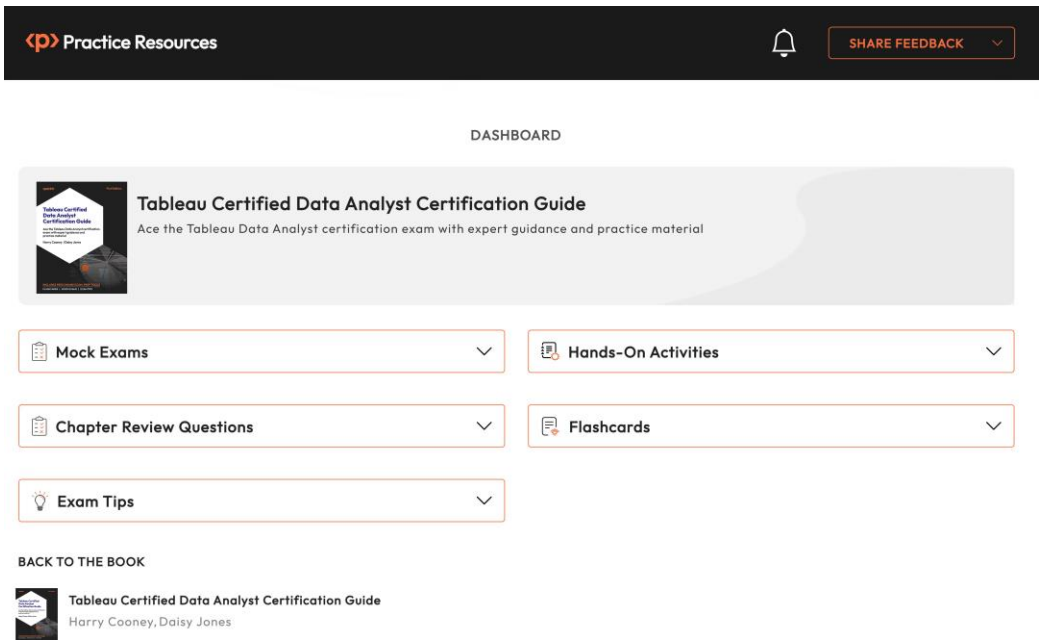


Figure 0.1 – Online exam-prep platform on a desktop device

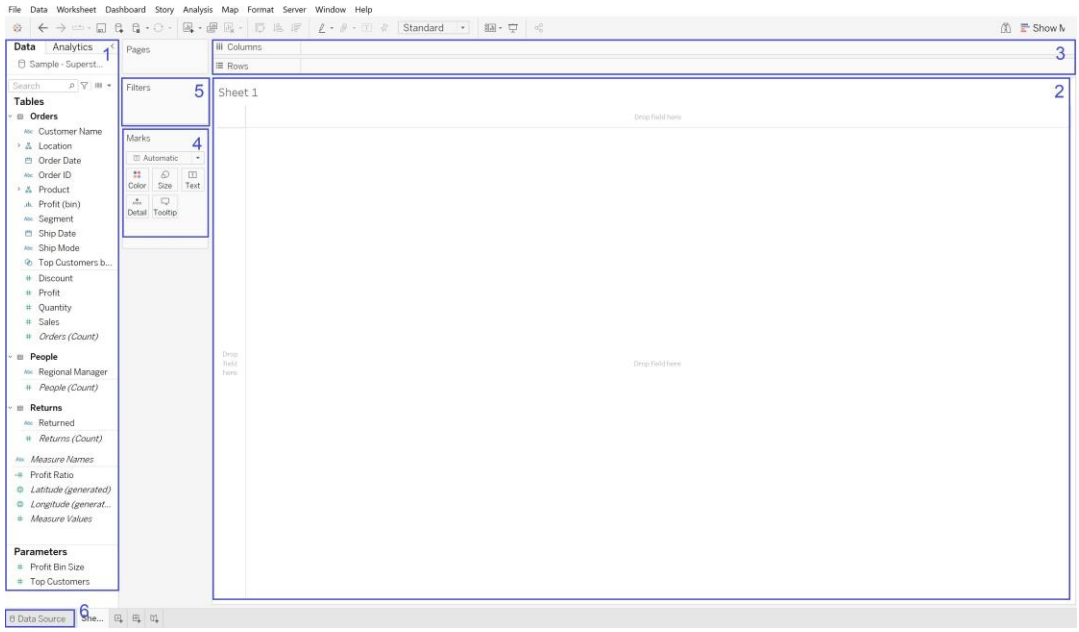


Figure 0.2: Tableau Desktop Interface

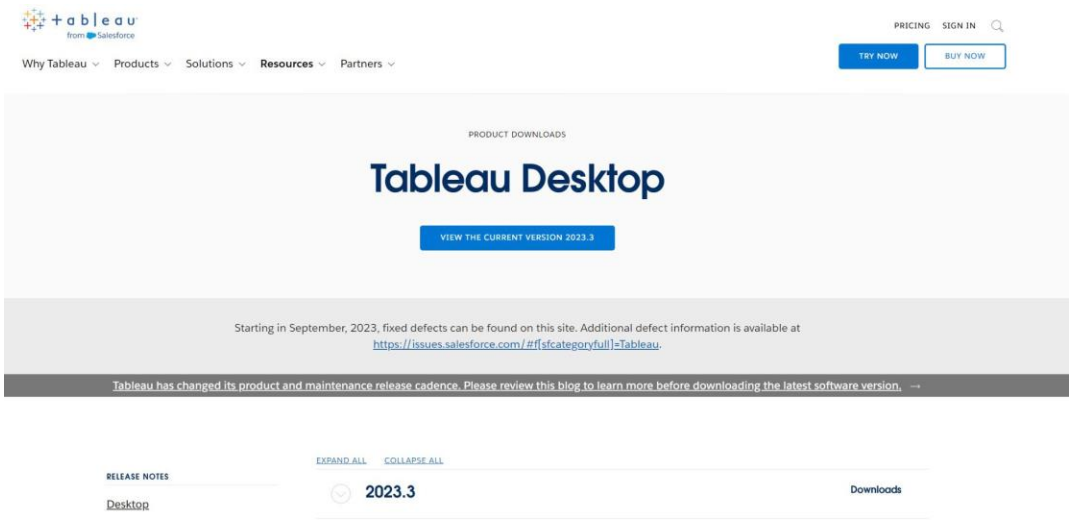


Figure 0.3: The Tableau Desktop released versions page

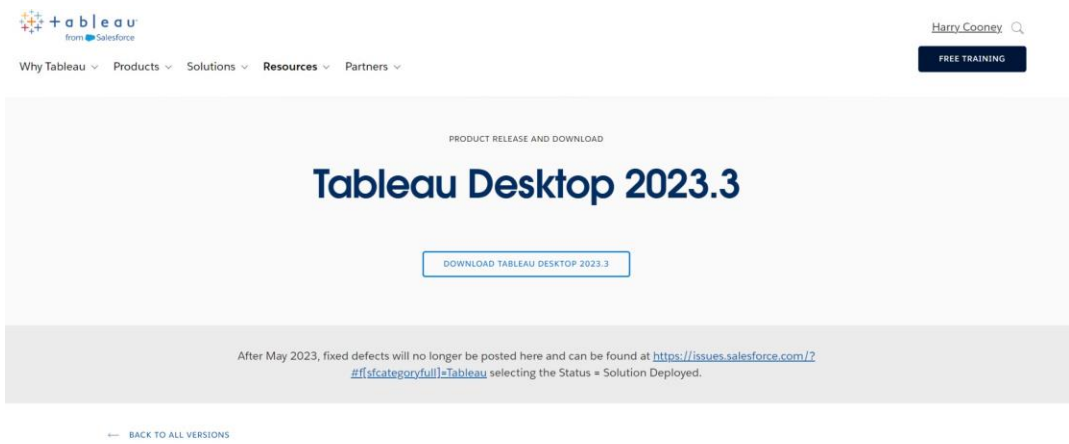


Figure 0.4: Most recent Tableau version download page

Figure 0.5: The Windows and Mac download links

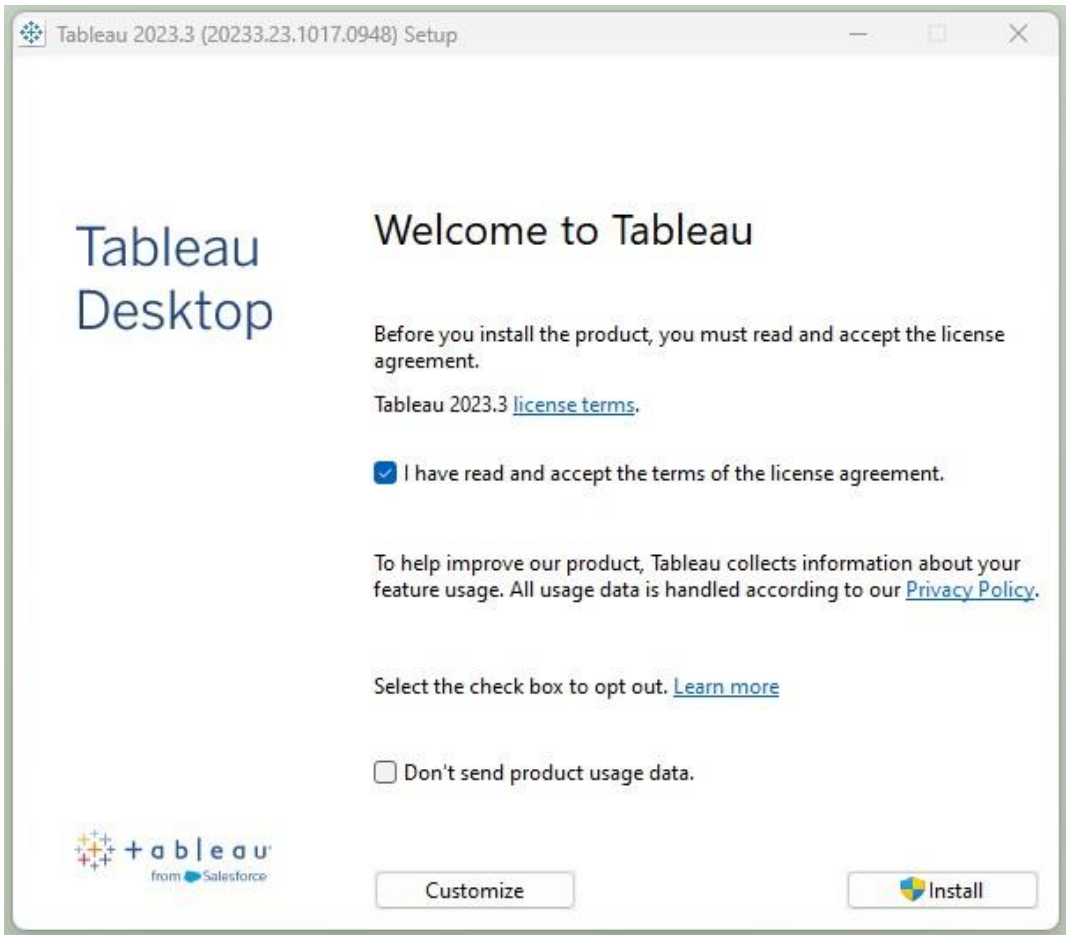


Figure 0.6: The Tableau Desktop Windows installation wizard

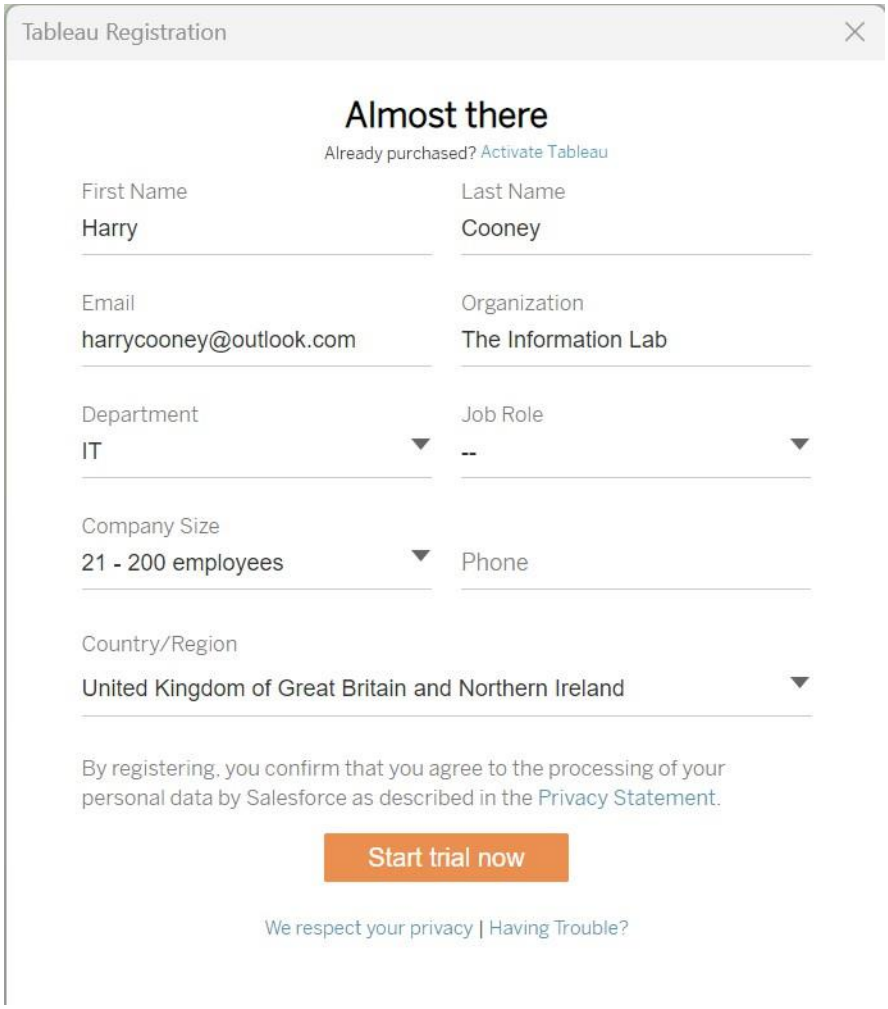


Figure 0.7: Tableau Desktop product activation

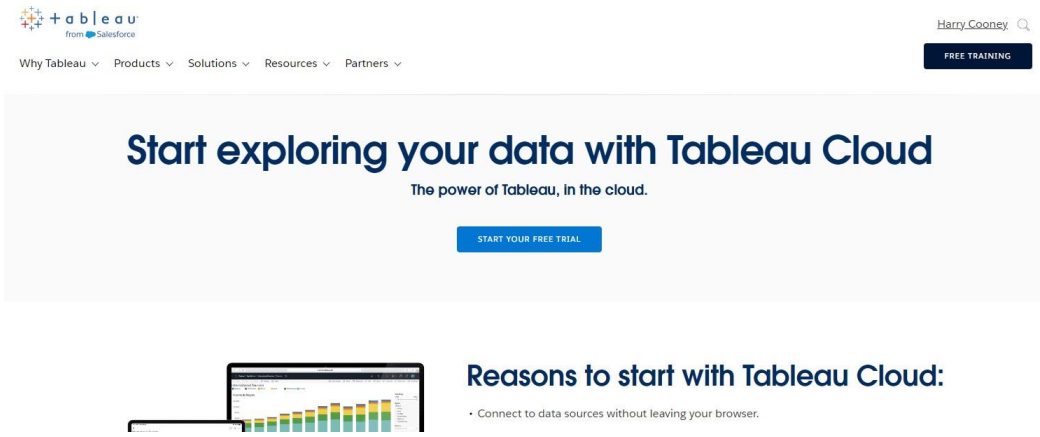


Figure 0.8: The Tableau Cloud free trial page

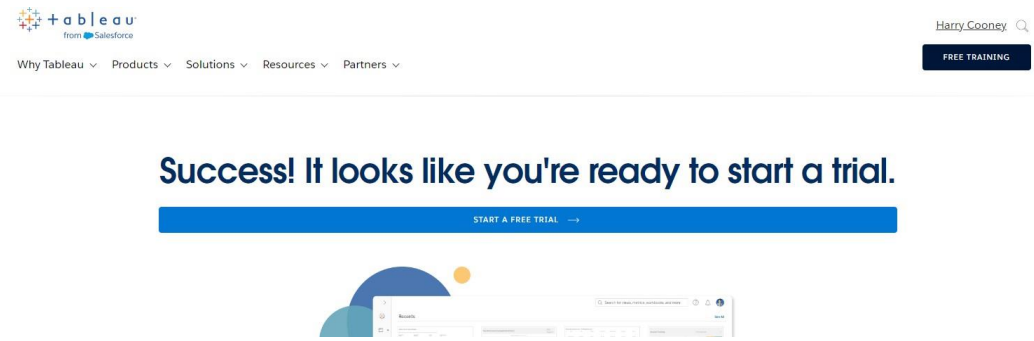


Figure 0.9: Post registration form landing page

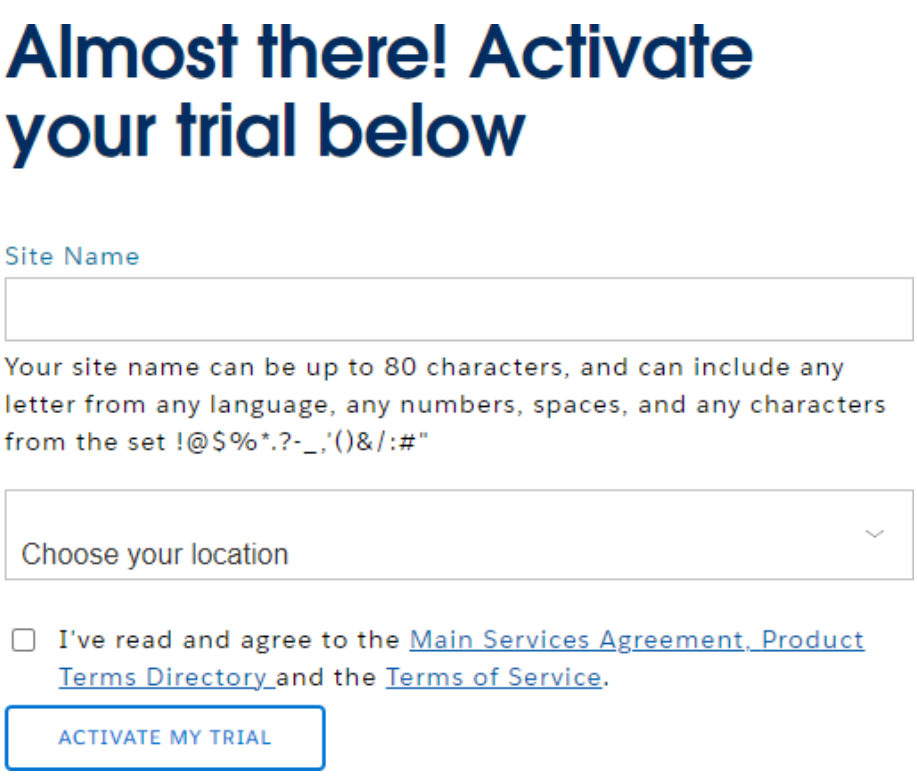


Figure 0.10: Tableau Cloud site name, location, and activation

Figure 0.11: The Sample – Superstore data source connection used for practical exercises

