# Using Tableau Prep to Join Data Streams

Tableau Prep is used by several Big Four accounting firms to automate the ETL process. In this exercise, you will:

Extract the "Sales Report", "Salesperson Information" and "Comm SalesPerson by Region" data from Excel.

**T**ransform the data into a flat data set in which all the data for a specific sales order is on one row. Aggregate the commission in dollars for each salesperson by region.

Load the transformed data into Excel.

There are three streams of data for *LightJoin, Inc.* stored in an Excel workbook. The first stream, sales information is stored in a sheet titled "**Sales Report**". Notice that the column headings are in the sixth row.

	А	В	С	D	E			
1	LightJoin, Inc.							
2		Sales Re	port					
3								
4								
5								
6	Sales Order #	Salesperson #	Region	Sales				
1	87082	1301	South	\$119,423				
8	87083	1302	East	\$321,989				
9	87084	1304	East	\$155,882				
10	87085	1302	East	\$282,097				
11	87086	1302	North	\$305,319				
12	87087	1301	East	\$111,512				
13	87088	1301	East	\$308,051				
14	87089	1304	North	\$ 96,069				
-	<ul> <li>Introdu</li> </ul>	ictio Sales R	eport alesp	erson Informa	tion			

Notice that the last "Sales Order #" is 87175, and there are 94 rows of data (row 100 - row 6 = 94 rows).

6	Sales Order #	Salesperson #	Region	Sales
97	87172	1302	West	\$154,798
98	87173	1304	North	\$353,819
99	87174	1304	East	\$256,322
100	87175	1303	North	\$ 78,635

The second stream containing data regarding the Salesperson's name and title is stored in a sheet titled "**Salesperson Information**". Notice that the column headings are in the fourth row.

	А	В	С						
1	LightJoin, Inc.								
2	Salesperson Information								
3									
4	SPID	Salesperson	Title						
5	1301	George Washington	Sales Associate I						
6	1302	John Adams	Senior Sales Associate						
7	1303	Thomas Jeferson	Senior Sales Associate						
8	1304	James Madison	Sales Associate I						
9									
10									
4	•	Sales Repor	Salesperson Information C						

The third stream contains the commission percentage earned by the salesperson by region in which the sales were made. This data is stored in a sheet titled "**Comm SalesPerson by Region**". Notice that the column headings are in the seventh row.

	А	В	С	D	E			
1	LightJoin, Inc.							
2	Commissio	on % by	y Salespe	erson by	Region			
3								
4								
5								
6								
7	SalesPerson	East	West	North	South			
7 8	SalesPerson 1301	<b>East</b> 4.00	<b>West</b> 4.50	<b>North</b> 5.50	<b>South</b> 6.00			
7 8 9								
	1301	4.00	4.50	5.50	6.00			
9	1301 1302	4.00 2.00	4.50 2.50	5.50 3.00	6.00 3.25			
9 10	1301 1302 1303	4.00 2.00 3.00	4.50 2.50 3.25	5.50 3.00 3.75	6.00 3.25 4.00			

The deliverable consists of two reports. One is a Commission in Dollars Report by Salesperson and the other a Commission in Dollars Report by Salesperson and Region. Both are to be loaded back into Excel.

	А	В
1	Salesperson	Commission Expense
2	George Washington	226,149.84
3	James Madison	274,189.61
4	Thomas Jeferson	127,193.52
5	John Adams	90,935.34
6		
7	Total	718,468.31

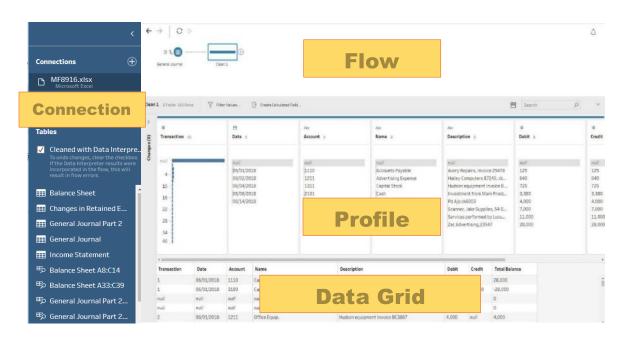
	А	В	С	D	E	F	
1							
2							
3	Sum of Commission Expense	Column Labels 🔻					
4	Row Labels	East	North	South	West	Grand Total	
5	George Washington	84 <mark>,</mark> 829.28	29,372.96	82,074.30	29,873.30	226,149.84	
6	James Madison	60,005.82	136,168.64	44,940.09	33,075.06	274,189.61	
7	John Adams	17,192.18	26,615.28	26,052.39	21,075.49	90,935.34	
8	Thomas Jeferson	30,874.29	52,700.71	15,502.96	28,115.56	127,193.52	
9	Grand Total	192,901.57	244,857.59	168,569.74	112,139.41	718,468.31	

### Start Tableau Prep

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.

The Tableau Prep Builder workspace consists of the Connections pane and three coordinated areas that help you interact with and explore your data:

- Flow pane: A visual representation of your operation steps as you prepare your data.
- Profile pane: A summary of each field in your data sample. See the shape of your data and quickly find outliers and nulls.

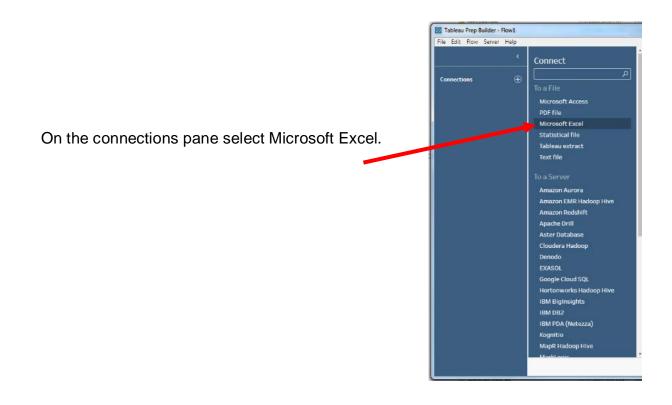


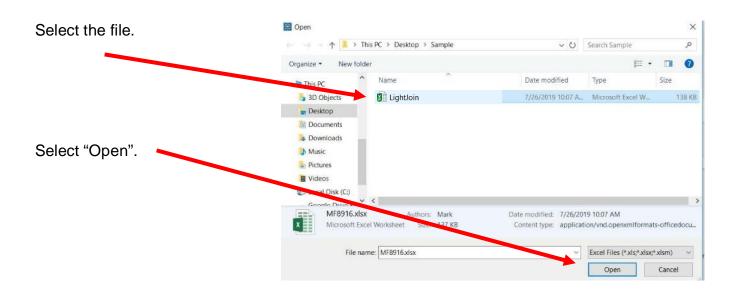
• Data grid pane: The row level detail for your data.

After you connect to your data and begin building your flow, you add steps in the Flow pane. These steps function as a lens into the structure of your data, as well as a summary of operations that is applied to your data. Each step represents a different category of operations that you define. In the Configuration area, select the "Connect a File or Database" drop-down arrow. **Step 1: Input Excel file** 

To open Excel file via Tableau Prep, press green button "Connect to Data" on the Flow pane.

🗱 Tableau Prep Bui	ilder - Flow1			
File Edit Flow S	Server Help			
	<			
Connections	$\oplus$	Open a Flow Connect to Data		
		Recent Flows		:=
		No flows have been created.		

