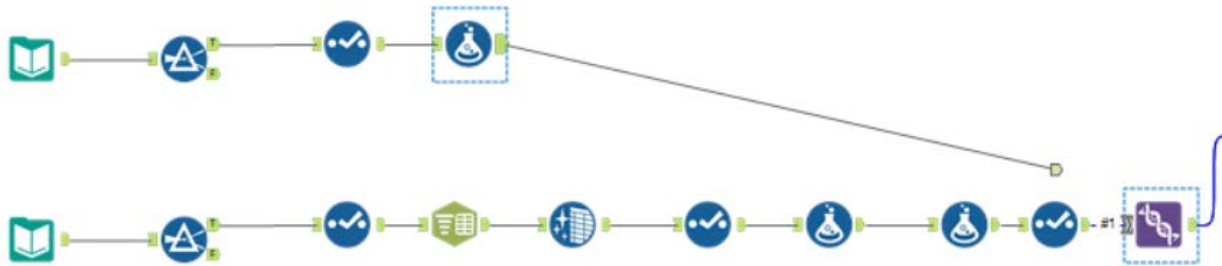


Drag the "**Union Tool**" from the Tools Palette to the output of the last "**Select Tool**" on the second stream Canvas and the **Formula Tool** from the report section. The three will be connected automatically.

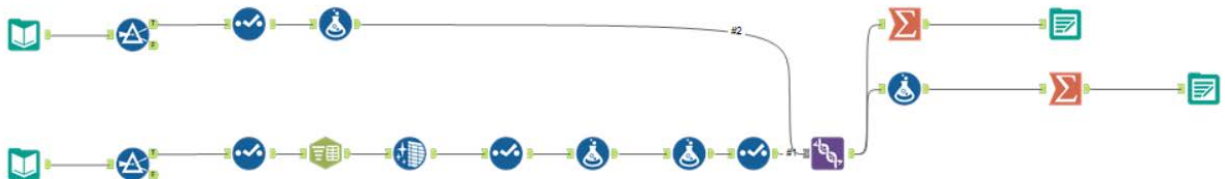




Drag the output from the **Formula Tool** on the first stream to the Input of the **Union Tool**.

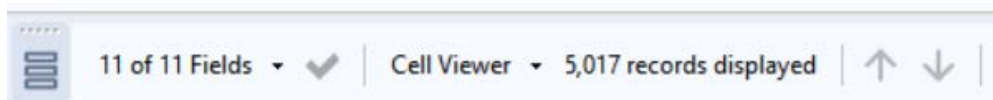


Drag the output from the **Union Tool** to the input of the first **Summarize Tool** in the report section.



Select Run.

The combined stream has 5,017 rows.



Save the file.

Export the workflow.

Close Alteryx.

Open the Excel file to the Report by Product.

	A	B	C	D
1	Product	Units	Sales	Profit Margin
2	Stuffed Elephant	50508	1262700.00	744993.00
3	Stuffed Giraffe	104772	2200212.00	1178685.00
4	Stuffed Horse	150504	3311088.00	1994178.00
5	Stuffed Panda	93924	2160252.00	1221012.00
6	Stuffed Penguin	58752	1175040.00	646272.00
7	Stuffed Unicorn	48900	1173600.00	647925.00
8				
9				

Report by Product Jan Report by Salesp ..

Fix the format and rename the sheet.

	A	B	C	D
1	Product	Units	Sales	Profit Margin
2	Stuffed Elephant	50,508	\$ 1,262,700.00	\$ 744,993.00
3	Stuffed Giraffe	104,772	\$ 2,200,212.00	\$ 1,178,685.00
4	Stuffed Horse	150,504	\$ 3,311,088.00	\$ 1,994,178.00
5	Stuffed Panda	93,924	\$ 2,160,252.00	\$ 1,221,012.00
6	Stuffed Penguin	58,752	\$ 1,175,040.00	\$ 646,272.00
7	Stuffed Unicorn	48,900	\$ 1,173,600.00	\$ 647,925.00
8	Total	507,360	\$ 11,282,892.00	\$ 6,433,065.00
9				
10				

Jan Report by Product    **Annual Report by Product**

Select the Report by Salesperson.

	A	B	C	D	E
1	Salesperson	Units	Sales	Profit Margin	
2	1301 - Tho	125508	2793660.00	1593147.00	
3	1302 - Gro	74280	1650192.00	936729.00	
4	1303 - Uly	47400	1050024.00	599241.00	
5	1304 - Ma	60228	1329636.00	759033.00	
6	1305 - Ge	138936	3099840.00	1769571.00	
7	1306 - Joh	61008	1359540.00	775344.00	
8					
9					
10					

Report by Product    **Report by Salesperson**

Fix the format and rename the sheet.

	A	B	C	D	E
1	Salesperson	Units	Sales	Profit Margin	
2	1301 - Thomas Jefferson	125,508	\$ 2,793,660.00	\$ 1,593,147.00	
3	1302 - Grover Cleveland	74,280	\$ 1,650,192.00	\$ 936,729.00	
4	1303 - Ulysses Grant	47,400	\$ 1,050,024.00	\$ 599,241.00	
5	1304 - Martin Van Buren	60,228	\$ 1,329,636.00	\$ 759,033.00	
6	1305 - George Washington	138,936	\$ 3,099,840.00	\$ 1,769,571.00	
7	1306 - John Tyler	61,008	\$ 1,359,540.00	\$ 775,344.00	
8	Total	507,360	\$ 11,282,892.00	\$ 6,433,065.00	
9					
10					

Jan Report by Salesperson    **Annual Report by Salesperson** (+)

Save and close Excel.