Chapter 1: Connecting to Data

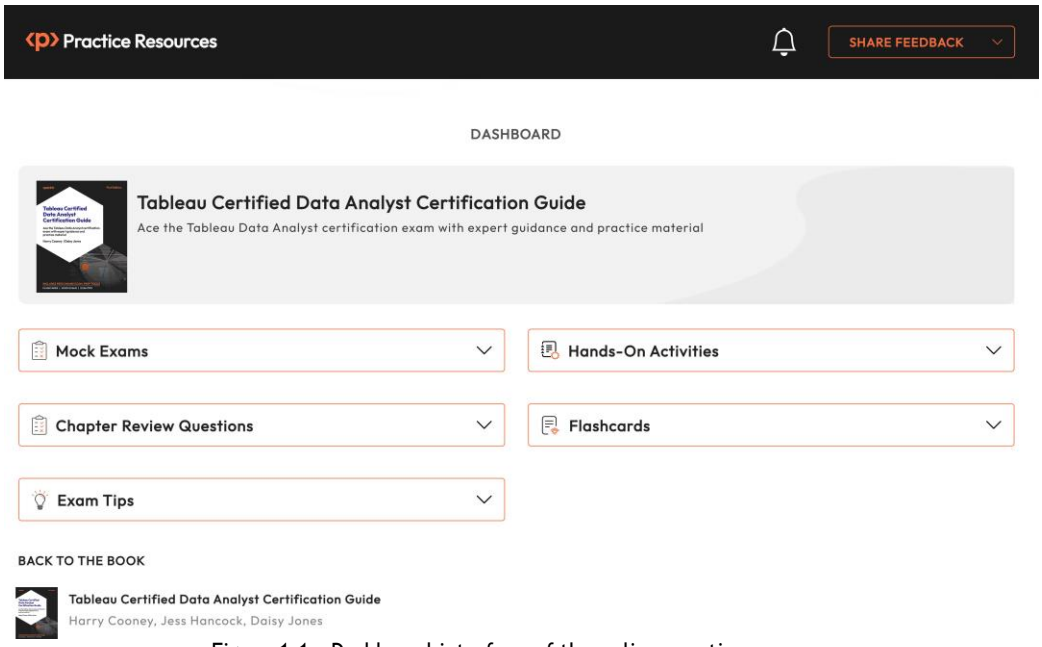


Figure 1.1 – Dashboard interface of the online practice resources

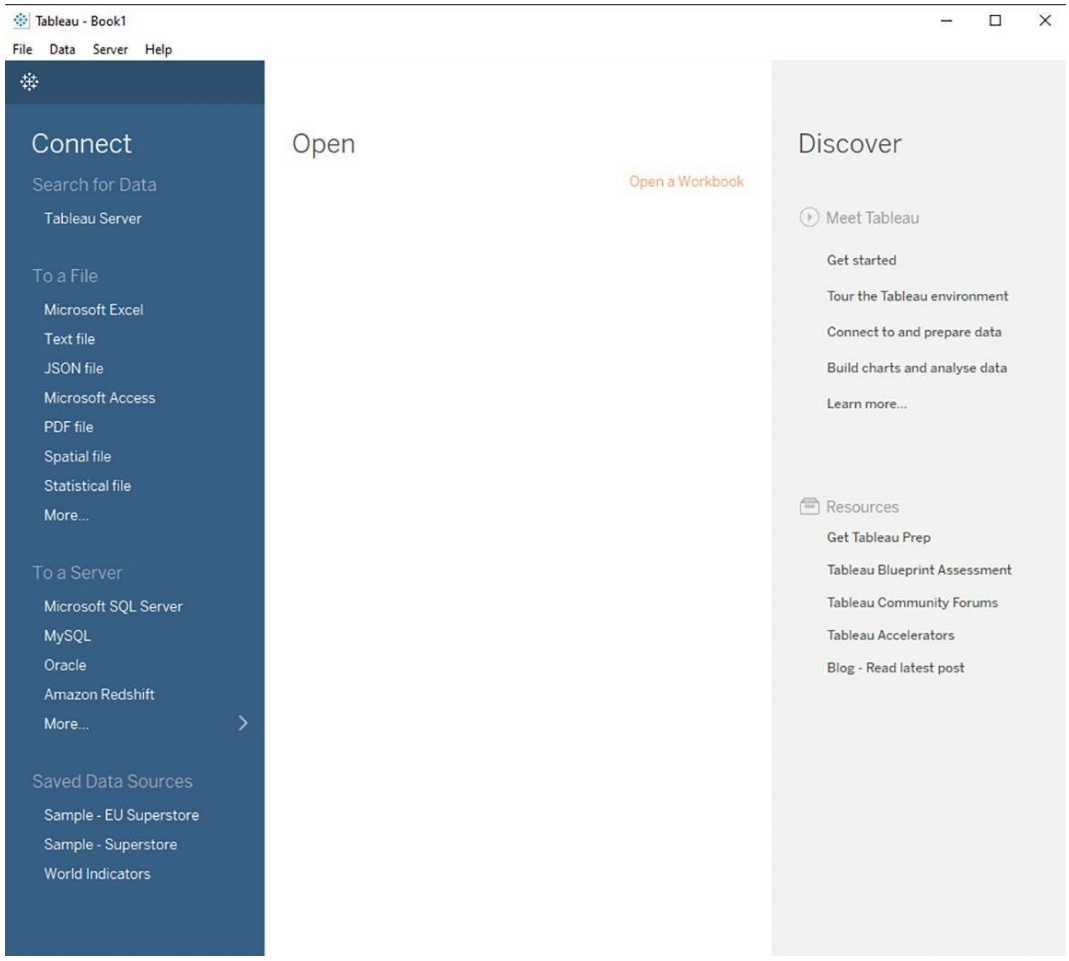


Figure 1.2: Tableau Desktop start page

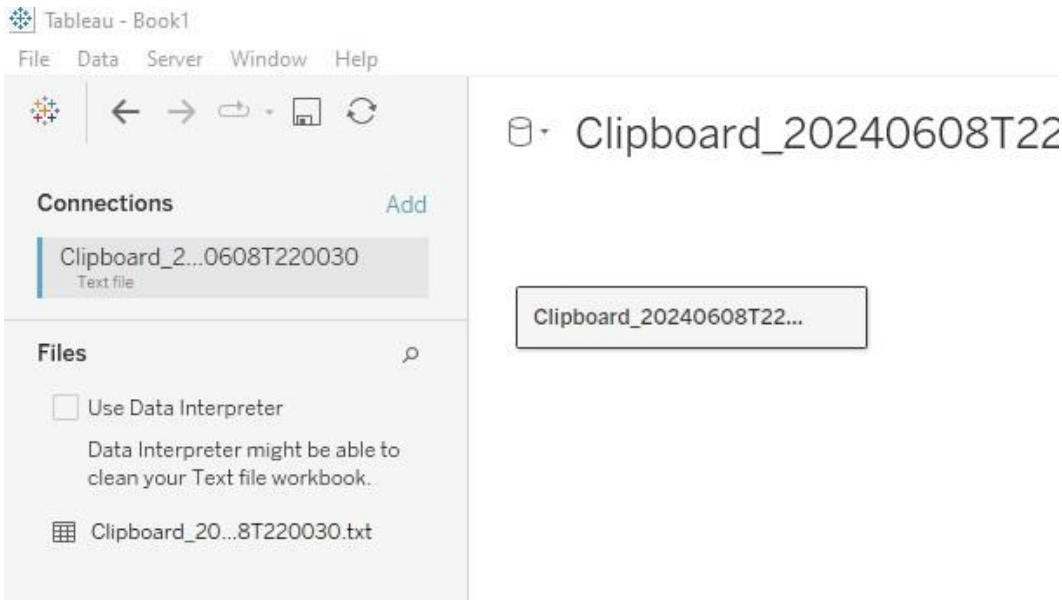


Figure 1.3: Data connector pane

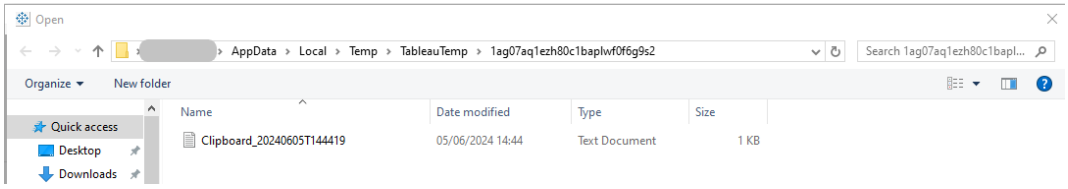


Figure 1.4: File directory

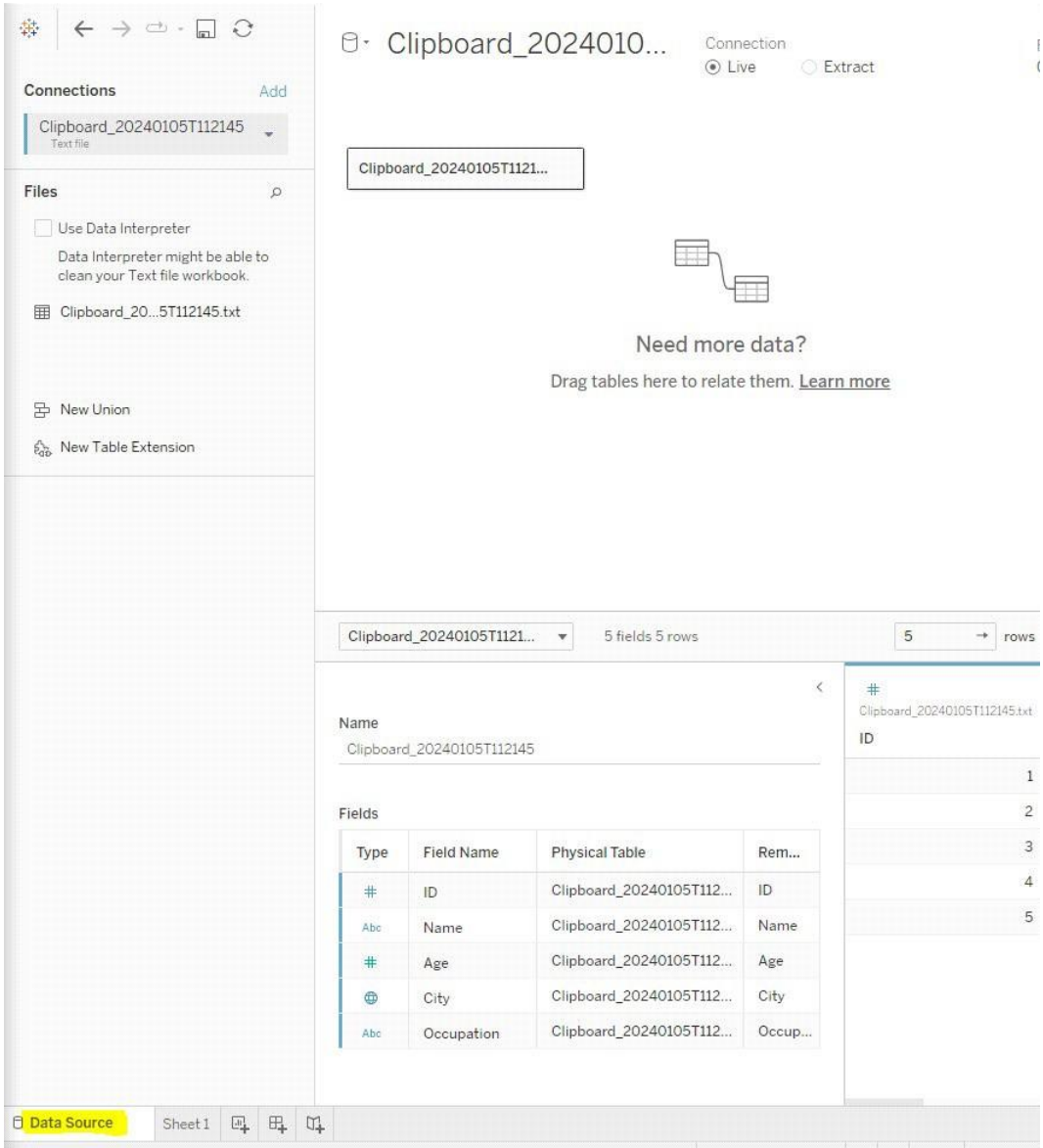


Figure 1.5: The Data Source tab

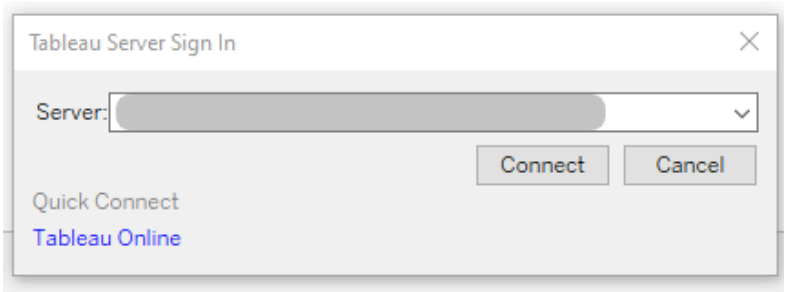


Figure 1.6: The Tableau Server Sign In window

Figure 1.7: Tableau Server login window

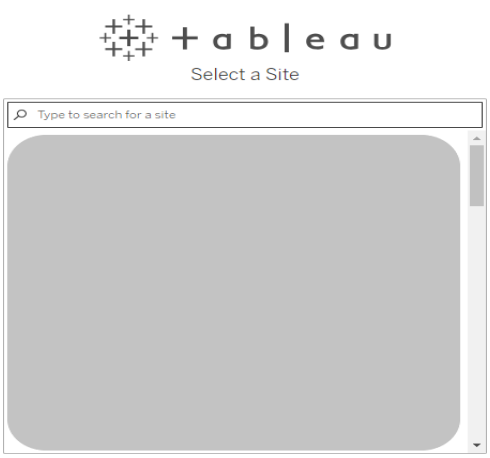


Figure 1.8: Tableau Server site selection

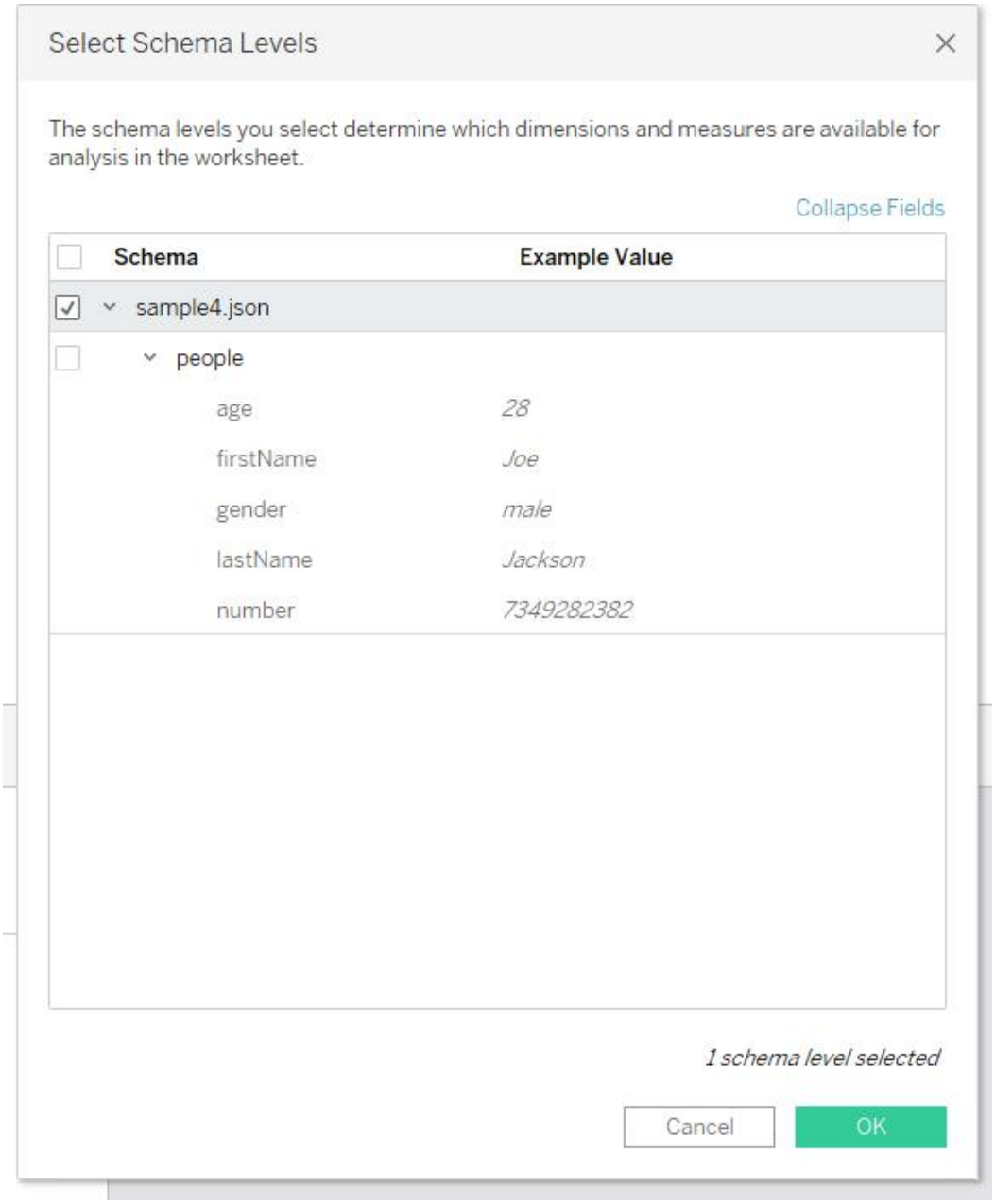


Figure 1.9: Example of a JSON file connection

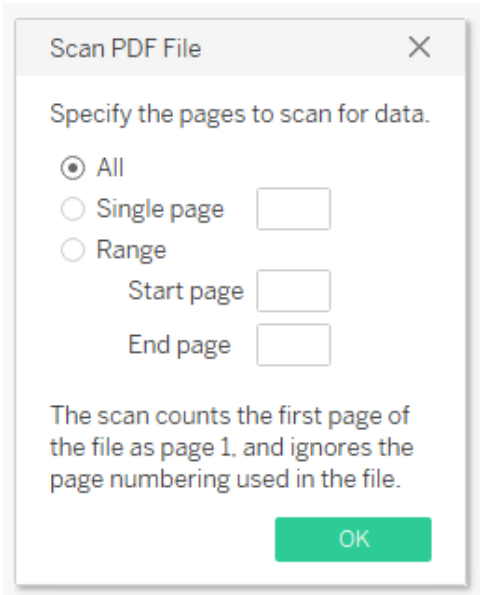


Figure 1.10: Scan PDF File selector

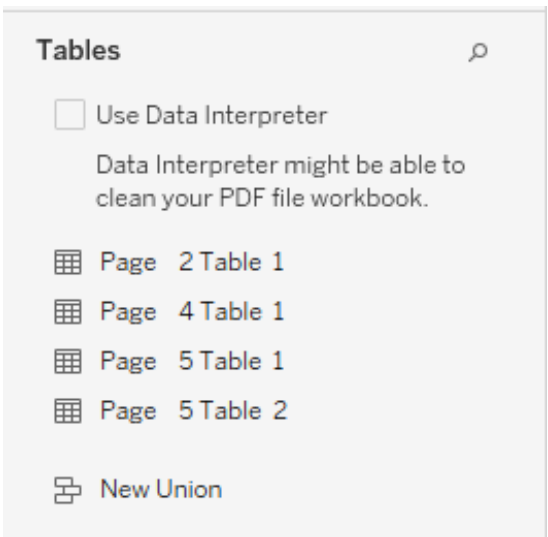


Figure 1.11: Data connection pane

UltraLowEmissionsZoneBoundary(U... Objectid	Abc UltraLowEmissionsZoneBoundary(U... Boundary	UltraLowEmissionsZoneBoundary(U... Shape Area	UltraLowEmissionsZoneBoundary(U... Geometry
1	CSS Area	21.3756	Polygon