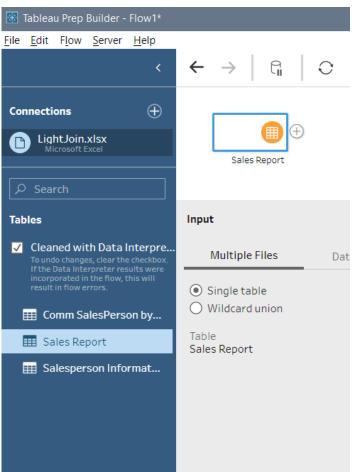




Remember that the field names are in the sixth row. Check "Cleaned with Data Interpreter" tick box to let Tableau Prep adjust for the input data.



Select the "Sales Report" sheet on the Connections pane by either double click on the sheet name or drag the sheet name to the canvas.



	$\leftarrow \rightarrow \left  \begin{array}{c} {\mathbb{G}} \\ {\mathbb{G}} \end{array} \right  \begin{array}{c} {\mathbb{C}} \\ {\mathbb{D}} \end{array}$						Alerts (0)
LightJoin.xlsx Microsoft Excel	Sales Report						
Search	sales kepurt						100%
Tables	Input					P	Search
✓ Cleaned with Data Interpre Multiple Files Data Sample Changes (0		Sales R	eport F	elds selected: 4 of 4	Y Filter Values		
To undo changes, clear the checkbox, If the Data Interpreter results were incorporated in the flow, this will result in flow errors	Single table	_			w, apply a filter, or change data t	waar. To can and	close your data, add a close inc.
Comm SalesPerson by	O Wildcard union		the flow p		w, apply a filter, or change data t	ypes. To see and	crean your data, add a creaning
E Sales Report	Table	1	Type	Field Name	Original Field Name	Changes	Sample Value
E Salesperson Informat	Sales Report	J	#	Sales Order #	Sales Order #		87,082, 87,083, 87,084
EE Janapa administration		2	.#	Salesperson #	Salesperson #		1,301, 1,302, 1,304
		7	Abc	Region	Region		South, East
		1	#	Sales	Sales		119,423, 321,989, 155,882
				7			

The step, "Sales Report", will appear on the Flow pane.

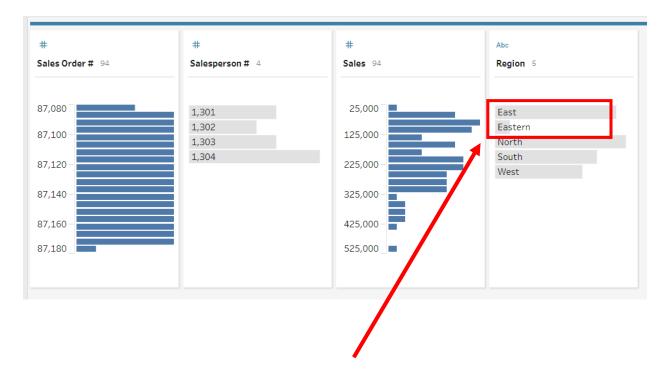
The sample data will be visible on the Profile pane.

## Step 2: Clean the data

Review the data that we just added. Click the plus sign and add "Clean Step".



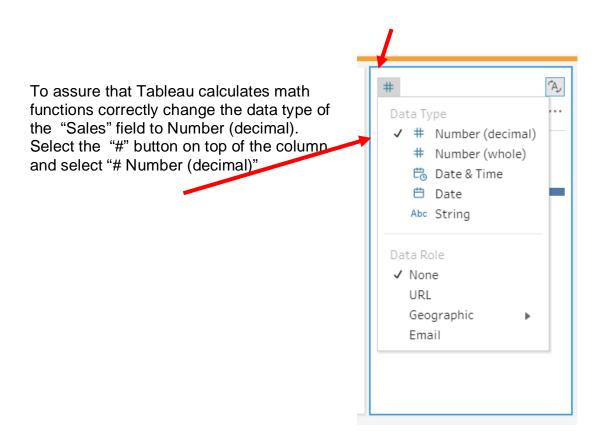
On the profile pane review the data.



In the "Region" column two regions looks similar, but not the same: "East" and "Eastern". In one or more records "East" was incorrectly entered as "Eastern". We need to correct this manual input error.

Group both values and give the group a common name. Select the two regions by first clicking on "East" then hold down the control key click on the second field "Eastern" and then release the control key (Ctr+).	Abc Region 5 = • 0 ····
While hovering over the selected items right click and select "Group".	East Eastern North South West Replace with Null Group Ungroup

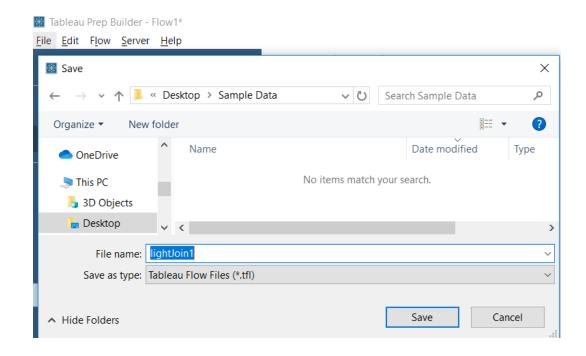
ecessary, name the group "East"		E t	
	0	East	
		North	
		South	
		West	
			West
			18 (19%) rows
			0 (0%) highlighted



Save the workflow regularly.

Select "File"

Enter the "File name:" and Save.



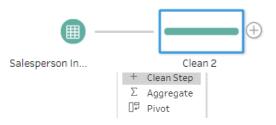
# Step 3: Input "Salesperson Information" sheet Select "LightJoin.xls" from the "Connections" panel. Connections LightJoin.xlsx Microsoft Excel

Remember that the field names are in the fourth row. The "Cleaned with Data Interpreter" should still be

selected. Â, (+)Connections LightJoin.xlsx Sales Report Clean 1 (+)Select the "Salesperson Tables Information" sheet on the Salesperson In... Cleaned with Data Interpre. Connections pane by either double click on the sheet 📰 Comm SalesPerson by... name or drag the sheet E Sales Report name to the canvas. E Salesperson Informat...

# Step 4: Clean the data

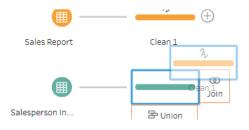
Review the data that we just added. Click the plus sign and add step "Clean 2".



		Abc		Abc
SPID	4	Salesperson 4		Title 2
1,30	1	George Washing	gton	Sales Associate I
1,302	2	James Madison		Senior Sales Associat
1,303	3	John Adams		
1,304	4	Thomas Jeferso	'n	
SPID	Salesperson	Title		
<b>SPID</b> ,301	Salesperson George Washington	Title Sales Associate I		
,301	George Washington	Sales Associate I		

### Step 5: Combine Data from first Two Streams on a Common Field

Now join the two the streams. Drag the "Clean 1" step from the first stream to the "Clean 2" step in the second stream and a Join box will appear. Drop the "Clean 1" step into the Join box.



As a result, step "Join 1", a combination of the two two streams will appear. Select the "Join 1" step.

	Sales Report	Clean 1	
	Salesperson In	Clean 2	
Select "Add" in the "Applied Join Clauses" section.	Join 1 7 Fields 0 Rows	√ Filter Values Changes (0)	Create Calculated Field
	Applied Join Clauses	to create a Join	
	Join Type : inner Click the graphic to change the join Clean 2	n type. Clean 1	Add a join clause to create a join.