Figure 1.12: Example of a spatial file and a Geometry column

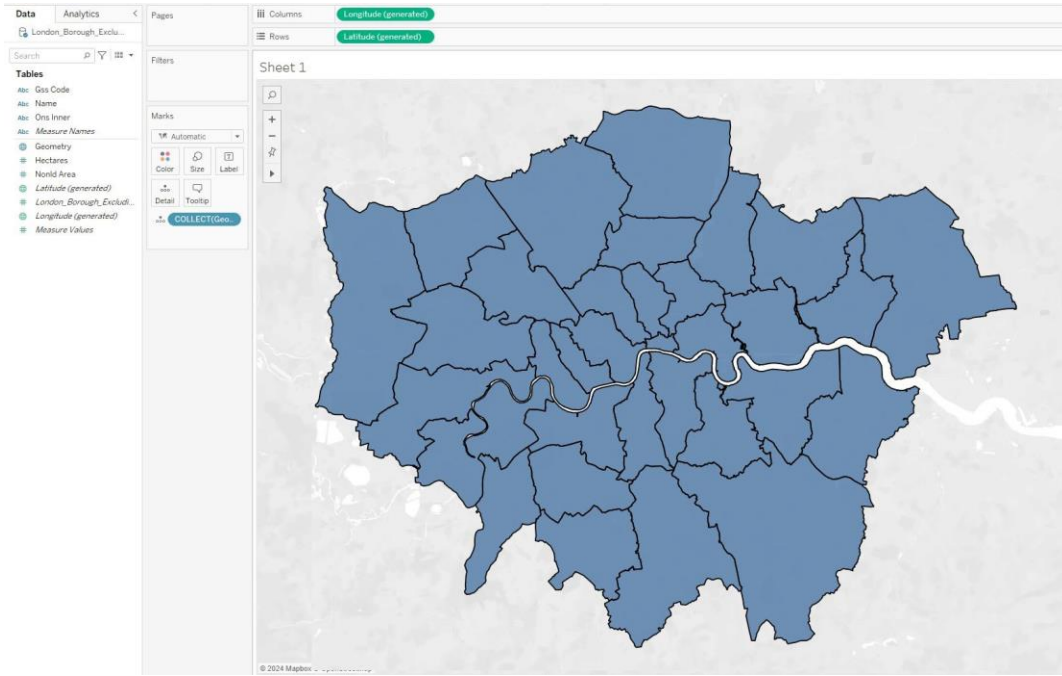


Figure 1.13: Tableau Geometry field showing a map of London boroughs

Figure 1.14: Tableau Server connection options

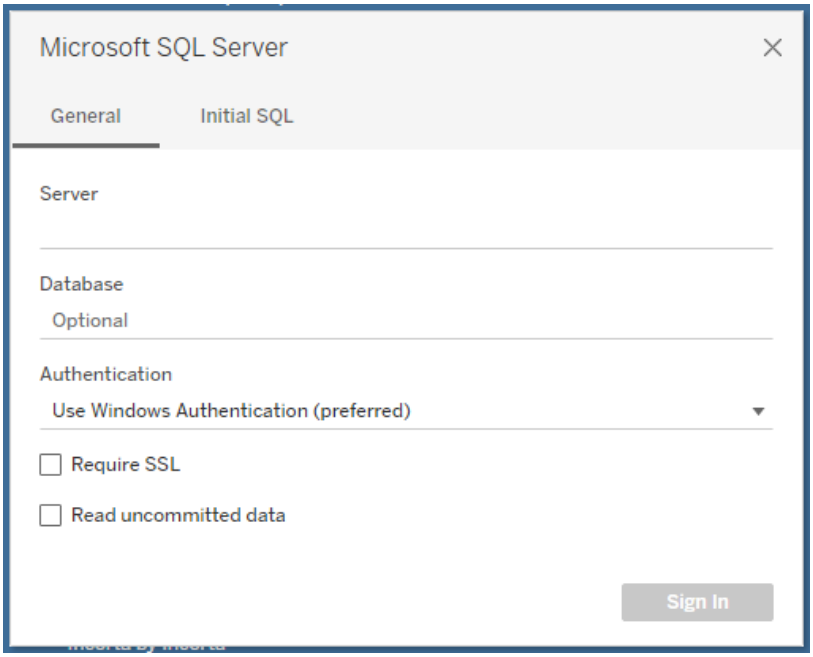


Figure 1.15: Credentials section to SQL Server

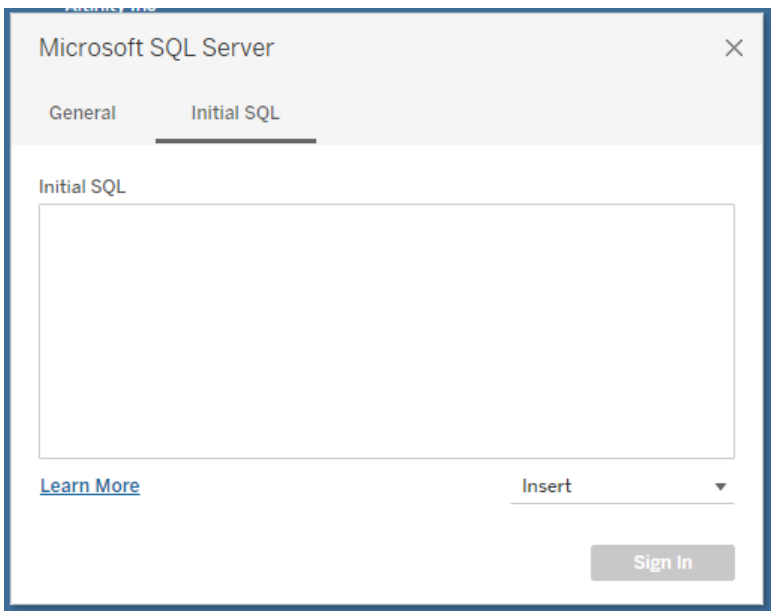


Figure 1.16: SQL query builder

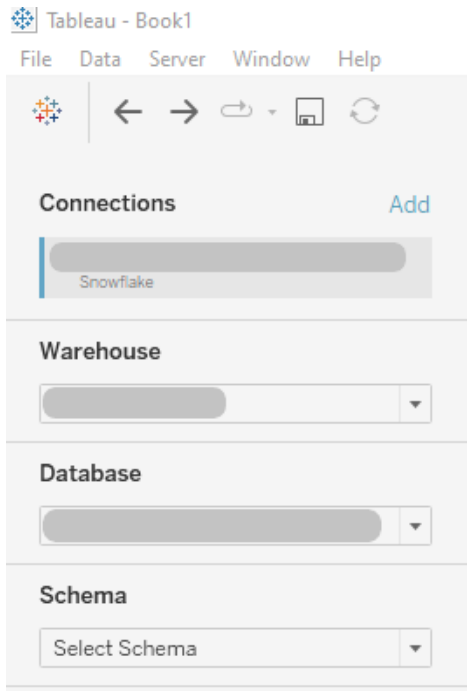


Figure 1.17: Connection pane and tables to be connected

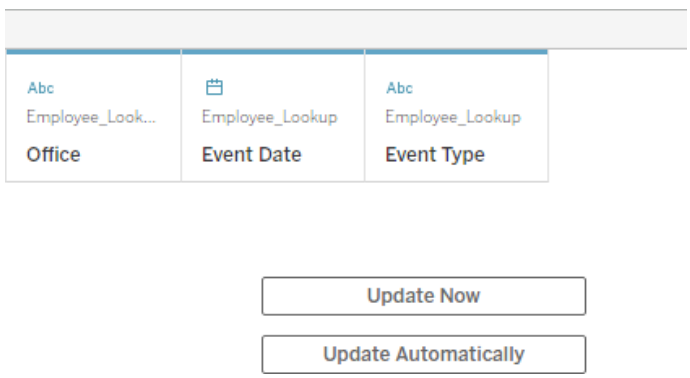


Figure 1.18: The Update Now button to preview the data

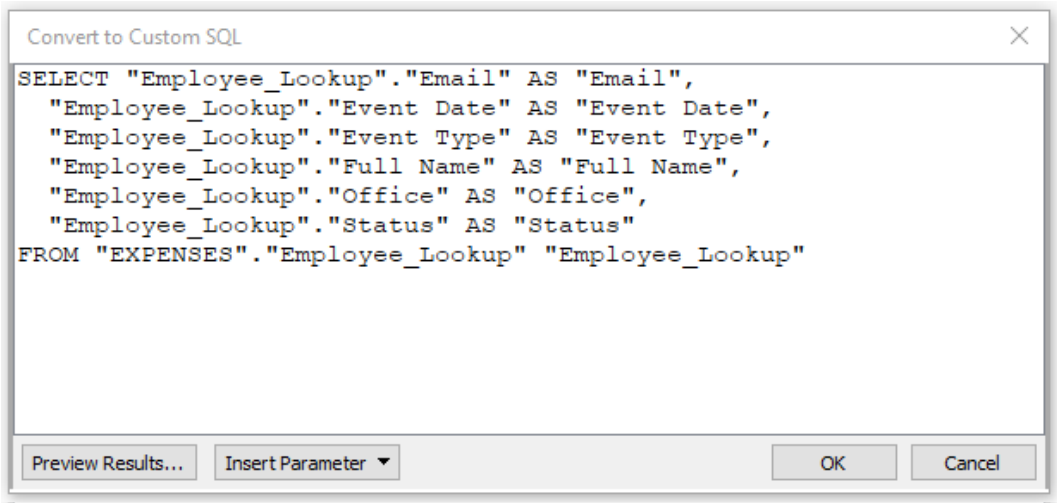


Figure 1.19: Example of an Employee Lookup Custom SQL

Figure 1.20: Selection of the Extract type

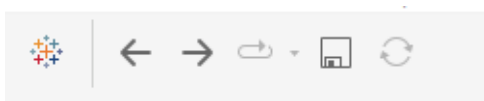


Figure 1.21: Refresh symbol

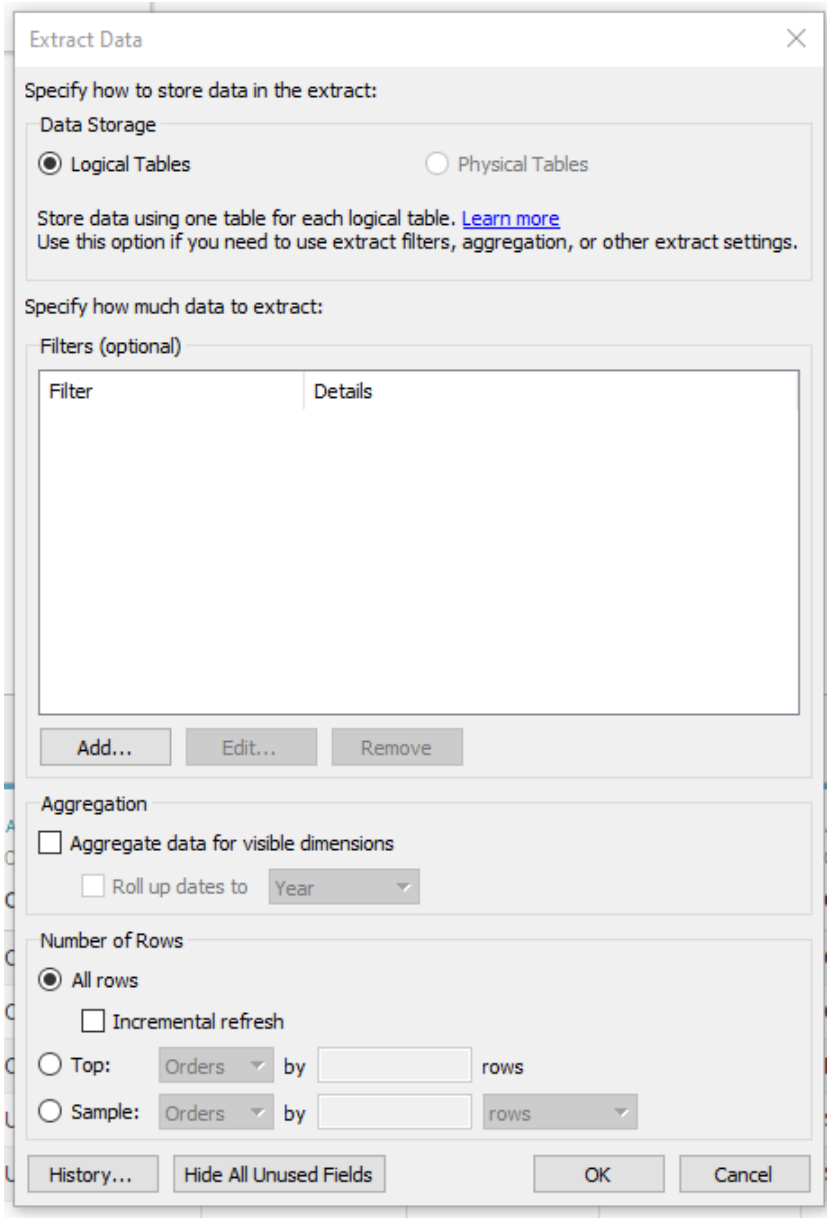


Figure 1.22: Window to add extract filters or incremental refresh

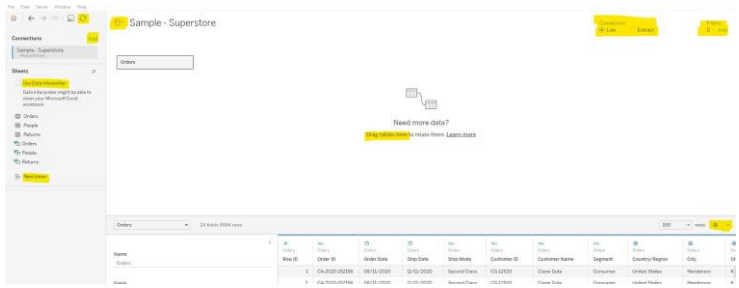


Figure 1.23: Tableau Data Source page

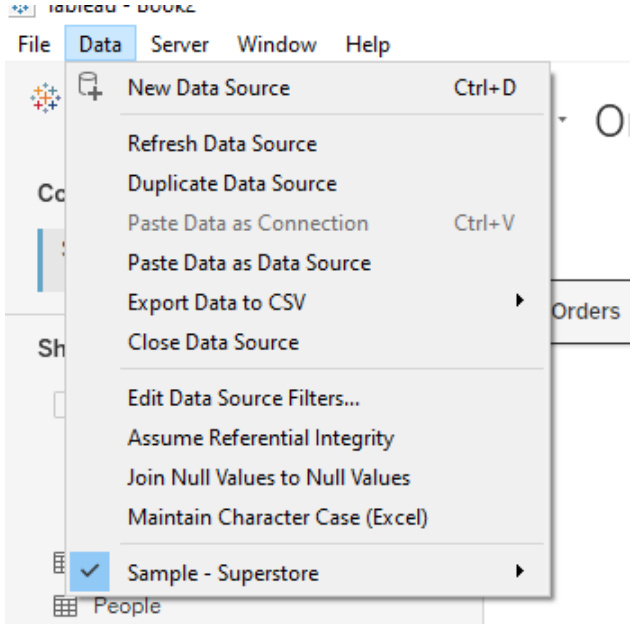


Figure 1.24: Data tab options

Figure 1.25: SAP HANA connection error

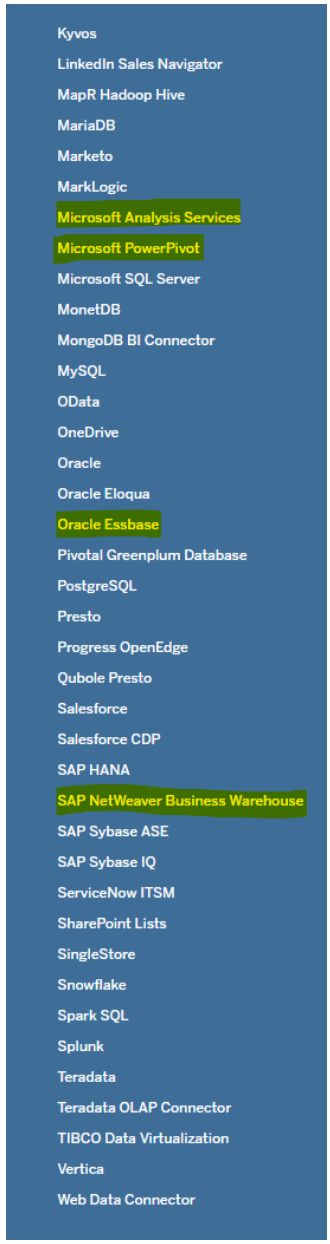


Figure 1.26: Supported sources available in Tableau

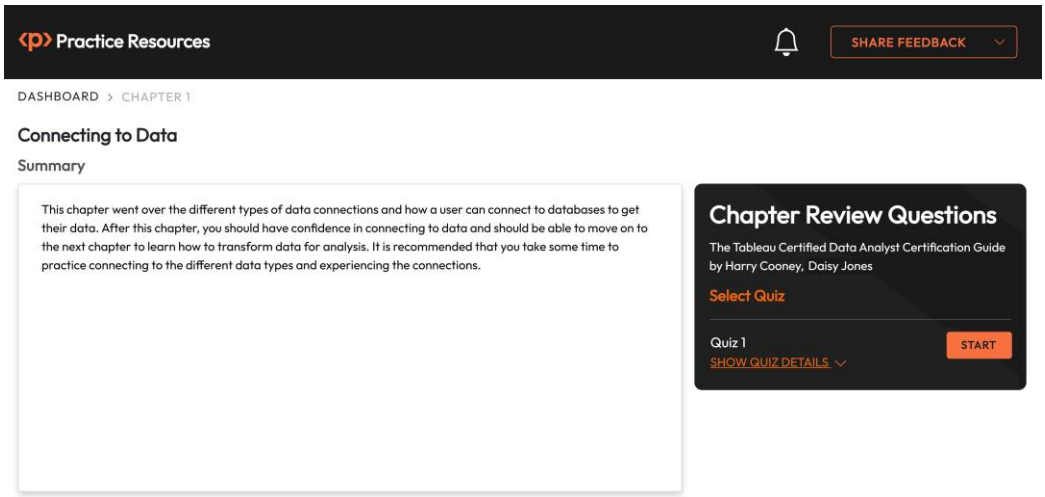


Figure 1.28 – Chapter Review Questions for Chapter 1

2
Transforming Data

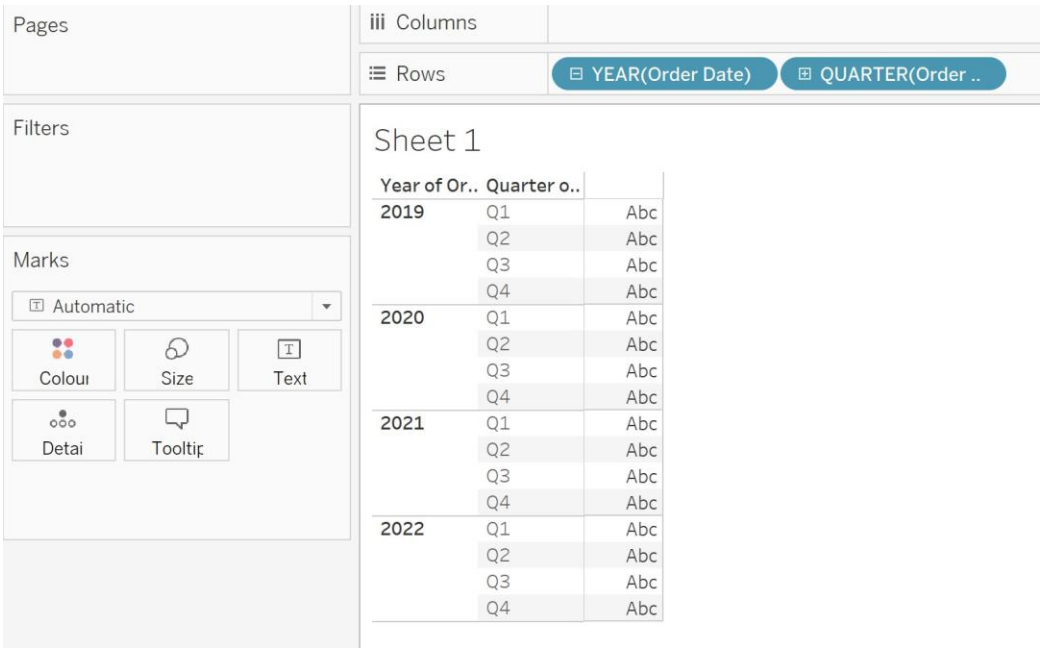


Figure 2.1: The Order Date field displaying date functionality

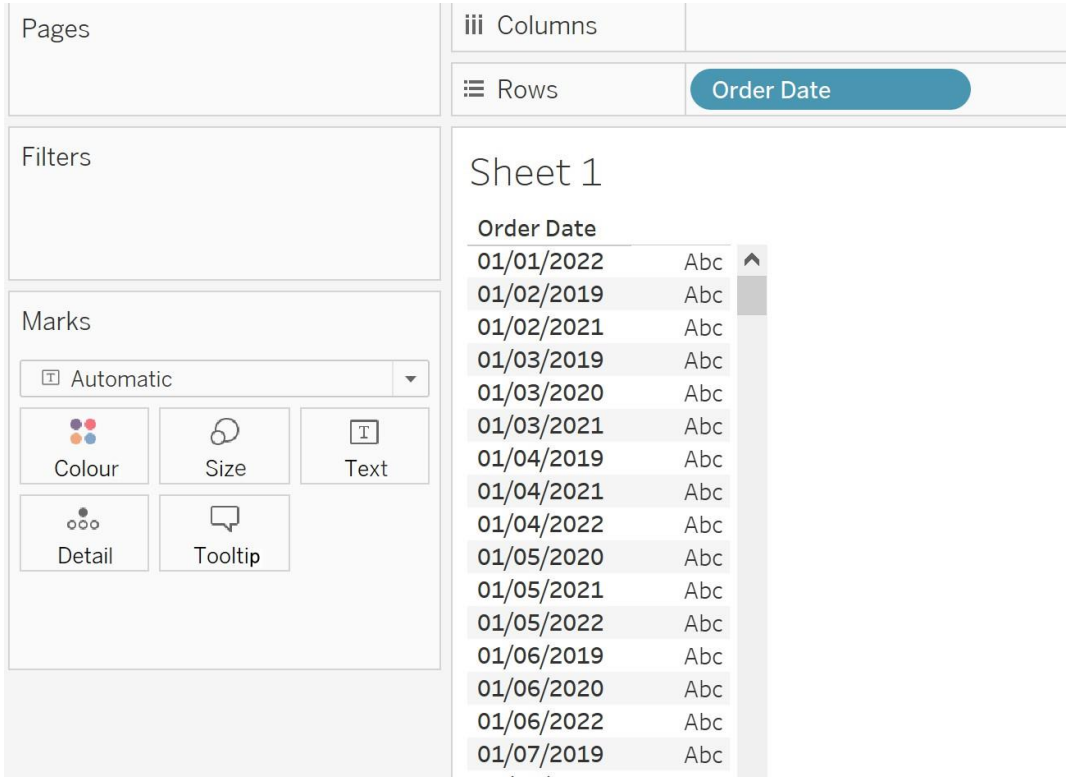


Figure 2.2: The Order Date field displaying string functionality

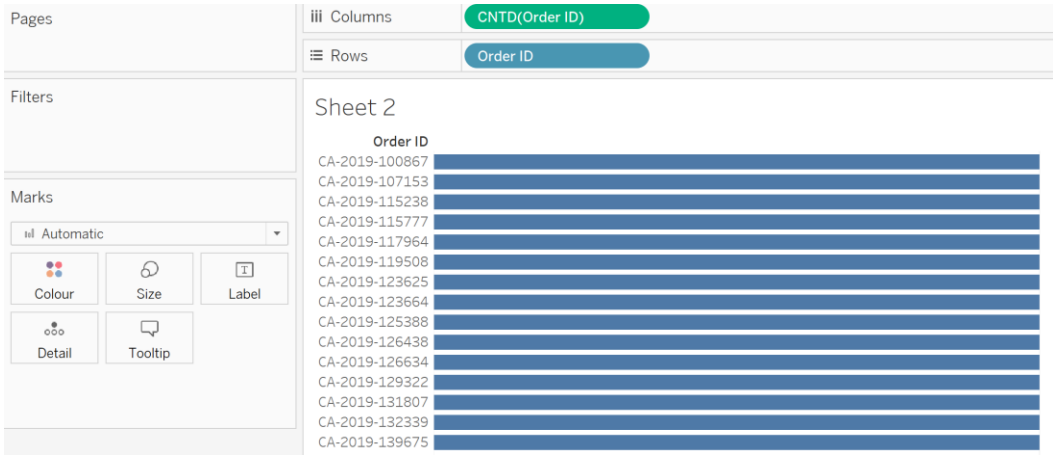


Figure 2.3: Order ID as both a measure and dimension in the view

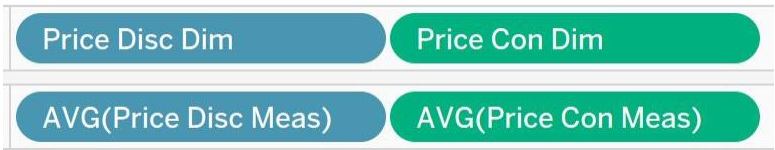


Figure 2.4: Each Price field pill shows a different possible combination. The top left shows price as a discrete dimension, and the top right shows price as a continuous dimension. The bottom two pills show price as measures, with the left discrete and the right continuous

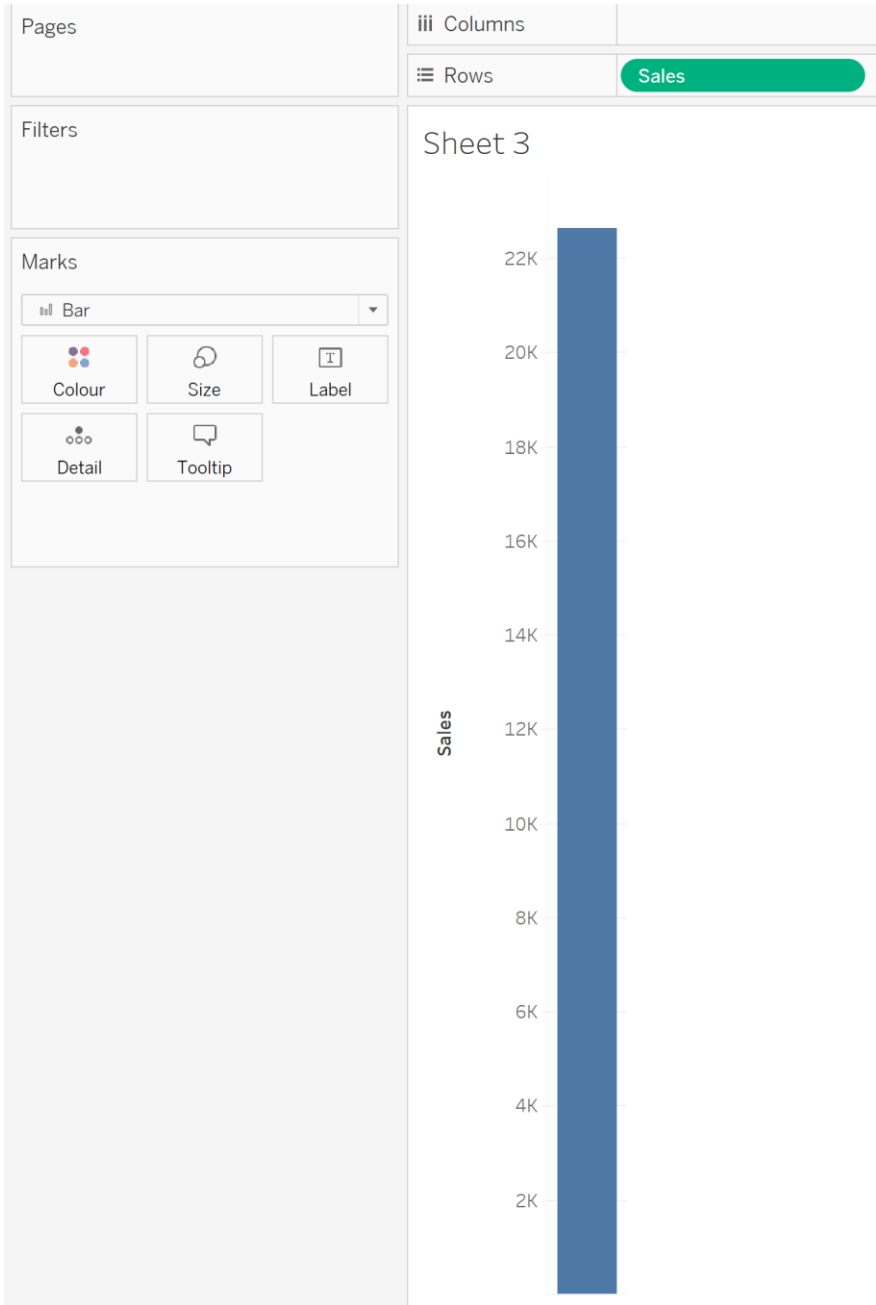


Figure 2.5: Sales as a continuous measure

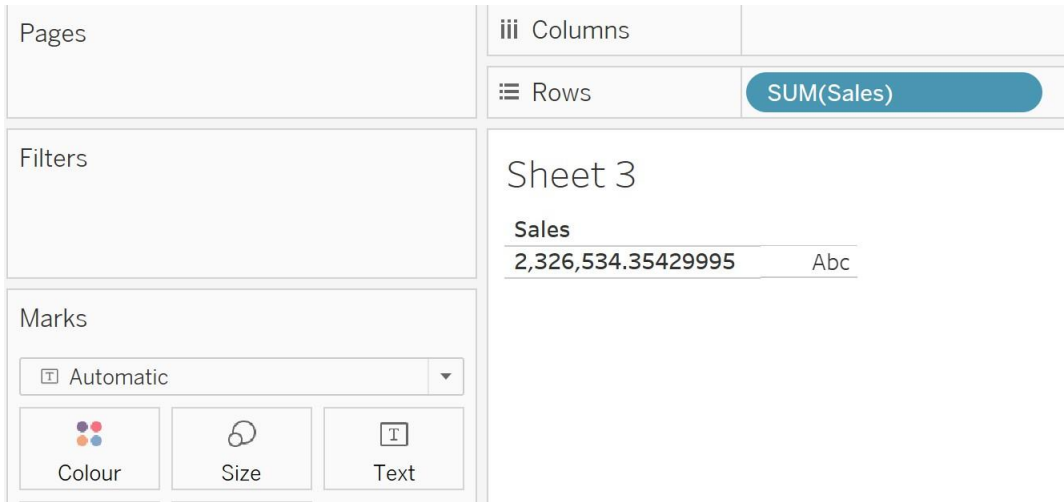


Figure 2.6: Sales as a discrete measure

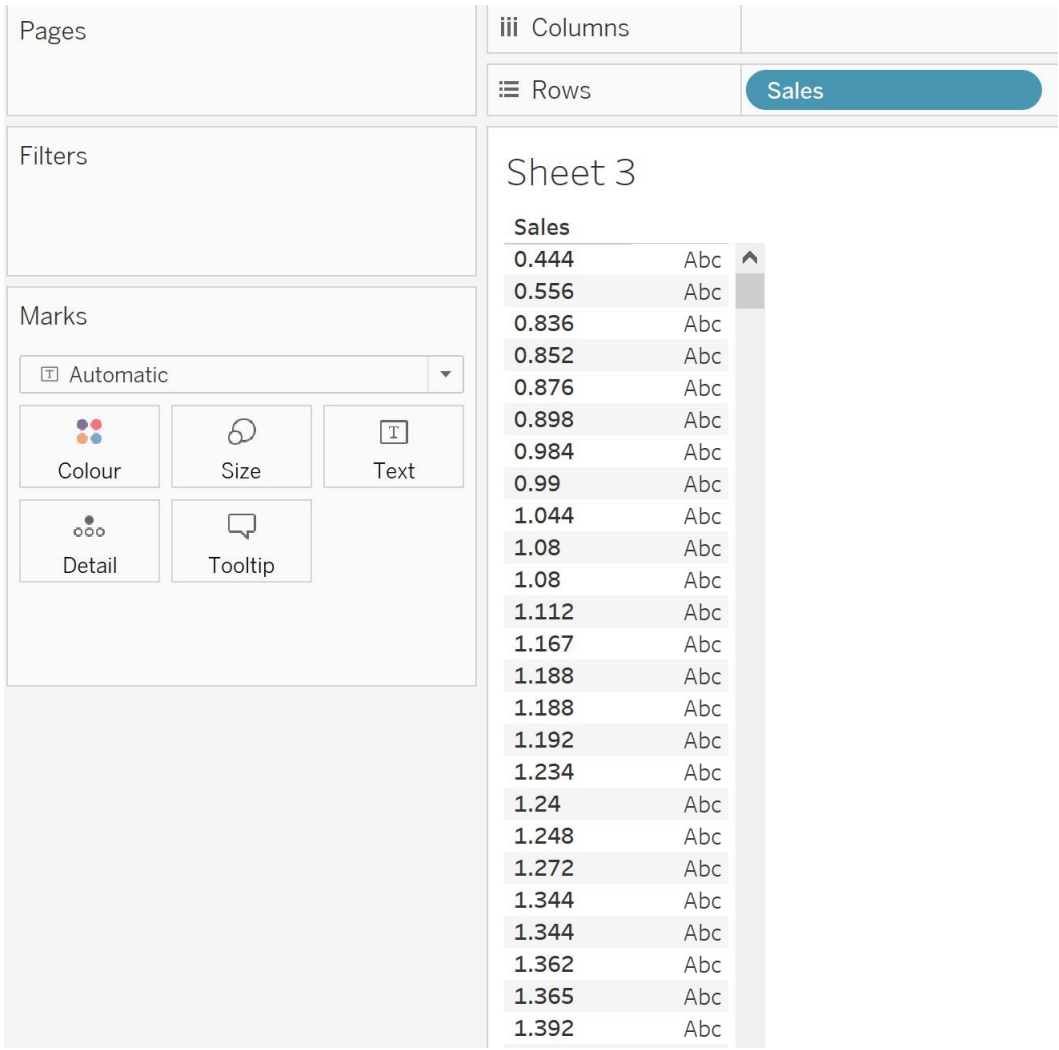


Figure 2.7: Sales as a discrete dimension

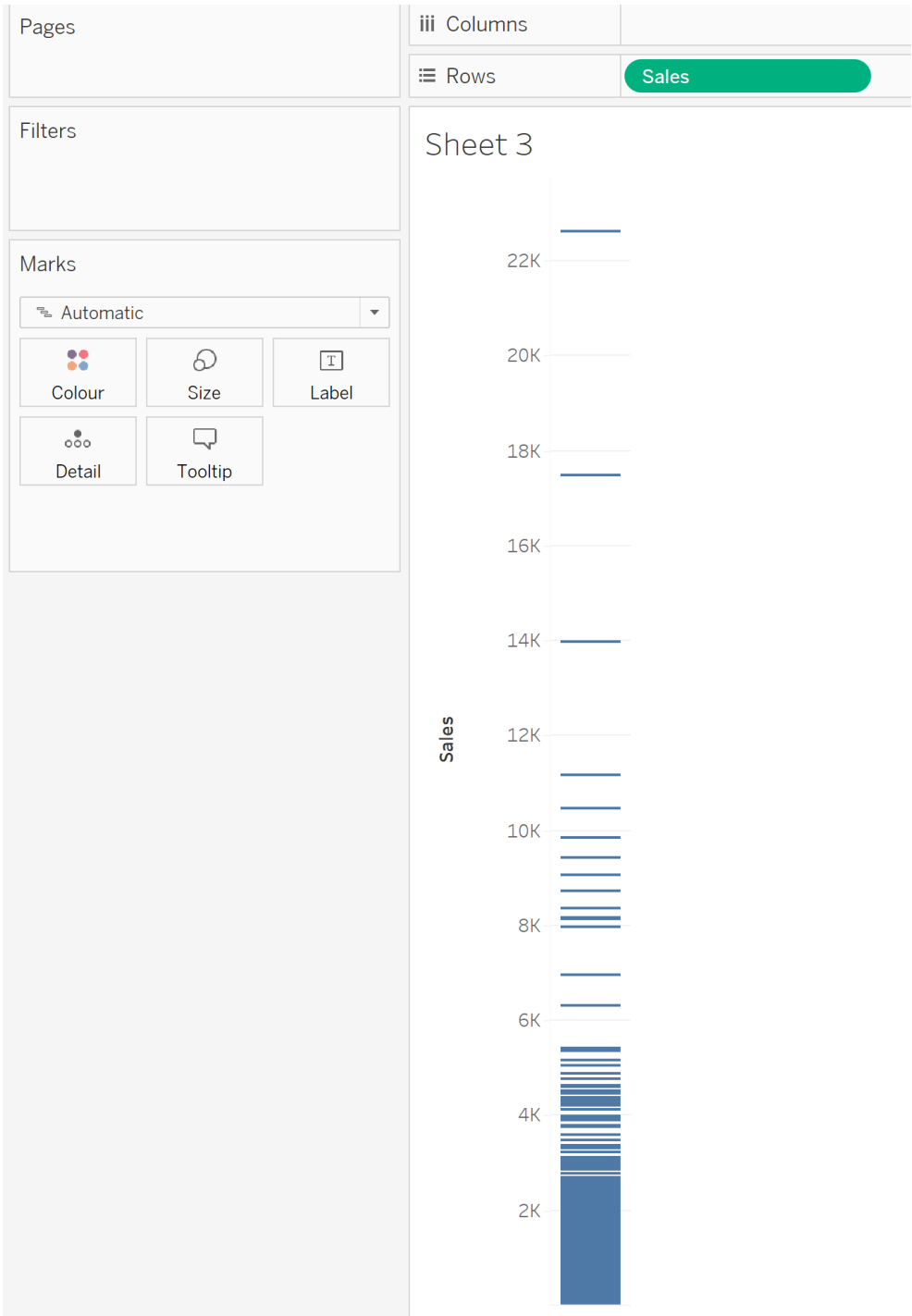


Figure 2.8: Sales as a continuous dimension

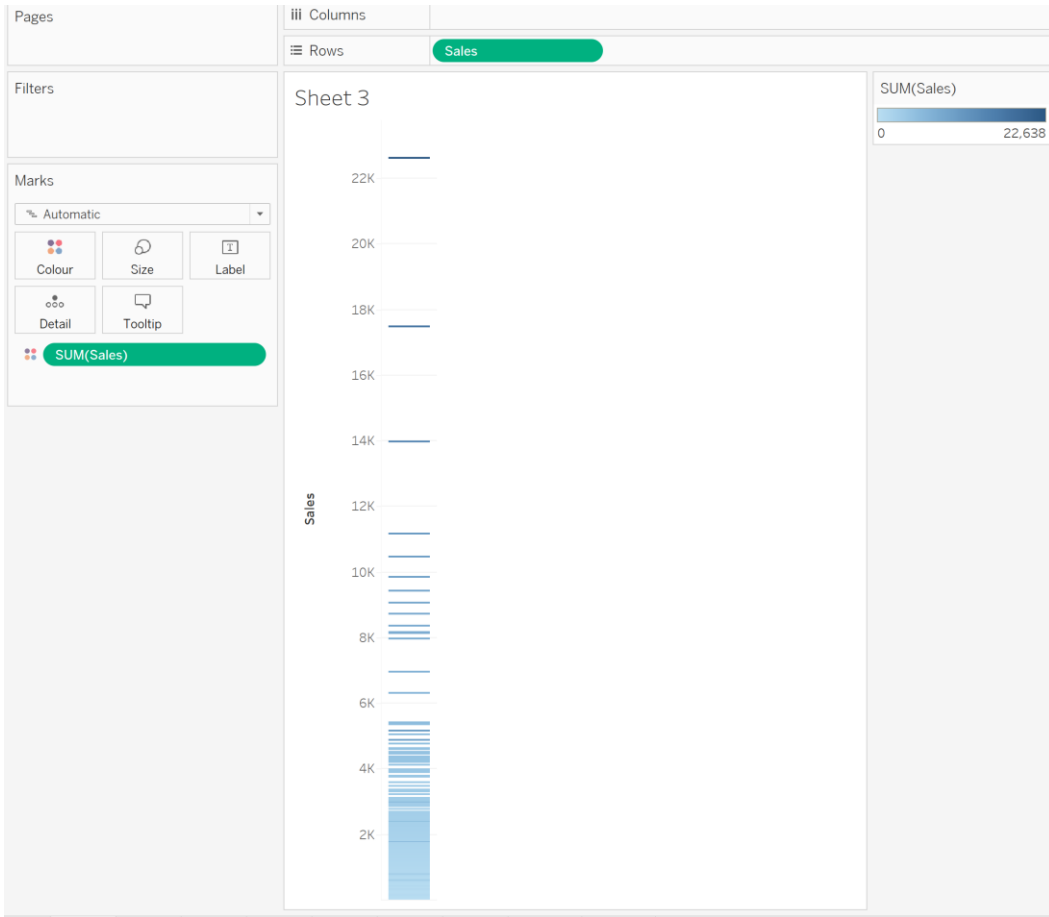


Figure 2.9: A continuous color legend added

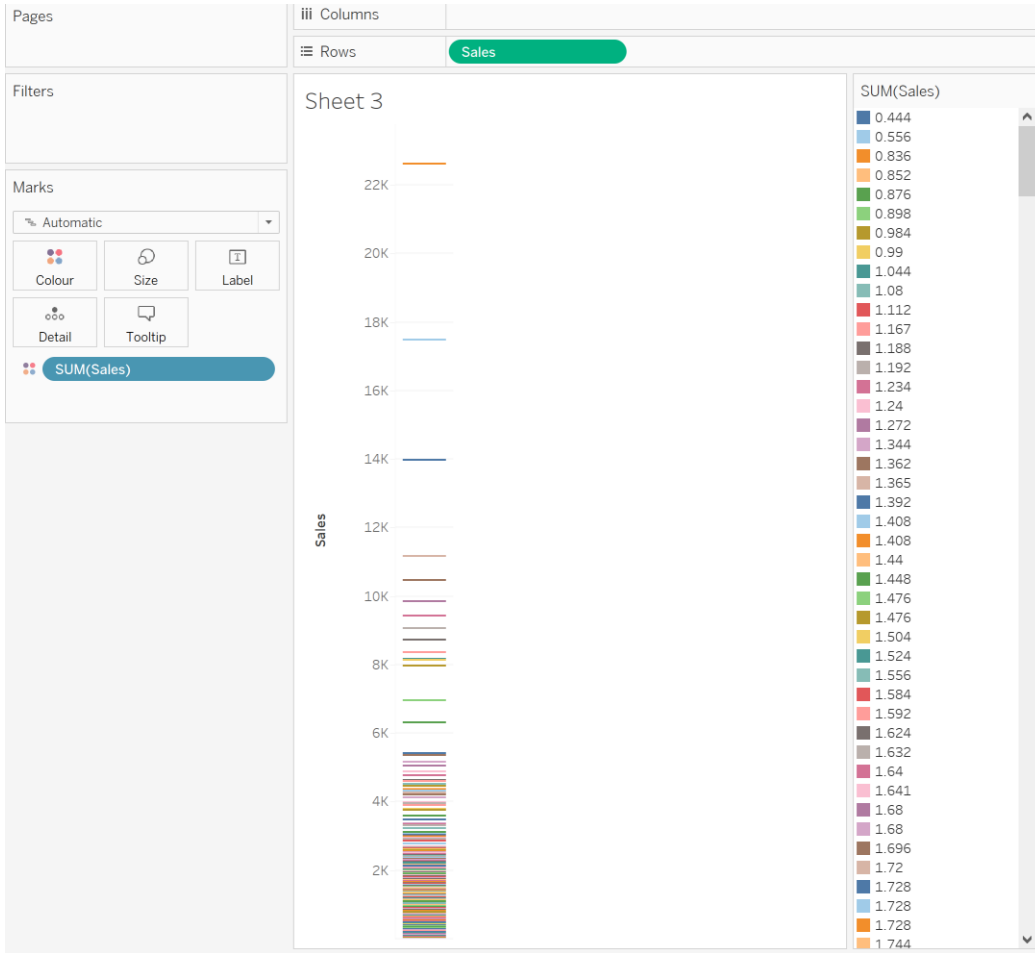


Figure 2.10: The color legend updated to Discrete

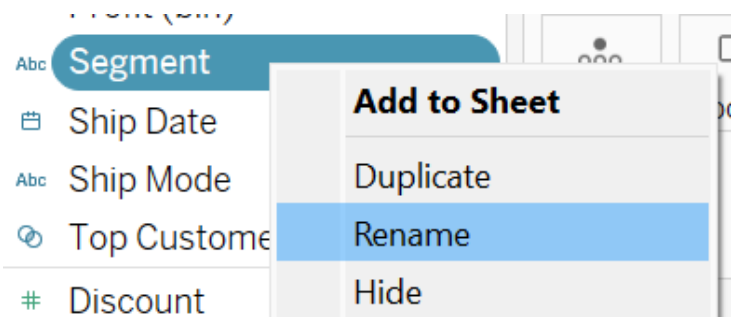


Figure 2.11: Renaming a field in Tableau

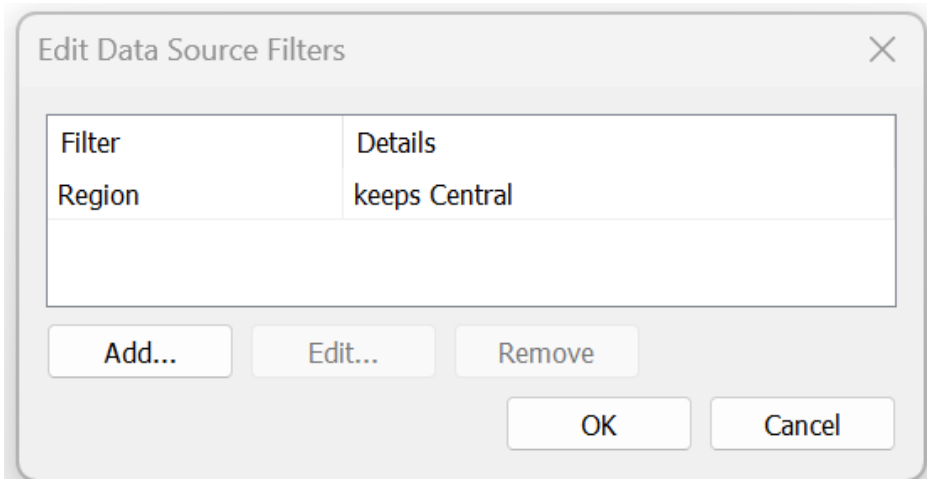