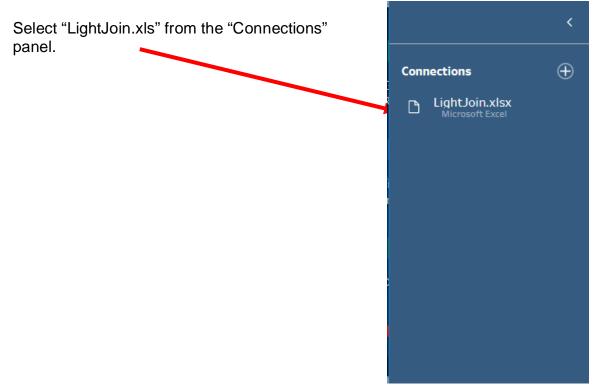
Select the fields to join on, "SPID" from Cases 2 and	Clean 2 <i>S</i> Search	= 🔻	lean 1 P Search	
"Salesperson #" from "Case 1".	# SPID	,	Abc Region	:
	Abc Salesperson		# Sales	
	Abc Title		# Sales Order #	
			# Salesperson #	

The default "Join Type" is "inner" which does not have to be changed.

The join was	successful	as 94	rows	were
combined.				

Clean 2	4	
Clean 1	94	
Join Result	94	

### Step 6: Input "Comm SalesPerson by Region" sheet and pivot data



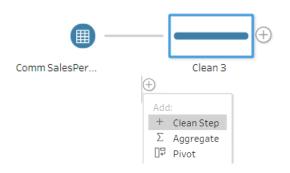
Remember that the field names are in the seventh row. The "Cleaned with Data Interpreter" should still be selected.

Select the "**Comm SalesPerson by Region**" sheet on the Connections pane by either double click on the sheet name or drag the sheet name to the canvas.



### Step 7: Clean the data

Review the data that we just added. To do that click plus sign and add step "Clean 3".

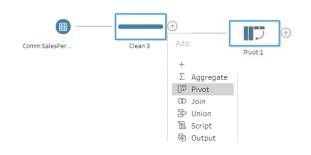


Data in a matrix format cannot be joined to the previous inputs in the current format. Each record must be converted into multiple records.

#			#	÷	#		#	#
SalesPerso	4		Ea	ist 3	Wes	3	North 4	<b>South</b> 4
1,301			2		2.5		3	3.25
1,302			2 3		3.25		3.75	4
1,303			4		4.5		4.25	4.75
1,304							5.5	6
SalesPerson	East	West	North	South				
SalesPerson ,301		<b>West</b> 4.5	North 5.5	South 6				
,301	4							
	4	4.5	5.5	6				

### Step 8: Pivot the data.

Add a "Pivot" step to the "Comm SalesPerson by Region" steam's "Clean 3" step.



# Select all four regions columns and drag them to Pivoted Fields Area

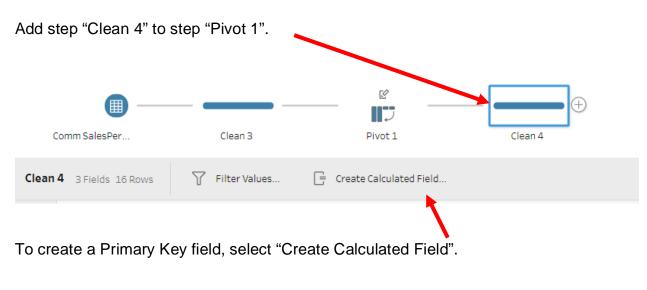
Settings	Changes (0)	Pivoted Fields	□₽ Columns to Rows ▼
Fields			
✓ Automatically rename	pivoted fields and values		Drop fields here to pivot them Or
# East			Use wildcard search to pivot
# North			
# SalesPerson		East	
# South			
# West			

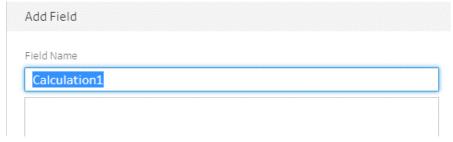
Select the "Pivot Results" section, double click on "Pivot1 Values" and rename the

column "Commission %". Then rename "Pivot1	Pivot Results				
Names" with <u>"Regio</u> n".	Abc	#		#	
	Pivot1 Names 4	Piv	ot1 Values 11		erson 4
	East	2		1,301	
	North	2.5	i	1,302	
	South West	3 3.2	-	1,303 1,304	
	west	3.2		1,304	
		4			
		4.2	:5		
		4.5			
		4.7			
		5.5	)		
	Pivot Results				
	Abc	2	#	ľ	#
	Region 4		Commission % 11		SalesPerson 4
	East		2		1,301
	North		2.5		1,302
	South		3		1,303
	Most		2.25		1 204

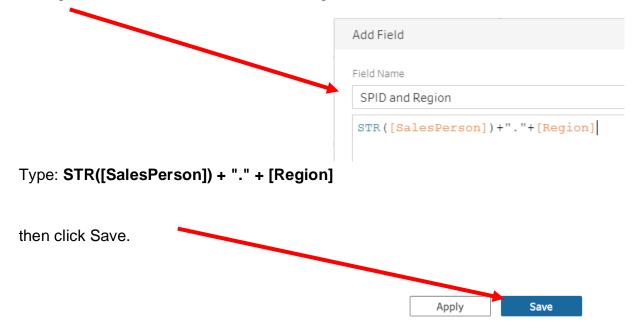
To combine two streams of data there must be a unique key. That unique field is referred to as the primary key in the one side of the join. The primary field will be created by combining the "Salesperson" field with a "." and the "Region" field. The primary key for the first record will be "1301.East". Since a numeric field "Salesperson" is being combined with a string field, "Region" the numeric field must be converted to a string field.

### Step 9: Create a Primary Key Field





Change the "Field Name" to "SPID and Region".



# The "SPID and Region" field has been populated.

C	Comm SalesPer Clean	3 Pivot 1	Clean 4	
Clean >	4 4 Fields 16 Rows Tilter	Alues 📑 Create Calculated Field	#	#
Changes (2)	SPID and         16         •         •         ·           SPID and Region         16 unique values         1301.8         16 unique values         1301.8           1301.North         1301.South         1301.West         1302.East         1302.North         1302.South         1302.South         1302.South         1303.East         1303.North         1303.North         1303.South         1303.West         1303.West	Region 4 East North South West	Commission % 11 2 2.5 3 3.25 3.75 4 4.25 4.5 4.75 5.5 6	SalesPerson 4

### Step 10: Create a Foreign Key Field

The combined first and second stream of data also needs a field that combines the "SPID" and the "Region" in the same exact format that was used in the third stream. This new field is referred to as a foreign key and will be used to link to the data in the third stream.

Add step "Clean 5" to the joined first and second stream's "Join 1" step.

Sales Report	Clean 1	_	Join 1	Clean 5	<b>—</b> (+)
Salesperson In	Clean 2				
Clean 5 7 Fields 94 Rows	Filter Values	📑 Creat	e Calculated Field		
To create a Foreign Ke	ey field, select '	"Create Ca	lculated Field".		
Add Field					
Field Name					
Change the "Field Nan	∩e" to "SPID ar	nd Region".			
Type: STR([SalesPers	son #]) + "." +	[Region]	Add Field Field Name SPID and Region STR ([Salesperso	n #])+"."+[Region]	
then click Save.					
				Apply	Save

The "SPID and Region" field has been populated with 16 different values for "SPID and Region".