Figure 2.12: The data source filter configuration screen showing a filter applied that keeps the Central region only

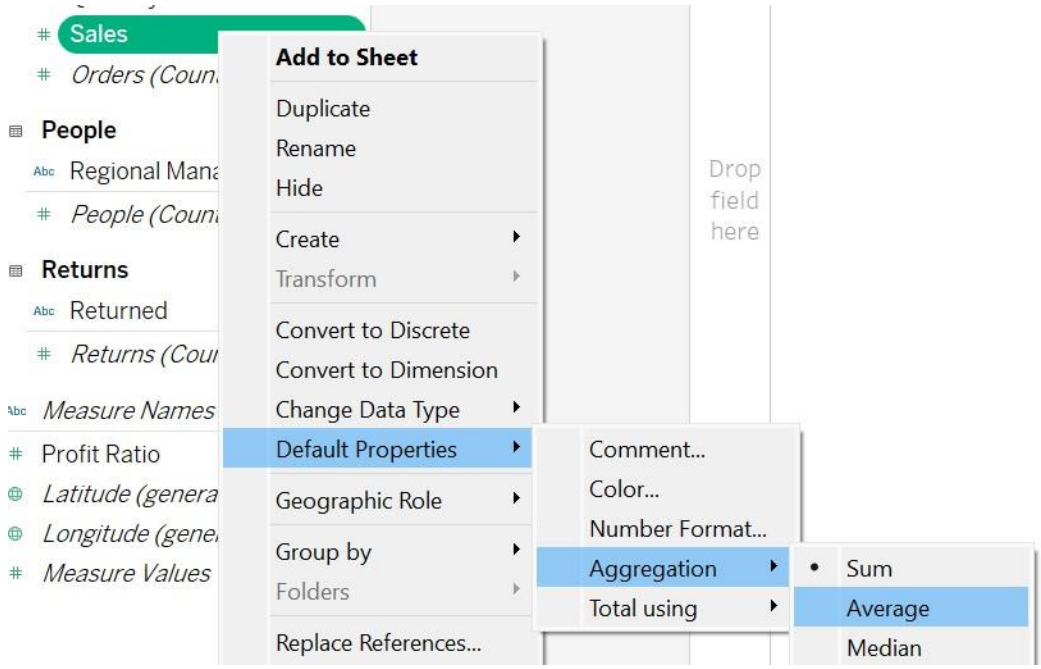


Figure 2.13: Updating the Sales field's default properties by setting its default aggregation as Average

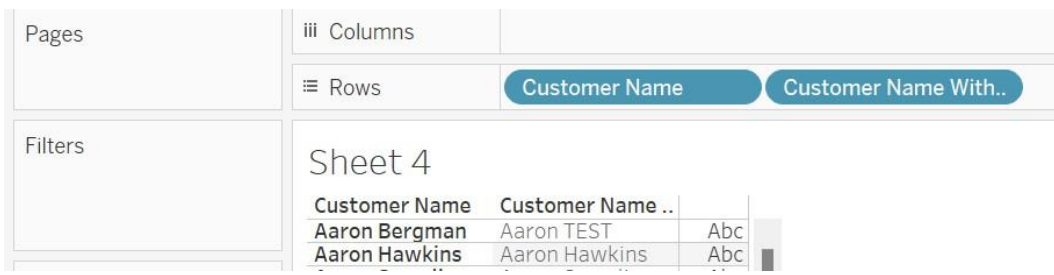


Figure 2.14: The Customer Name field is duplicated and the duplicate has been successfully renamed. An alias has been applied to one of the customer name values

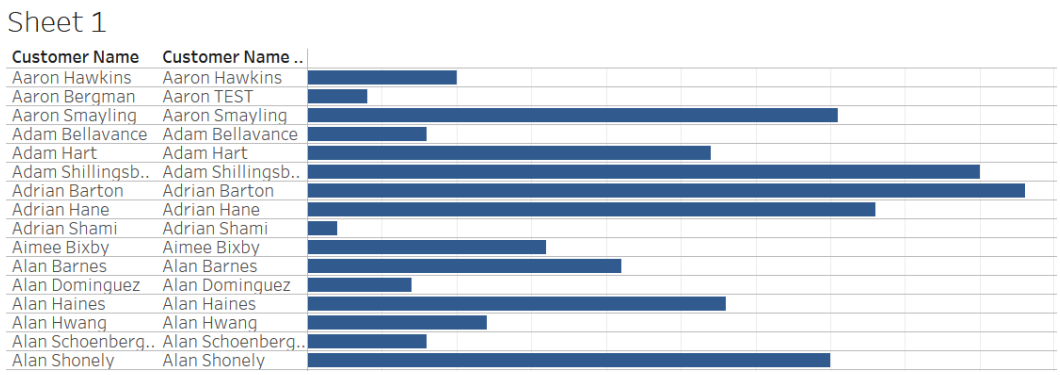


Figure 2.15: Aaron Bergman has been sorted below Aaron Hawkins and Discount has been added as a bar for each customer

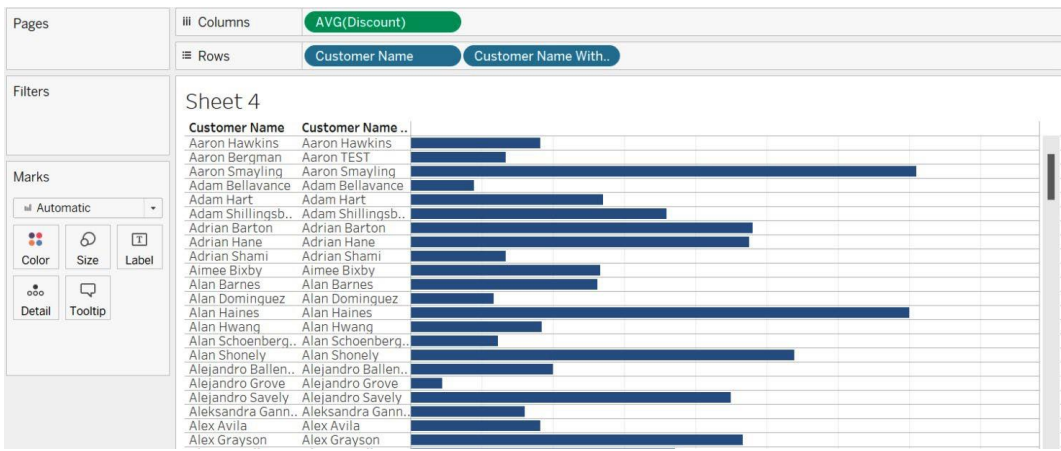


Figure 2.16: A custom sort, number format, and aggregations have been applied to the fields

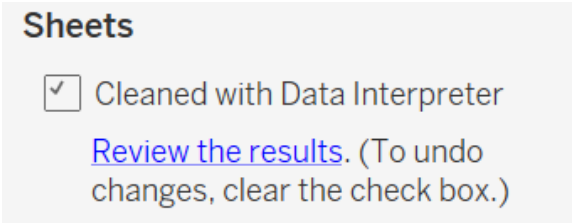


Figure 2.17: Check the box to confirm that Data Interpreter has been used

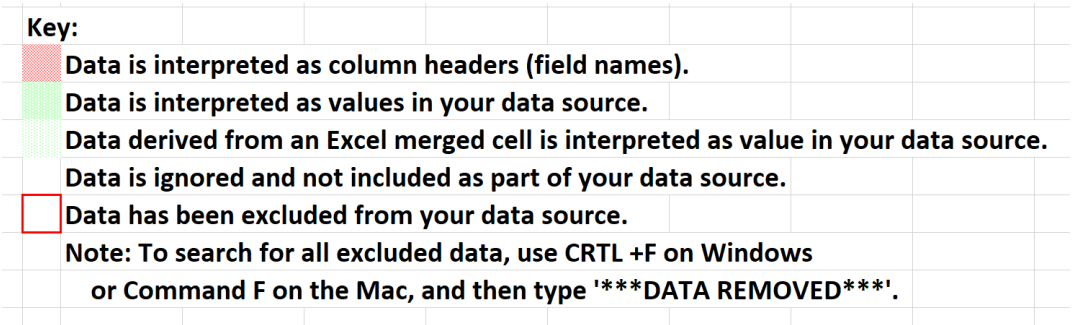


Figure 2.18: The Data Interpreter key

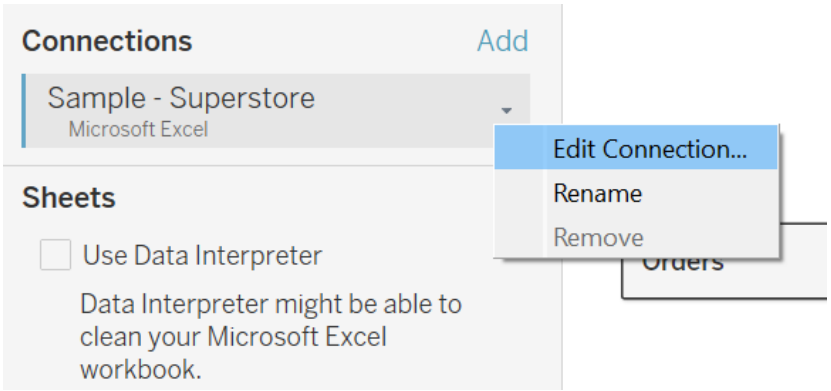


Figure 2.19: The Edit Connection… button leading to the Sample - Superstore file location

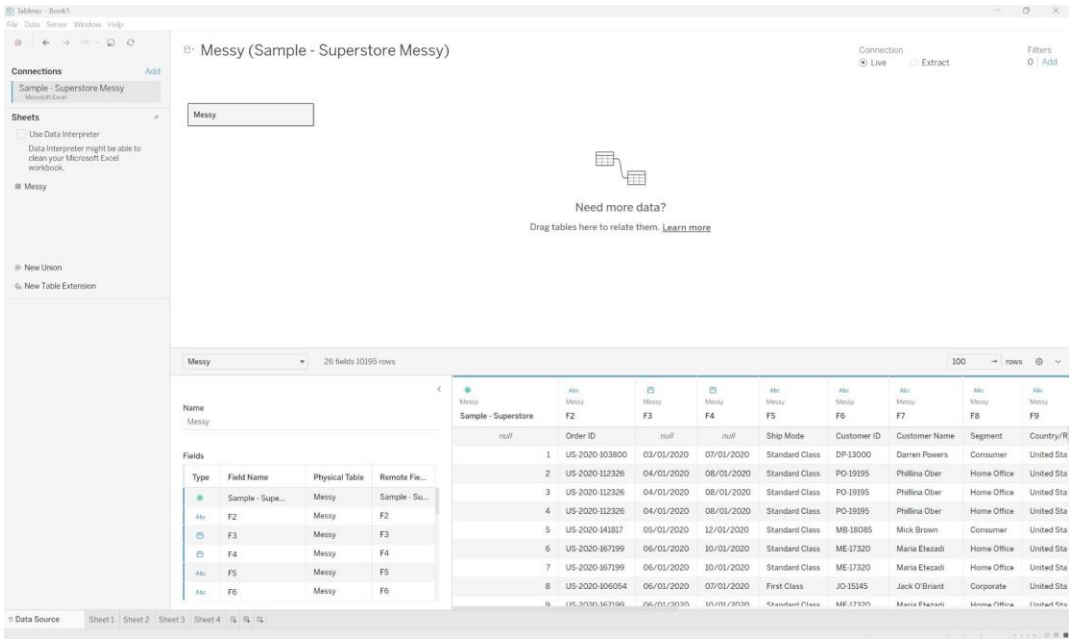


Figure 2.20: The messy data has been read in directly and has no column headers, other than the title from cell A1. The correct column headers are read in as column values on the first row

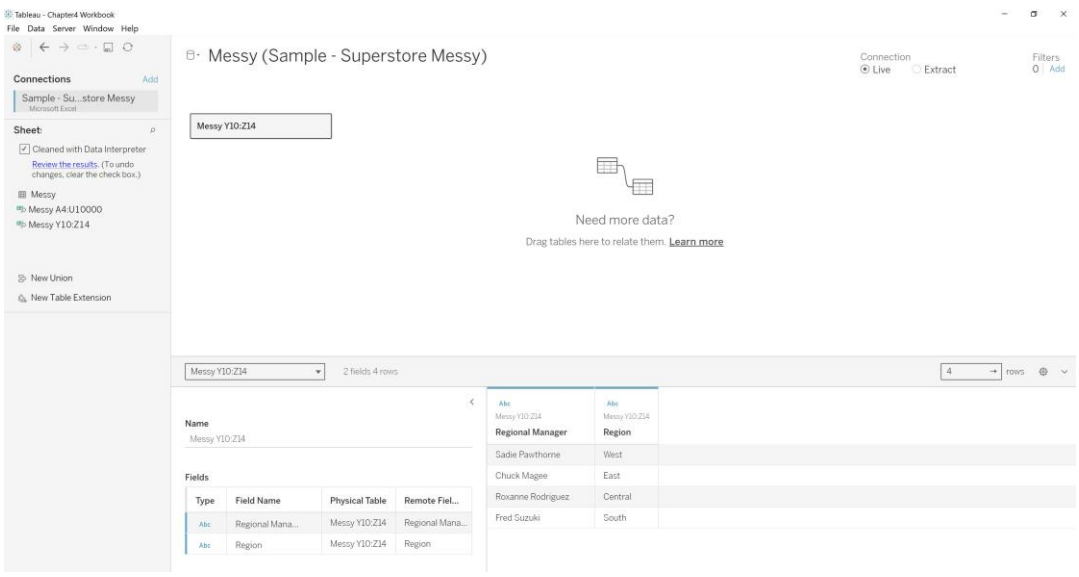


Figure 2.21: A subtable imported into the canvas

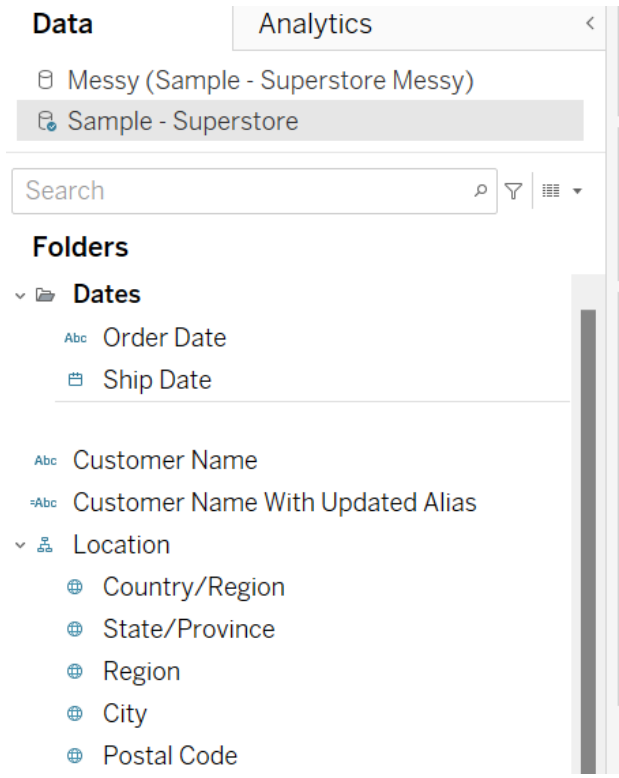


Figure 2.22: Date fields have been organized into their own folder

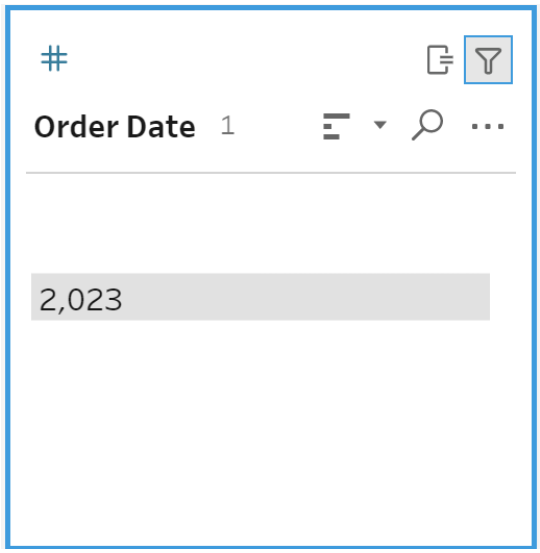


Figure 2.23: Order Date has been converted to a numeric field and filtered to 2023 data only

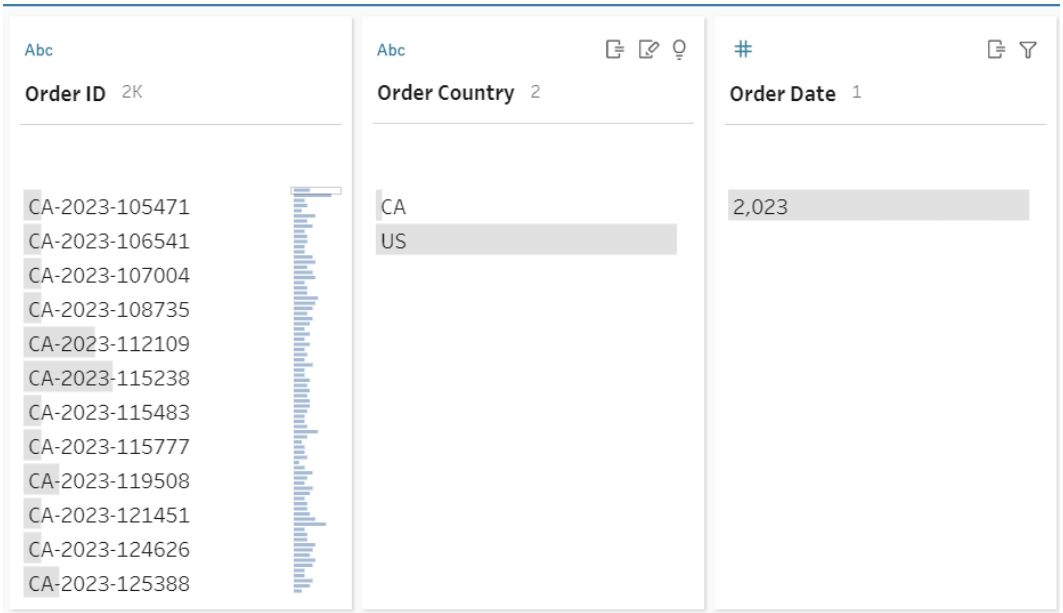


Figure 2.24: Order Country has been created as a new field by splitting Order ID on the first instance of -

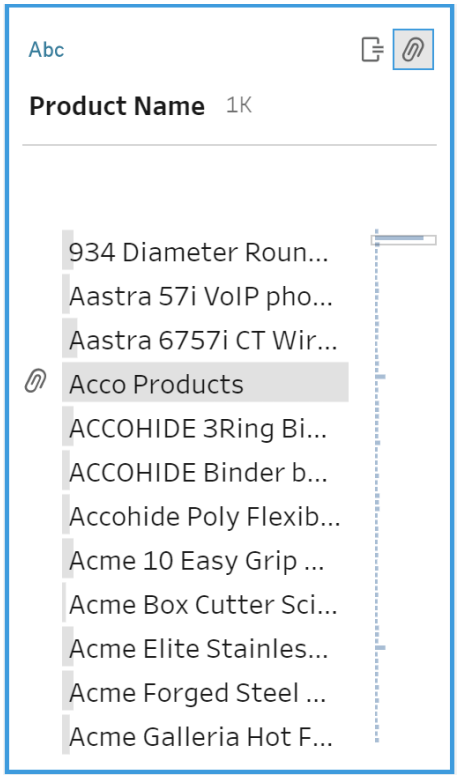


Figure 2.25: The Product Name field has been updated to remove all punctuation and group Acco Products together

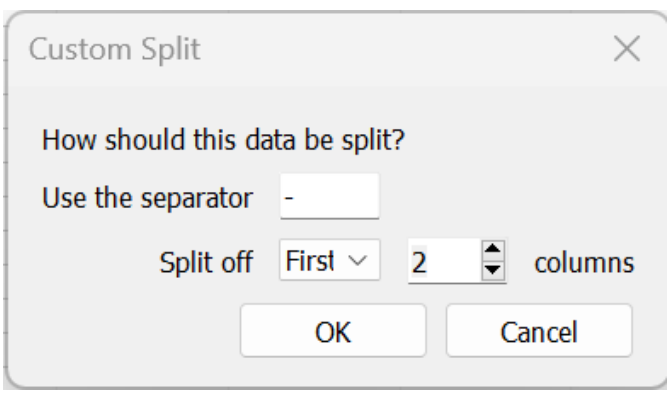


Figure 2.26: The Custom Split configuration window set up to split on - and return the first two results

West	South	North	East
2,152,513.35	391,721.9	501,239.89	674,982.2

Region	Sales
West	2,152,513.35
South	391,721.9
East	674,982.2
North	501,239.89

Figure 2.27: Pivoting four separate regional sales total columns to a single region column, mapped to a sales column

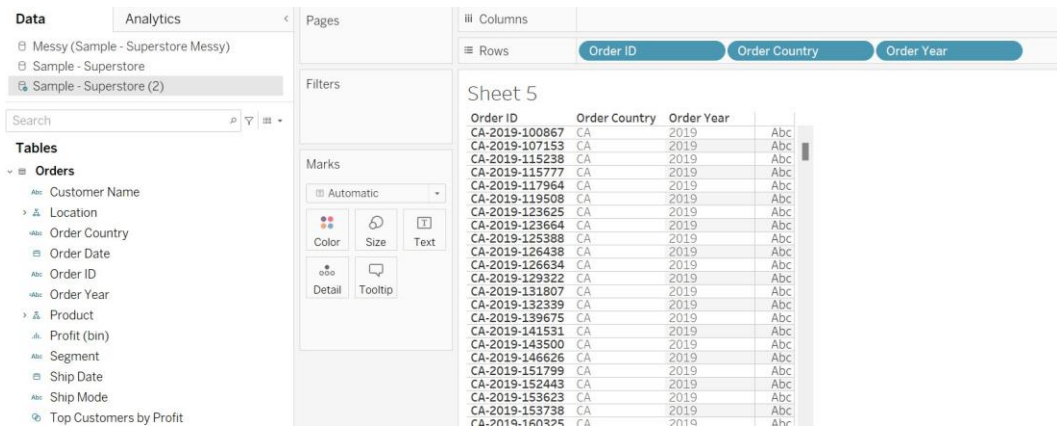


Figure 2.28: The Order ID field split by the hyphen character returning the first two columns