Clean 5 8 Fields 94 Rows 7 Filter Valu	es 🕞 Create Calculated Field
Changes (1)	< Abc 🕞
Calculated Field [SPID and Region] STR([Salesperson #])+"."+[Region]	SPID and Region 16
Sind([Sansperson #]) [Region]	
	1301.East 1301.North
	1301.South
	1301.West
	1302.East
	1302.North
	1302.South 1302.West
	1303.East
	1303.North
	1303.South
	1303.West

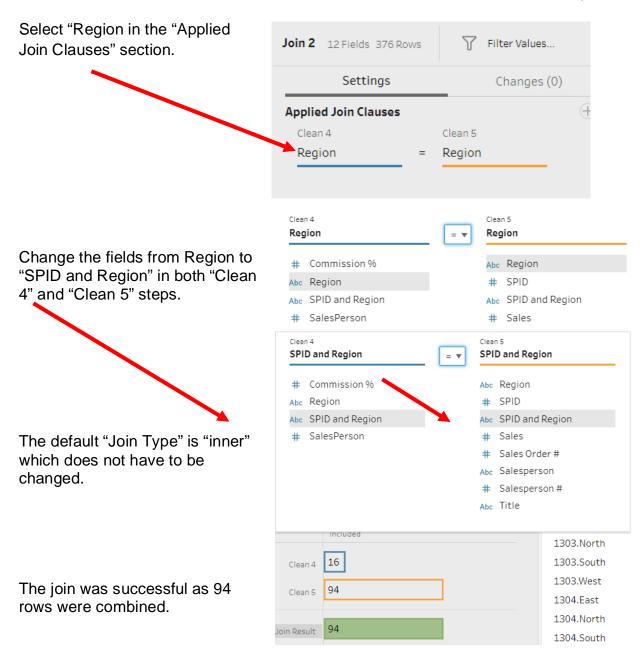
### Step 11: Combine First and Second Stream of Data to the Third Stream of Data

Now that we have a Primary key and a Foreign key, we can join the third stream of data with the combined first two streams. Drag the "Clean 5" step from the combined first and second stream to the "Clean 4" step in the third stream. Drop the "Clean 5" step into the Join box.



Step "Join 2" will appear. Select the "Join 2" step.

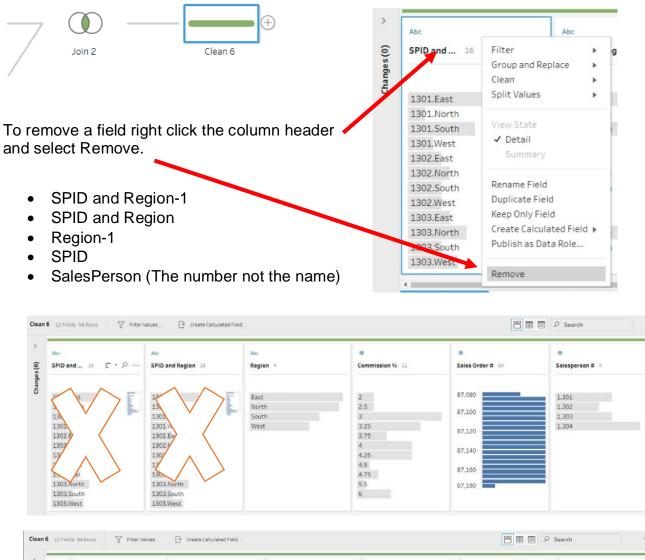


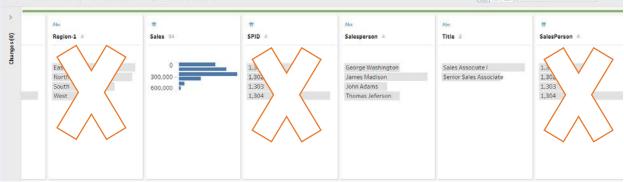


Settings Changes (	) Join Clauses Show only	y mismatched values 🔻
pplied Join Clauses	+	
Clean 5 Clean 4	Clean 5	O Clean 4 C
SPID and Region = SPID and Region	*	† SPID and Region
	1301.East	1301.East
oin Type : inner	1301.North	1301.North
lick the graphic to change the join type.	1301.South	1301.South
	1301.West	1301.West
Clean 5 Clean 4	1302.East	1302.East
	1302.North	1302.North
	1302.South	1302.South
ummary of Join Results	1302.West	1302.West
lick the bar segments to view the included and excluded Mismatched values	1303.East	1303.East
	1303.North	1303.North
Included	1303.South	1303.South
Clean 5 16	1303.West	1303.West
Clean 5 16	1304.East	1304.East
Clean 4 94	1304.North	1304.North
	1304.South	1304.South
loin Result 94	1304.West	1304.West
oin Clause Recommendations		
Region = Region		
SalesPerson = Salesperson #		

### Step 12: Remove Fields and Calculate the Commission on Every Sales Order

Add a step "Clean 6" after the step "Join 2" and remove some duplicating fields.





Clea	n 6 7 Fields 94 Rows	T	Filter Values
Cha	nges (5)		<
X	Remove Field [SPID and Region-1]		
X	Remove Field [SPID and Region]		
X	Remove Field [Region-1]		
X	Remove Field [SPID]		
X	Remove Field [SalesPerson]		

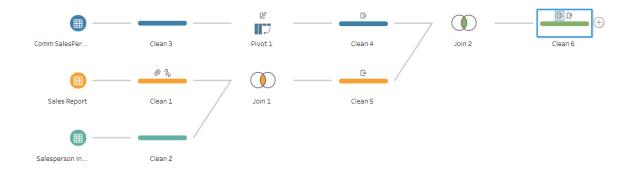
Now calculate the commission on every sales order.

	Clean 6 8 Fields 94 Rows Filter Values 🕞 Create Calculated Field				
Click on "Create Calculated Field"					
Enter "Commission Expense" as the	Add Field				
"Field Name".	Field Name				
	Commission Expense				
	Round([Sales]*[Commission %]/100,2)				

Type the formula Round([Sales]\*[Commission %]/100,2)

then click Save.

Save





Commission Expense	Region	Commission %	Sales Order #	Salesperson #	Sales	Salesperson	Title
7,165.38	South	6	87,082	1,301	119,423	George Washing	Sales Associate I
6,439.78	East	2	87,083	1,302	321,989	John Adams	Senior Sales Associa
4,676.46	East	3	87,084	1,304	155,882	James Madison	Sales Associate I
5,641.94	East	2	87,085	1,302	282,097	John Adams	Senior Sales Associa
9,159.57	North	3	87,086	1,302	305,319	John Adams	Senior Sales Associa
4,460.48	East	4	87,087	1,301	111,512	George Washing	Sales Associate I
12,322.04	East	4	87,088	1,301	308,051	George Washing	Sales Associate I

### Step 13: Create the "Commission Expense by Salesperson" Report

Add a step "Aggregate 1" after the step "Clean 6".



Select the "Aggregate 1" step, then select "Settings".

Aggregate 1 0 Fields 0 Rows	V Lincer Values	
Settings	Changes (0)	Grouped Fields
∑ Aggregate ∪ Fields		

Aggrega	ate 1 0 Fields (	0 Rows Tilter Values		Search V
	Settings	Changes (0)	Grouped Fields	Aggregated Fields
Additio	nal Fields			
Drag fi	elds to aggrega	ate or group them.		
₽ Se	arch		Drop fields here to group them	Drop fields here to aggregate them
	Add All	Remove All		
#	SUM	Commission %		
#	SUM	Commission Expense		
Abc	GROUP	Region		
#	SUM	Sales		
#	SUM	Sales Order #		
Abc	GROUP	Salesperson		
#	SUM	Salesperson #		
Abc	GROUP	Title 🗸		

Drag the "Salesperson" field to the "Grouped Fields" area and "Commission Expense" field to the "Aggregated Fields" area.