Abc Orders Sub-Category	Abc Orders Product Name	Abc Pivot Metrics	# Pivot Values	Abc Calculation Order Country	Abc Calculation Order Year
Paper	Message Book, Wirebound, Fo...	Discount	0.20	US	2019
Paper	Message Book, Wirebound, Fo...	Profit	5.55	US	2019
Paper	Message Book, Wirebound, Fo...	Quantity	2.00	US	2019
Paper	Message Book, Wirebound, Fo...	Sales	16.45	US	2019
Binders	GBC Standard Plastic Binding...	Discount	0.80	US	2019
Binders	GBC Standard Plastic Binding...	Profit	-5.49	US	2019
Binders	GBC Standard Plastic Binding...	Quantity	2.00	US	2019
Binders	GBC Standard Plastic Binding...	Sales	3.54	US	2019

Figure 2.29: The metric fields have been pivoted and the pivot fields have been suitably renamed

Figure 2.30: The Tableau Prep Aggregate step icon is a summation symbol

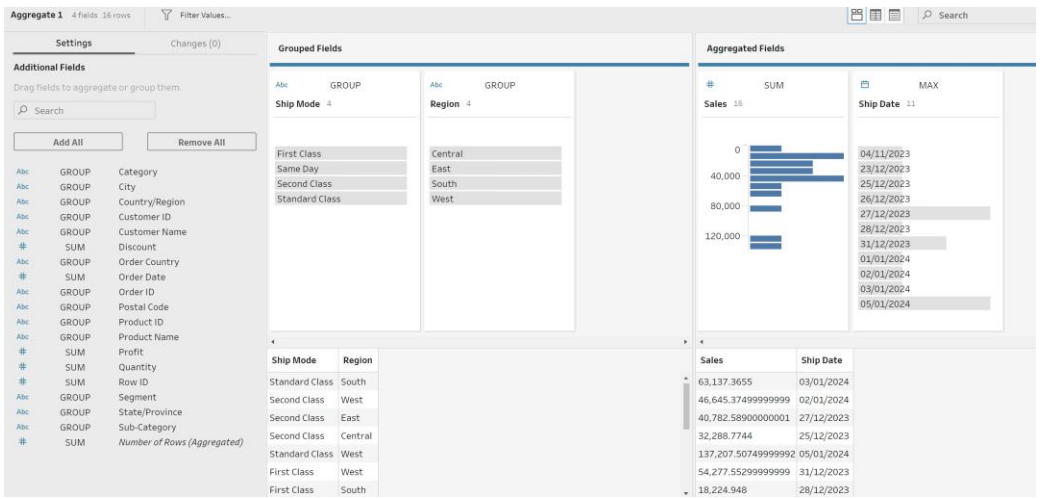


Figure 2.31: Orders data aggregated to ship mode and region level with the most recent ship date and total sales aggregated

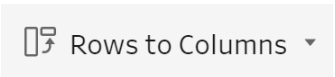


Figure 2.32: Row to Columns pivot selection

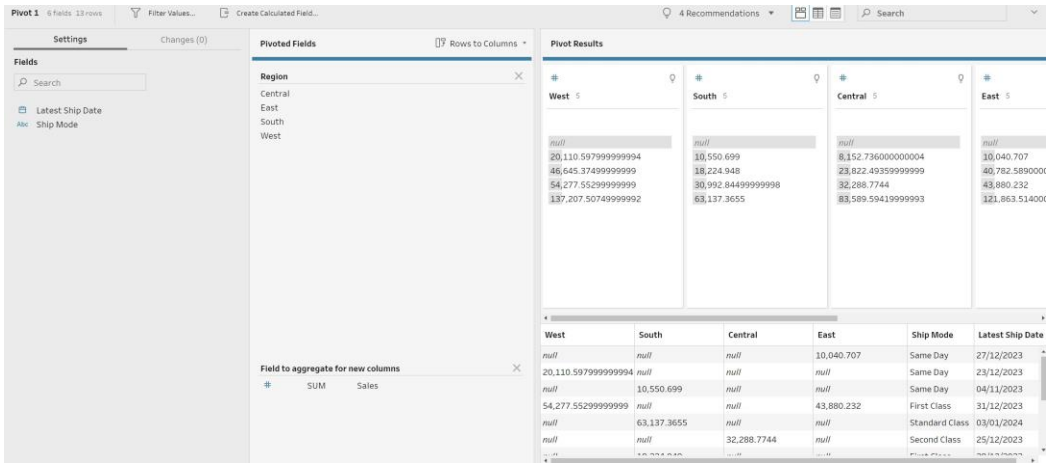


Figure 2.33: Region values have been pivoted from rows to columns with sales values summed to the ship mode level of aggregation

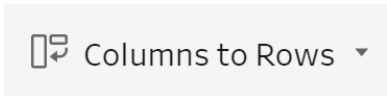


Figure 2.34: Columns to Rows pivot selection

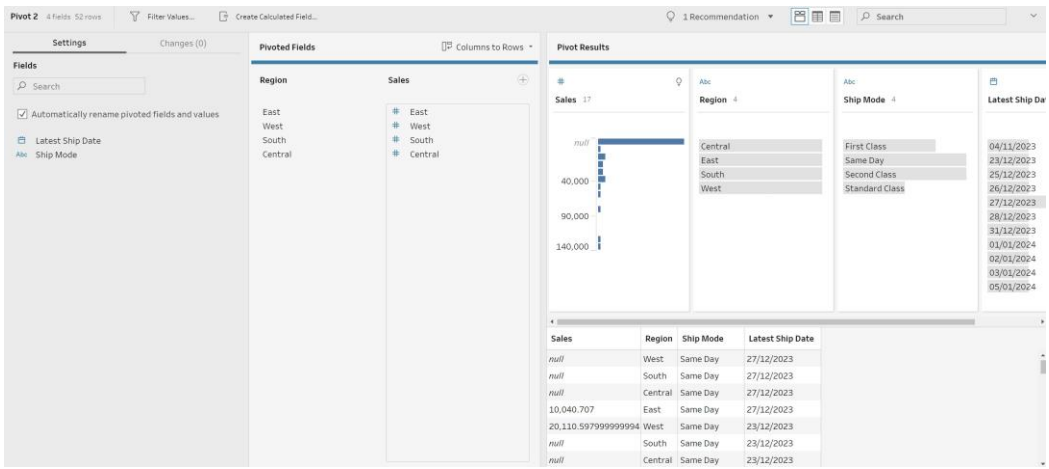


Figure 2.35: Region columns have been pivoted back to create a region and a sales column. Null values are visible in sales but can be removed in a subsequent clean step

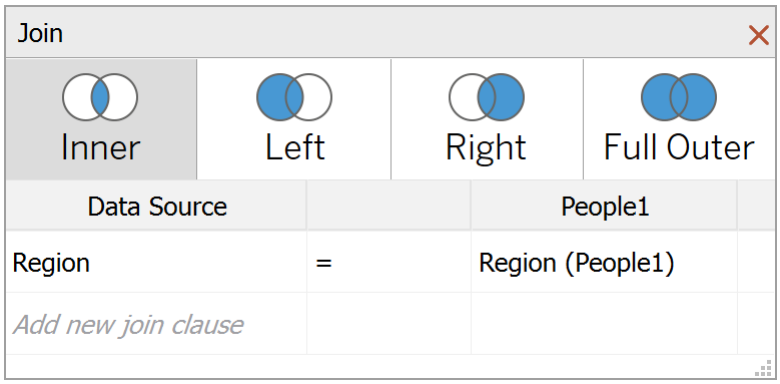


Figure 2.36: The Join configuration window showing an inner join of two data sources where the Region field is common across both

Figure 2.37: Remove the People and Returns tables from the canvas

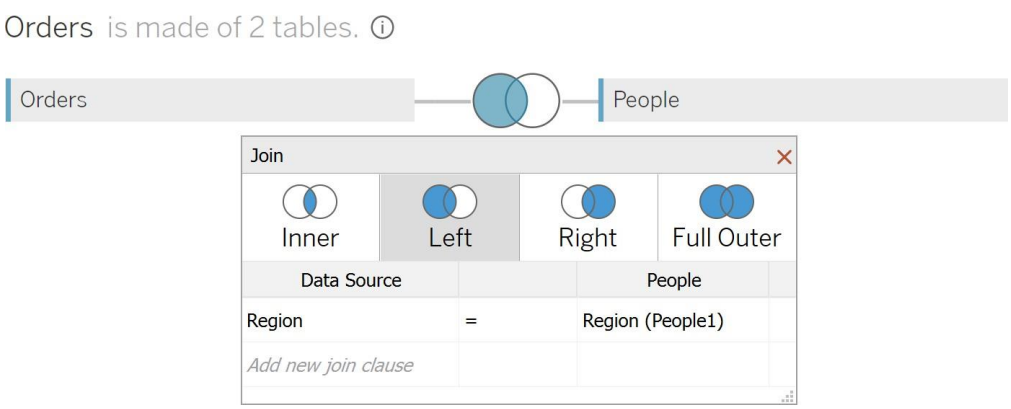


Figure 2.38: Left join created between orders and people tables where region matches region

Figure 2.39: A union on the data source canvas

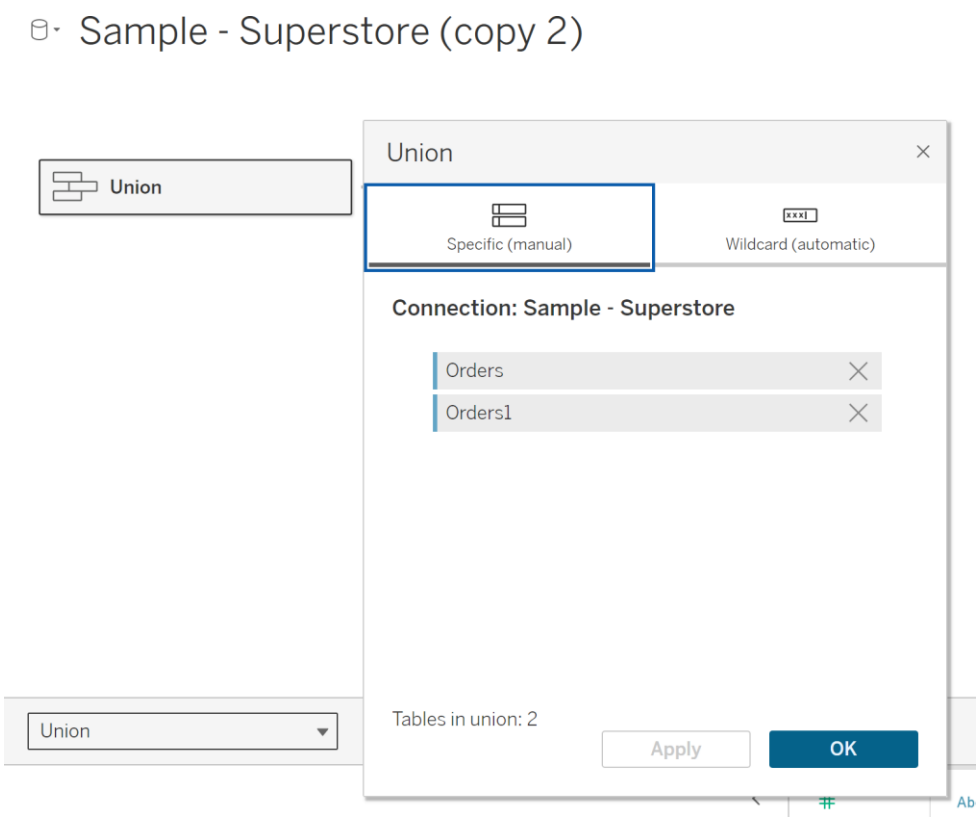


Figure 2.40: Union created that places the Orders table on top of itself

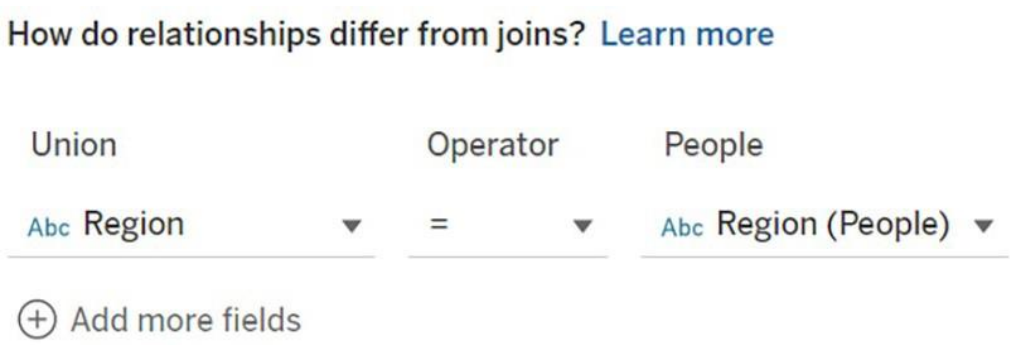


Figure 2.41: Relationship set up between the Union and People tables on the Region field. The Operator can be switched to change the match condition, and Add more fields can be selected to add additional clauses

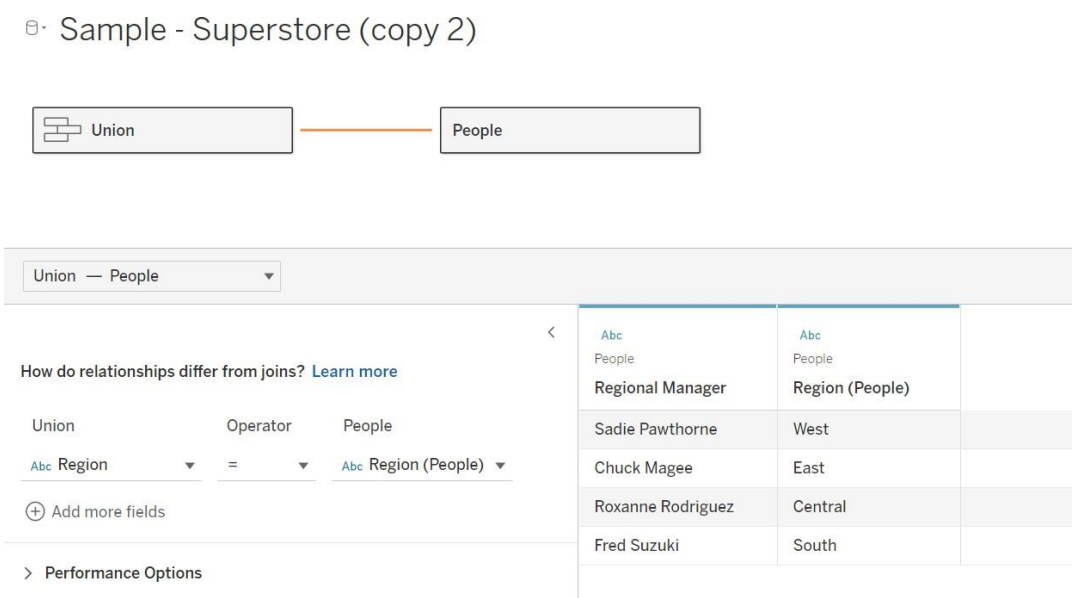


Figure 2.42: Relationship between the Union and People tables on the common Region field

Figure 2.43: Blended data linking field icons - the top icon shows a field that is linked for the view whereas the bottom shows a field that is not linked for the view

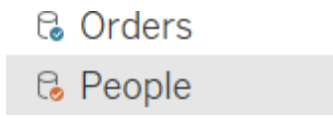


Figure 2.44: Primary versus secondary data source icons, with Orders reflecting the primary and People the secondary

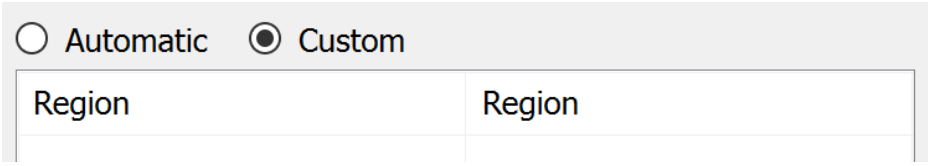


Figure 2.45: Custom blend relationship on the Region field configured

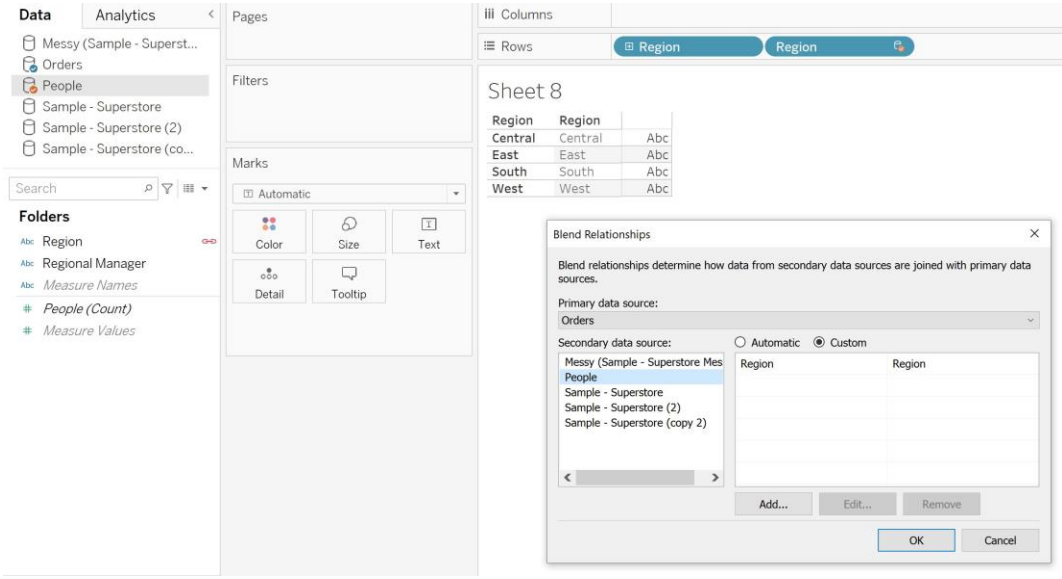


Figure 2.46: Blend relationship set up on Region, primary and secondary data sources are made clear by blue and orange coloring, and the Region linking field can be seen colored red, indicating that it is active

Figure 2.47: As Orders is the primary data source and Central has been filtered for region, it does not show in the view