The decimal places in the "Commission Expense" fields are not uniform.

Grouped Fields	Aggregated Fields
Abc GROUP	# SUM
Salesperson 4	Commission Expense 4
George Washington	90,935.34
James Madison	127,193.51999999997
John Adams	226,149.84
Thomas Jeferson	274,189.61

### Step 14: Round the Commission Expense

Add a step "Clean 7" after the step "Aggregate 1".

Select "Create a Calculated Field"	Aggregate 1	Clean 7
Clean 7 2 Fields 4 Rows	📑 Create Calculated Field	
Add Field		
Field Name Calculation1		

Put the result back in the "Commission Expense" field by naming the field "Commission Expense".

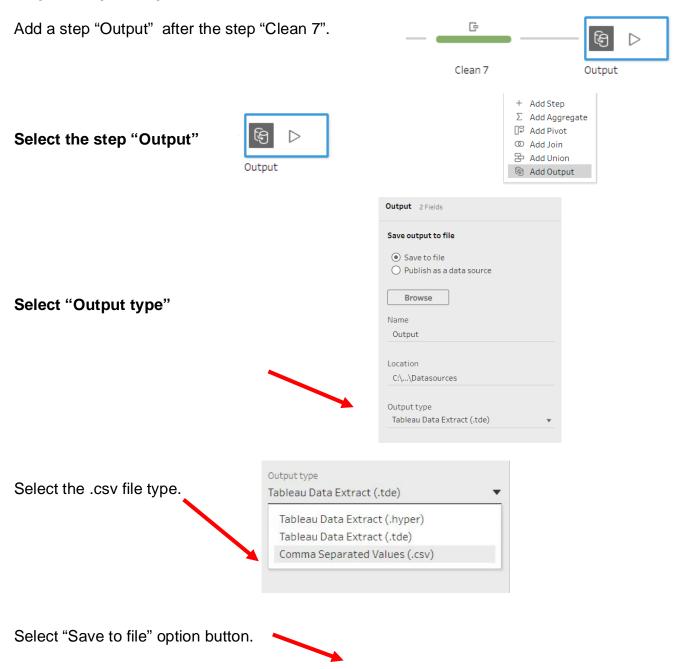
Add Field					)
Field Name	Reference				
Commission Expense	All	•	ABS(number)		
Round([Commission Expense],2)	< 🔎 Search		Returns the abso		*
	ABS	-	the given number		J.
	4005	*		7	•
Calculation is valid 🔨			Apply	Save	

Type in the formula, Round([Commission],2) and select "Save".

The data in the commission expense field now has two decimal places.



### Step 15: Export Report to Excel



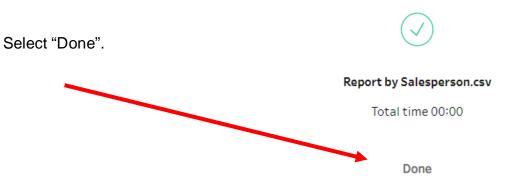
		Output 2 Fields
		Save output to file  Save to file Publish as a data source  Browse Name Output
	Save output	Location C:\\Datasources
Select "Browse" button	O Publish	Output type Comma Separated Values (.csv)
	Name Output	

📓 Save Extract As	×
$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\blacksquare$ « Desktop > Sample Data	✓ Č Search Sample Data
Organize 🝷 New folder	
Name S This PC S J Objects Desktop	Date modified Type
Documents	>
File name: Report by Salesperson.csv Save as type: Comma Separated Values (*.csv)	×
<ul> <li>Hide Folders</li> </ul>	Accept Cancel
Select the location for the file, specify the fi	1

The preview shows the data that will be generated.

	Save output to file	Save to Report by Salesperson.csv				
	<ul> <li>Save to file</li> <li>Publish as a data source</li> </ul>	Commission Expense	Salesperson			
		226,149.84	George Washingtor			
	Browse	274,189.61	James Madison			
	Name	127,193.52	Thomas Jeferson			
	Report by Salesperson	90,935.34	John Adams			
	C:\Users\mfriedma\Desktop\Sample Data					
	Output type Comma Separated Values (.csv)					
elect "Run Flow"						





Navigate to the location and double click to open the CSV file you just saved. Make the change that are required in Excel.

	А	В	С	D
1	Commissio	Salesperso	on	
2	226149.8	George W	ashington	
3	274189.6	James Ma	dison	
	127193.5	Thomas Je	eferson	
	90935.34	John Adan	ns	
5				
7				
3				
9				
10				
11				
12				
13			<b>C</b>	
		Report by	y Salespers	ion (-

Open the LightJoin.xlsx file and arrange both Excel files on the screen.

	А	В	С	D			A	В	С	D	E	F
1	Salesperson	Commission Expense				1		Ligh	ntJoin, In	с.		
2	George Washington	226,149.84					Commissio				Dogion	
3	James Madison	274,189.61				2	Commissio	11 /0 D	Jaiespe	i son by	Region	
4	Thomas Jeferson	127,193.52				3						
5	John Adams	90,935.34				4						
6						5						
7	Total	718,468.31				6						
8						7	SalesPerson	East	West	North	South	
9						8	1301	4.00	4.50	5.50	6.00	
10						9	1301	2.00	2.50	3.00	3.25	
11						10	1302	3.00	3.25	3.75	4.00	
12						11	1303	3.00	3.25	4.25	4.00	
13					-	12	1504	5.00	5.25	4.23	4.75	
	Report b	y Salesperson 🛛 🔶	) : 4	Þ	1		<ul> <li>→ … Com</li> </ul>	m Sales	Person by	Region	(+)	

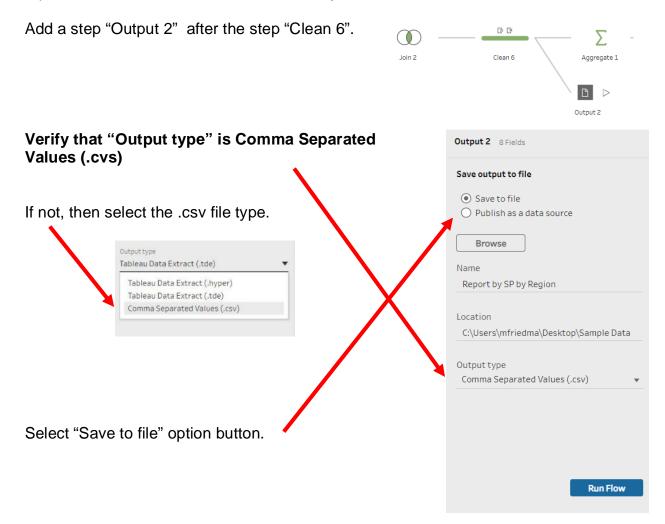
Copy the "Report by Salesperson" sheet by left clicking on the title tab and holding down the Control key as you drag the file to the right of the "Comm SalesPerson by Region" sheet in the LongJoin file and releasing the mouse and then the Control key.

	А	В	С	D	•		А	В	С	D	Е
1	Salesperson	Commission Expense				1	Salesperson	Commission Expense			
2	George Washington	226,149.84				2	George Washington	226,149.84			
3	James Madison	274,189.61				3	James Madison	274,189.61			
4	Thomas Jeferson	127,193.52				4	Thomas Jeferson	127,193.52			
5	John Adams	90,935.34				5	John Adams	90,935.34			
6						6					
7	Total	718,468.31				7	Total	718,468.31			
8						8					
9						9					
10						10					
11						11					
12						12					
13					-	13			_		
	Report b	y Salesperson (+	) : •	►			🔹 🕞 📔 Comm S	alesPerson by Region	Report	by Salesp	erson

Save and close both Excel files.

### Step 16: Create a "Commission by Salesperson by Region" Report

It is going to be much easier to create the "Commission by Salesperson by Region" report in Excel since all the data has already been transformed.



	Save output to file
	<ul> <li>Save to file</li> <li>Publish as a data source</li> </ul>
Select "Browse" button	Browse
	Name Output
	Location

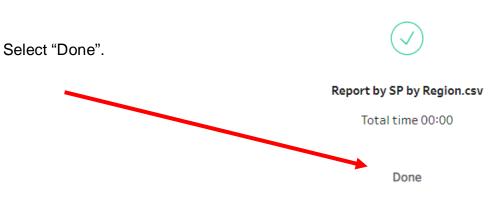
Select the location for the file, specify the file name, "Data Commission by SP and Region", and select "Accept".

📓 Save Extract As			×
← → × ↑ 🖡 «	Desktop > Sample Data 🗸 🗸	Search Sample Data	م
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👆 3D Objects	Report by Salesperson.csv	4/5/2020 4:16 PM	Microsoft
📜 Desktop			
Documents	~ <		>
File name:	Data Commision by SP by Region		$\sim$
Save as type:	Comma Separated Values (*.csv)		~
∧ Hide Folders		Accept Ca	ncel

Output 2 8 Fields								
Save output to file	Save to Report by SP by	/ Region.c	sv					
<ul> <li>Save to file</li> <li>Publish as a data source</li> </ul>	Commission Expense	Region	Commission %	Sales Order #	Salesperson #	Sales	Salesperson	Title
	7,165.38	South	6	87,082	1,301	119,423	George Washington	Sales Associate I
Browse	6,439.78	East	2	87,083	1,302	321,989	John Adams	Senior Sales Associat
Name	4,676.46	East	3	87,084	1,304	155,882	James Madison	Sales Associate I
Report by SP by Region	5,641.94	East	2	87,085	1,302	282,097	John Adams	Senior Sales Associat
	9,159.57	North	3	87,086	1,302	305,319	John Adams	Senior Sales Associat
Location	4,460.48	East	4	87,087	1,301	111,512	George Washington	Sales Associate I
C:\Users\mfriedma\Desktop\Sample Data	12,322.04	East	4	87,088	1,301	308,051	George Washington	Sales Associate I
	4,082.93	North	4.25	87,089	1,304	96,069	James Madison	Sales Associate I
Output type	6,534.4	East	4	87,090	1,301	163,360	George Washington	Sales Associate I
Comma Separated Values (.csv)	11,468.75	North	4.25	87,091	1,304	269,853	James Madison	Sales Associate I
	2,829.75	North	3.75	87,092	1,303	75,460	Thomas Jeferson	Senior Sales Associat
	6,090.54	East	3	87,093	1,304	203,018	James Madison	Sales Associate I
	10,975.32	West	4.5	87,094	1,301	243,896	George Washington	Sales Associate I
	2,609.98	West	3.25	87,095	1,304	80,307	James Madison	Sales Associate I
	3,207.12	East	2	87,096	1,302	160,356	John Adams	Senior Sales Associat
Run Flow	10,960.41	North	4.25	87,097	1,304	257,892	James Madison	Sales Associate I

### The preview shows the data that will be generated.

Select "Run Flow"



# **Finished Running Flow**

Navigate to the location and double click to open the CSV file you just saved.

	А	В	С	D	E	F	G	Н	I	J	K
1	Commissic	Region	Commissio	Sales Orde	Salesperso	Sales	Salesperso	Title			
2	7165.38	South	6	87082	1301	119423	George Wa	Sales Asso	ciate I		
3	6439.78	East	2	87083	1302	321989	John Adam	Senior Sale	es Associate	;	
4	4676.46	East	3	87084	1304	155882	James Ma	Sales Asso	ciate I		
5	5641.94	East	2	87085	1302	282097	John Adam	Senior Sale	es Associate	;	
6	9159.57	North	3	87086	1302	305319	John Adam	Senior Sale	es Associate	;	
7	4460.48	East	4	87087	1301	111512	George Wa	Sales Asso	ciate I		
8	12322.04	East	4	87088	1301	308051	George W	Sales Asso	ciate I		
9	4082.93	North	4.25	87089	1304	96069	James Ma	Sales Asso	ciate I		
10	6534.4	East	4	87090	1301	163360	George Wa	Sales Asso	ciate I		
11	11468.75	North	4.25	87091	1304	269853	James Ma	Sales Asso	ciate I		
12	2829.75	North	3.75	87092	1303	75460	Thomas Je	Senior Sale	es Associate	;	
13	6090.54	East	3	87093	1304	203018	James Ma	Sales Asso	ciate I		
14	10975.32	West	4.5	87094	1301	243896	George W	Sales Asso	ciate I		
15	2609.98	West	3.25	87095	1304	80307	James Ma	Sales Asso	ciate I		
16	3207.12	East	2	87096	1302	160356	John Adam	Senior Sale	es Associate	;	
-	•	Data Com	mision by	SP by Reg	gion	÷	:	•			

The exported table in Excel would like the following:

Open the LightJoin.xlsx file and arrange both Excel files on the screen.

Copy the "Data Commission by SP by Region" sheet from the .cvs file by left clicking on the title tab and hold down the Control key as you drag the file to the right of the "Report by Salesperson" sheet in the LongJoin.xlsx file and releasing the mouse and then the Control key.

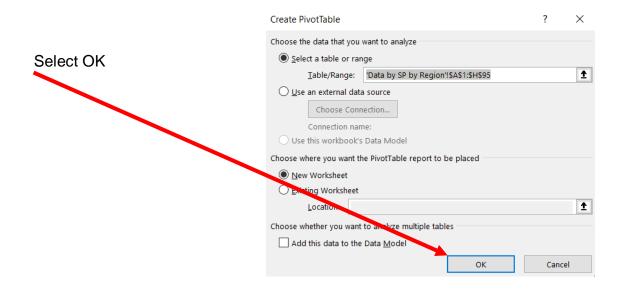
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• • • × ~	fx Co	mmission Ex	pense							*			• =	××	fx	Commis	ision Exp	ense						
A B C	D	E	F	G	Н	1	-	J	к	•	14	A	В	С		D	Ε	F	G	н	1	J		k
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7165.38 South	6 87082			George W							2	7165.38			6	87082	1301		and a second second	N. Sales Ass				
6439.78 East	2 8708			John Adar			iate				3	6439.78			2	87083	1302	-			ales Associa	te		
4676.46 East	3 87084			James Ma							4	4676.46			3	87084	1304			la: Sales Ast				
5641.94 East	2 87085			John Adar							5	5641.94			2	87085	1302				ales Associa			
9159.57 North	3 87086			John Adar			iate				6	9159.57			3	87086	1302				ales Associa	te		
	4 87087	7 1301	111512	George W	Sales Ass	ociate I					7	4460.48	East		4	87087	1301	111512	George V	Ni Sales Ass	lociate I			
4460.48 East		B 1301	308051	George W	Sales Ass	ociate I					8	12322.04	East		4	87088	1301	308051	George V	Ni Sales Ass	ociate I			
4460.48 East 12322.04 East	4 87088	2 1301	200021																					

Select a cell, perhaps A1, in the data range on the "Data by SP by Region".

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	А	В	С	D	E	F	G	н	I	J	К
1	Commissio	Region	Commissic	Sales Orde	Salesperso	Sales	Salesperso	Title			
2	7165.38	South	6	87082	1301	119423	George Wa	Sales Asso	ciate I		
3	6439.78	East	2	87083	1302	321989	John Adam	Senior Sale	es Associat	e	
4	4676.46	East	3	87084	1304	155882	James Ma	Sales Asso	ciate I		
5	5641.94	East	2	87085	1302	282097	John Adam	Senior Sale	es Associat	e	
6	9159.57	North	3	87086	1302	305319	John Adam	Senior Sale	es Associat	e	
7	4460.48	East	4	87087	1301	111512	George Wa	Sales Asso	ciate I		
8	12322.04	East	4	87088	1301	308051	George Wa	Sales Asso	ciate I		
9	4082.93		4.25	87089	1304	96069	James Ma	Sales Asso	ciate I		
10	6534.4		4	87090	1301		George Wa				
11	11468.75		4.25	87091	1304		James Ma				
12	2829.75		3.75	87092	1303		Thomas Je			e	
13	6090.54		3	87093	1304		James Ma				
14	10975.32		4.5	87094	1301		George Wa				
15	2609.98		3.25	87095	1304		James Ma				
16	3207.12		2	87096	1302		John Adam			e	
17	10960.41		4.25	87097	1304		James Ma				
18	3894.9		3.25	87098	1303		Thomas Je			e	
19 •	4251 78		4 25 P by Region	87099 Data b	1304 9 SP by R		lames Mar	Sales Asso ∢	ciate I		

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Image and summarize complex data in a PivotTable.JCommission ExpensePft: You can double-click a value to see which detailed values make up the summized total.Sales Orde SalesperseSales orde (Salesperse)Sales Associate IImage and summarized total.S70821301119423George Wi Sales Associate IImage and summarized total.S70831302321989John Adam Senior Sales Associate IImage and summarized total.S70841304155882James Mai Sales Associate IImage and summarized total.S70851302320397John Adam Senior Sales Associate IImage and summarized total.S7085130230551George Wi Sales Associate IImage and summarized total.S7086130230551George Wi Sales Associate IImage and summarized total.S7086130230551George Wi Sales Associate IImage and summarized total.S7086130230551George Wi Sales Associate IImage and summarized total.S70881301119122George Wi Sales Associate IImage and summarized total.S70881301308051George Wi Sales Associate IImage and summarized total.S7088130496069James Mai Sales Associate IImage and summarized total.S70891304260833James Mai Sales Associate IImage and summarized total.S7091304260833James Mai Sales Associate IImage and summarized total.S7091304260833James Mai Sales Associ	Select Pivot table		votTable Recommended PivotTables	tradition of the local division of the local		My Add	-ins 🔹 🔝	Recom	mended an	
Easily arrange and summarize complex data in a PivotTable.       D       E       F       G       H       I         FY: You can double-click a value to see which detailed values make up the summarized total.       Sales.Orde Sales.perso. Sales       Sales.perso. Title       Sales.Orde Sales.perso. Title         Image: Tell memore       87083       1302       21589       John Adam Senior Sales Associate I         Image: Tell memore       87084       1304       155882       Jannes Mat Sales Associate I         Image: Tell memore       87085       1302       282097       John Adam Senior Sales Associate I         Image: Tell memore       87085       1302       305319       John Adam Senior Sales Associate I         Image: Tell memore       87088       1301       11512       George Wi Sales Associate I         Image: Tell memore       87088       1301       10051       George Wi Sales Associate I         Image: Tell memore       87088       1301       10051       George Wi Sales Associate I         Image: Tell memore       87088       1304       96069       James Mat Sales Associate I         Image: Tell memore       87088       1304       96069       James Mat Sales Associate I         Image: Tell memore       87088       1304       96069       James Mat Sales Associate I		5	PivotTable		fr. Con	omission Ex	oonro			
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PY: You can double-click a value to see which detailed values make up the summarized total.       87082       1301       119423       George W, Sales Associate I         Image: Strain Strai			complex data in a PivotTa	able.		E	F			1
see which detailed values make up the summarized total.       87/082       13/01       119/4/3 (Beorge W) Sales Associate I         0       87/083       13/02       219/89       John Adam Senior Sales Associate I         0       Tell me more       87/083       13/02       215/89       John Adam Senior Sales Associate I         0       Tell me more       87/085       13/02       208/09       John Adam Senior Sales Associate I         0       Tell me more       87/085       13/02       208/09       John Adam Senior Sales Associate I         1       10       65/04       8       4       87/085       13/02       205/07       John Adam Senior Sales Associate I         1       12/22.04 East       4       87/088       13/01       1115/12       George W, Sales Associate I         1       11/26.07 North       4.25       87/09       13/01       1613/60       George W, Sales Associate I         1       11/26.07 North       4.25       87/09       13/01       1613/60       George W, Sales Associate I         1       11/26.07 North       4.25       87/09       13/01       1613/60       George W, Sales Associate I         1       11/26.07 North       4.25       87/09       13/01       163/60       George W, Sale			Wh You can double click	a value to		and the second second				
the summarzed total.       87084       1304       155882       James Ma(Sales Associate I)         7       Tell me more       87085       1302       282097       John Adam Senior Sales Associate I         6       9159.57       North       3       87086       1302       282097       John Adam Senior Sales Associate I         7       4460.48       East       4       87087       1301       111512       George W(Sales Associate I)         8       12322.04       East       4       87089       1301       130501       George W(Sales Associate I)         9       4082.93       North       4.25       87091       1304       96069       James Mai Sales Associate I         10       6534.4       East       4       87090       1301       163360       George W(Sales Associate I)         12       2829.75       North       4.25       87091       1304       269853       James Mai Sales Associate I         12       2829.75       North       4.25       87091       1304       269853       James Mai Sales Associate I         12       2829.75       North       4.25       87091       1304       269853       James Mai Sales Associate I         13       6090-54					and the second se			and the second sec		
?? Tell me more       87085       1302       282097       John Adam Senior Sales Associate         6       9159.57       North       3       87086       1302       305319       John Adam Senior Sales Associate         7       4460.48       East       4       87087       1301       311512       George Wi, Sales Associate I         8       1232.04       East       4       87089       1301       308051       George Wi, Sales Associate I         9       4082.93       North       4.25       87089       1301       96069       James Mai Sales Associate I         10       6534.4       East       4       87090       1301       163360       George Wi, Sales Associate I         11       148.75       North       4.25       87091       1304       269853       James Mai Sales Associate I         12       2829.75       North       4.25       87091       1304       269853       James Mai Sales Associate I         13       6090.54       East       3       87093       1304       203018       James Mai Sales Associate I         14       10975.32       West       3.25       87094       1301       243896       George Wi Sales Associate I         16		1	he summarized total.							
6       9159.57       North       3       87086       1302       305319       John Adar Stein's Sales Associa         7       4460.48       East       4       87087       1301       111512       George Wi Sales Associa         8       12322.04       East       4       87087       1301       111512       George Wi Sales Associate I         9       4082.93       North       4.25       87089       1304       96069       James Mai Sales Associate I         10       6534.4       East       4       87080       1301       163360       George Wi Sales Associate I         11       11468.75       North       4.25       87090       1304       96069       James Mai Sales Associate I         12       2829.75       North       4.375       87090       1304       260853       James Mai Sales Associate I         13       6090.54       East       3       87093       1304       260813       James Mai Sales Associate I         14       10975.32       West       3.25       87094       1304       203018       James Mai Sales Associate I         15       2609.98       West       3.25       87095       1304       80307       James Mai Sales Associate I		0	⑦ Tell me more							
7       4460.48 East       4       87087       1301       111512       George Wi Sales Associate I         8       12322.04 East       4       87088       1301       308051       George Wi Sales Associate I         9       4082.93 North       4.25       87089       1304       96069       James Max Sales Associate I         10       6534.4 East       4       87089       1301       151360       George Wi Sales Associate I         11       11468.75 North       4.25       8709       1301       151360       George Wi Sales Associate I         12       2829.75 North       4.25       87092       1303       75460       Thomas Je Senior Sales Associate I         13       6009.54       53       37589       1304       269853       James Max Sales Associate I         14       10975.32       West       3.5       87094       1301       243896       George Wi Sales Associate I         15       2609.98       West       3.25       87095       1304       20307       James Max Sales Associate I         16       3207.12       East       2       87095       1304       80307       James Max Sales Associate I         16       3207.12       East       2 <t< td=""><td></td><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>		6								
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10       653.4       East       4       87090       1301       163360       George W, Sales Associate I         11       11468.75       North       4.25       87091       1304       269853       James Mai Sales Associate I         12       2829.75       North       4.25       87092       1303       75460       Thomas Je Senior Sales Associate I         13       6090.54       East       3       87093       1304       20318       James Mai Sales Associate I         14       10975.32       West       3.25       87094       1304       20318       James Mai Sales Associate I         15       2609.98       West       3.25       87095       1304       20318       James Mai Sales Associate I         16       3207.32       East       2       87095       1304       20318       James Mai Sales Associate I         16       3207.32       East       3.25       87095       1304       80307       James Mai Sales Associate I         16       3207.32       East       2       87095       1304       80307       James Mai Sales Associate I         16       3207.32       East       2       87095       1304       20325       James Mai Sales Associate I <td></td> <td>8</td> <td>12322.04 East</td> <td></td> <td></td> <td></td> <td></td> <td>the second s</td> <td></td> <td></td>		8	12322.04 East					the second s		
11       11468.75       North       4.25       87091       1304       269853       James Mat Sales Associate I         12       2829.75       North       3.75       87092       1303       75460       Thomas Je Senior Sales Associate I         13       6090.54       East       3       87093       1304       203018       James Mat Sales Associate I         14       10975.32       West       4.25       87094       1301       243896       George Wit Sales Associate I         15       2609.98       West       3.25       87095       1304       80307       James Mat Sales Associate I         16       3207.12       East       2       87096       1302       160356       John Adar Sales Associate I         17       10960.41       North       4.25       87097       1304       257892       James Mat Sales Associate I		9	4082.93 North	4.2	5 87089	1304	96069	James M	lar Sales Ass	ociate I
12       2829,75       North       3.75       87092       1303       75460       Thomas Je Senior Sales Associate         13       6090.54       East       3       87093       1304       203018       James Mai Sales Associate         14       10975.32       West       4.5       87094       1301       243896       George Wi Sales Associate         15       2609.98       West       3.25       87095       1304       80307       James Mai Sales Associate         16       3207.12       East       2       87096       1302       160356       John Adar Sales Associate         17       10960.41       North       4.25       87097       1304       257892       James Mai Sales Associate		10	6534.4 East		4 87090	1301	163360	George \	Ni Sales Ass	ociate I
13       6090.54 East       3       87093       1304       203018 James MarSales Associate I         14       10975.32 West       4.5       87094       1301       243896 George Wr Sales Associate I         15       2609.98 West       3.25       87095       1304       80307 James MarSales Associate I         16       3207.12 East       2       87095       1304       80307 James MarSales Associate I         17       10960.41 North       4.25       87097       1304       257892 James MarSales Associate I		11	11468.75 North	4.2	5 87091	1304	269853	James M	la Sales Ass	ociate I
14     10975.32 West     4.5     87094     1301     243896 George Wi Sales Associate I       15     2609.98 West     3.25     87095     1304     80307 James Mar Sales Associate I       16     3207.12 East     2     87096     1304     80305 John Adam Senior Sales Associate I       17     10960.41 North     4.25     87097     1304     257892 James Mar Sales Associate I		12	2829.75 North	3.7			75460	Thomas	Je Senior Sa	les Associate
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16         3207.12 East         2         87096         1302         160356 John Adam Senior Sales Associat           17         10960.41 North         4.25         87097         1304         257892 James Ma(Sales Associate I)										
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10 3039-9 West 3-23 07090 1303 113093 110003 16 Senior Sales Associa 19 4251 78 North 4-25 87099 1304 100042 1emes Mar Sales Associate 1		18	3894.9 West			1303				

This will insert a Pivot Table in a new sheet. Pivot tables help summarize the data in various formats.

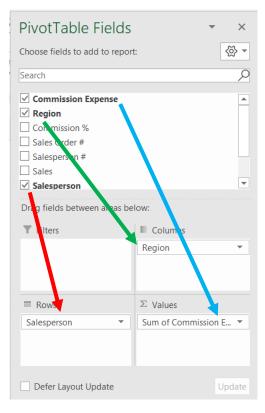


Once a Pivot table is inserted, the Pivot Table Fields are displayed .

Drag the fields

- 1. Salesperson to Rows
- 2. Region to Columns and
- 3. Commission Expense to Values

As indicated in the diagram



If "Count of Commission" appears instead of the "Sum of Commission", left click on Count of Commissions, select Value.Field Setting, Sum then OK.

	А	В	С	D	E	F	G
1							
2							
3	Sum of Commission Expense	Column Labels 🔻	]				
4	Row Labels 🗸	East	North	South	West	Grand Total	
5	George Washington	84,829.28	29,372.96	82,074.30	29,873.30	226,149.84	
6	James Madison	60,005.82	136,168.64	44,940.09	33,075.06	274,189.61	
7	John Adams	17,192.18	26,615.28	26,052.39	21,075.49	90,935.34	
8	Thomas Jeferson	30,874.29	52,700.71	15,502.96	28,115.56	127,193.52	
9	Grand Total	192,901.57	244,857.59	168,569.74	112,139.41	718,468.31	
10							
11			-				
•	Beet1 Data by	SP by Region	(+)			•	

This summarizes the data in the following format:

### Rename "Sheet1" to "Report by SP by Region"

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2										
3 <b>S</b>	um of Comm	ission	Expense	Colun	nn Labels 💌					
4 <b>R</b>	ow Labels			East		North	South	West	Grand Total	
5 G	ieorge Washir	ngton			84,829.28	29,372.96	82,074.30	29,873.30	226,149.84	
6 Ja	ames Madiso	n			60,005.82	136,168.64	44,940.09	33,075.06	274,189.61	
7 Jo	ohn Adams				17,192.18	26,615.28	26,052.39	21,075.49	90,935.34	
8 T	homas Jefers	on			30,874.29	52,700.71	15,502.96	28,115.56	127,193.52	
9 <b>G</b>	irand Total				192,901.57	244,857.59	168,569.74	112,139.41	718,468.31	
10										
11	▶ Rep	ort b	y SP by I	Region	Data by S	SP by Re 🗃				

Save and close the LongJoin.xls file.

Close the "Report by SP and Region.cvs" file.

Save and close the Tableau Prep flow file.

Done!