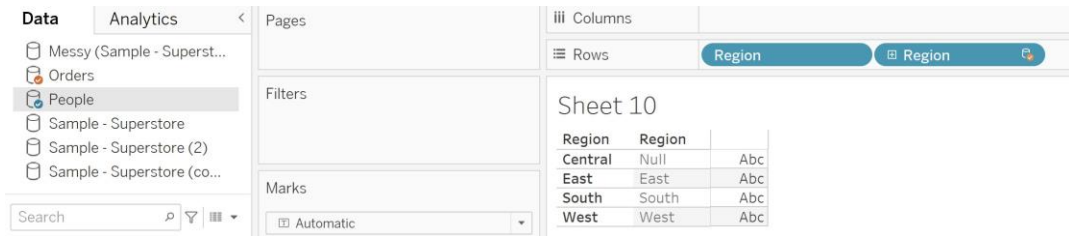


Figure 2.48: The People data source is the primary data source, therefore all regions are shown in the view. Where the Orders data has no match, a Null record is shown

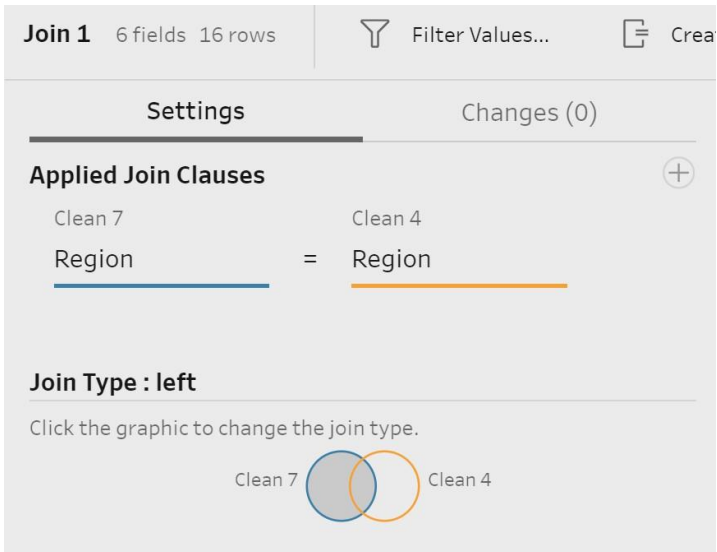


Figure 2.49: Join configuration for a left join where the Region field matches

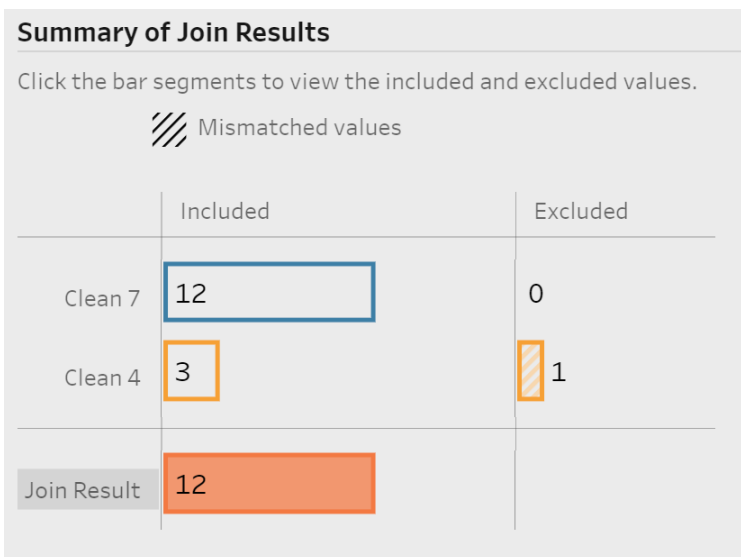


Figure 2.50: A join summary showing that 12 records were kept from the Clean 7 step and three records were kept from the Clean 4 step. One record was excluded from the Clean 4 step (left join). In total, the join therefore results in 12 records

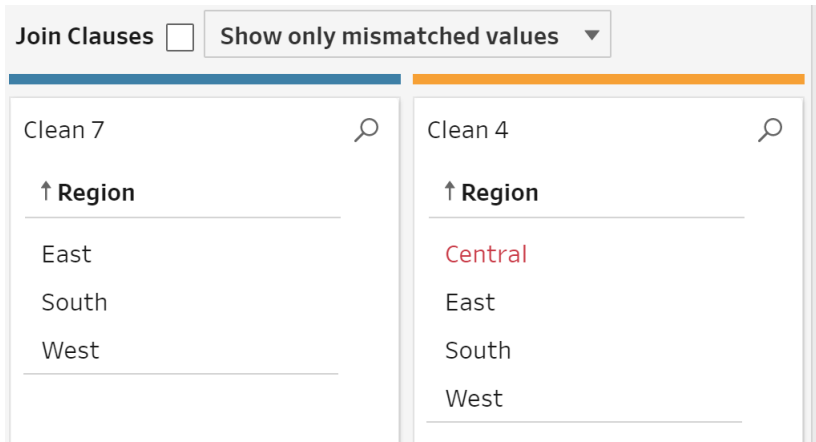


Figure 2.51: Join on the Region field where East, South, and West match across data sources but the Central region is excluded from the right data source (Clean 4 step)

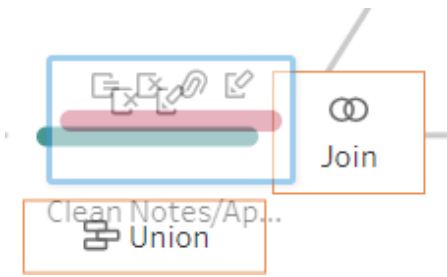


Figure 2.52: When dragging one step over another, there is an option to join or union the data streams by dropping the step on either popup

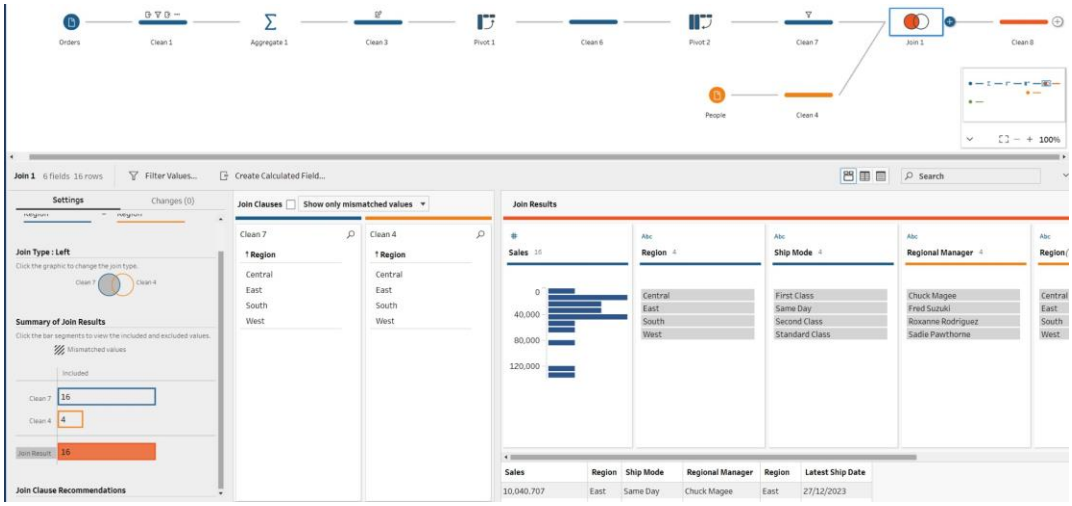


Figure 2.53: Join step added to Tableau Prep to combine the Orders and People tables on the Region field using a left join

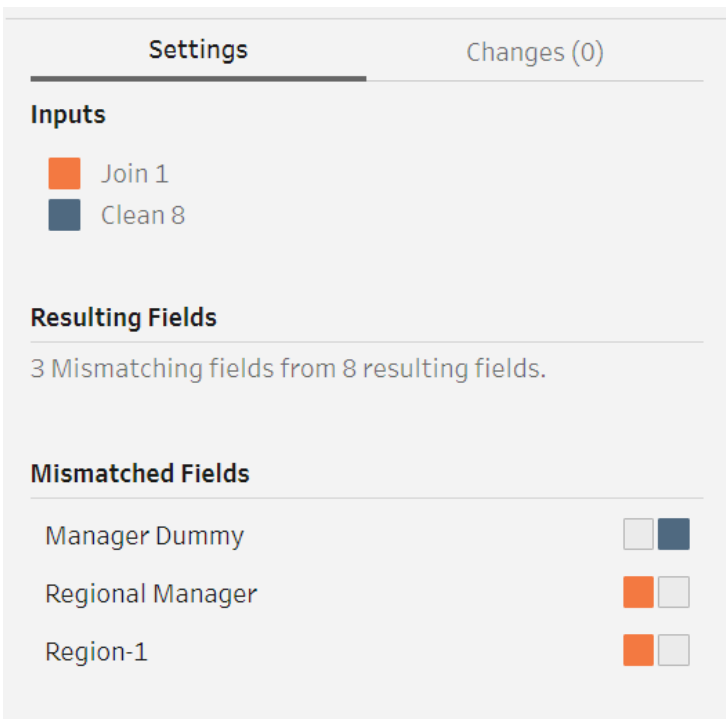


Figure 2.54: Union setting configuration showing a union of two data sources resulting in 8 fields with 3 mismatched. The Manager Dummy field comes from the Clean 8 step, whereas the Regional Manager and Region-1 fields come from the Join 1 step

Figure 2.55: When dragging one step over the other, there is an option to join or union the data streams by dropping the step on either popup

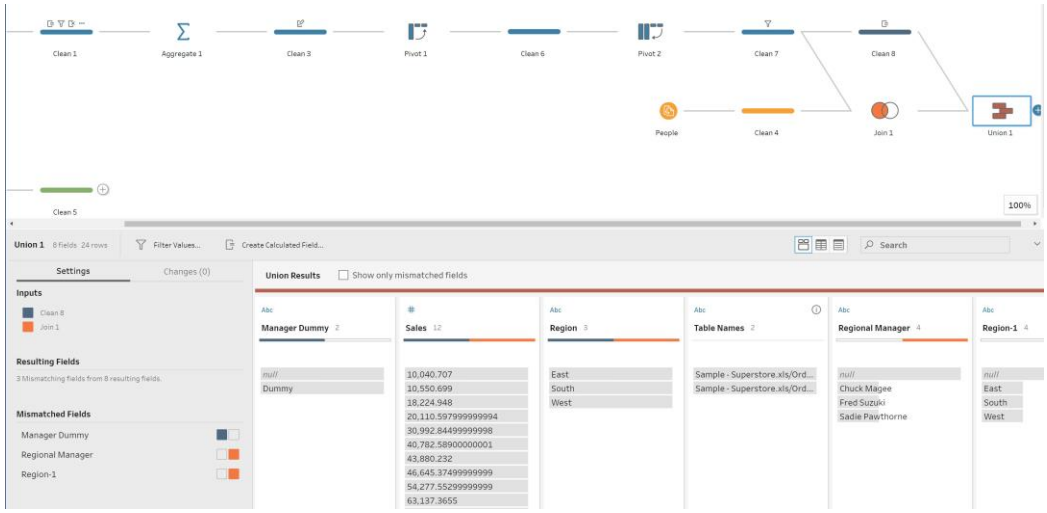


Figure 2.56: Two data streams have been unioned and mismatched fields have been merged or removed

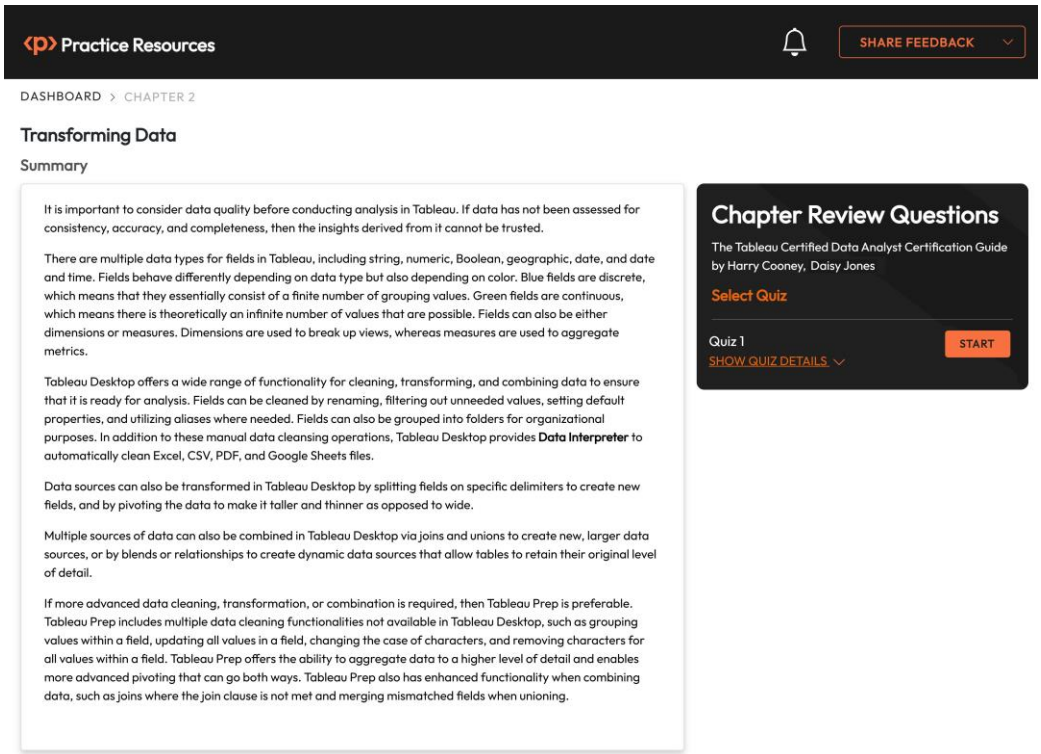


Figure 2.58 – Chapter Review Questions for Chapter 2

3
Calculations

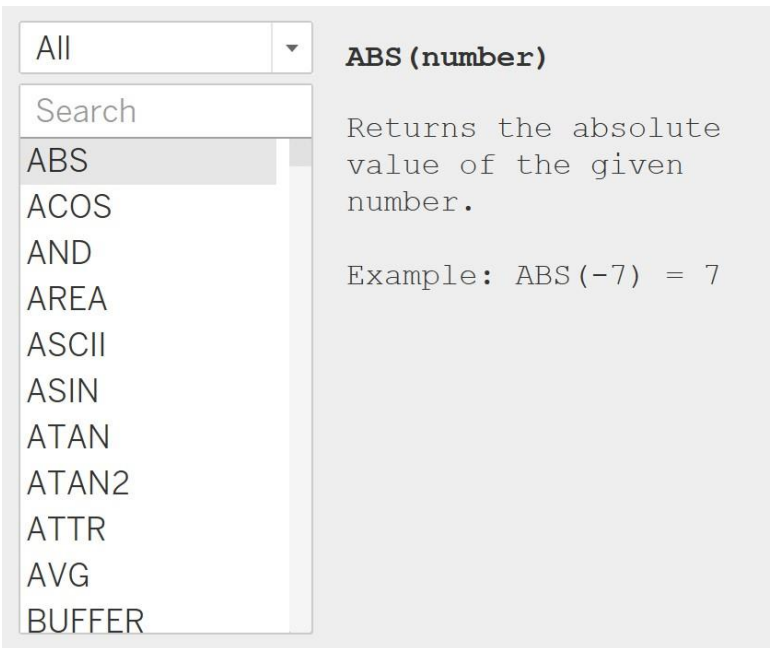
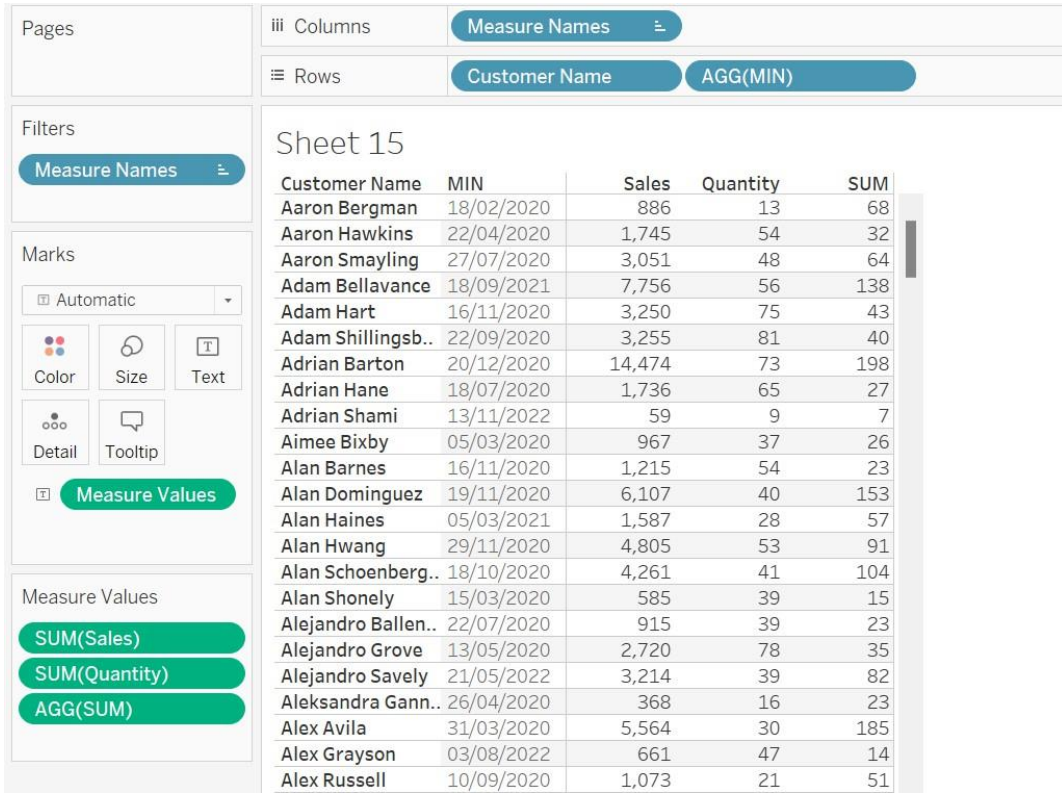
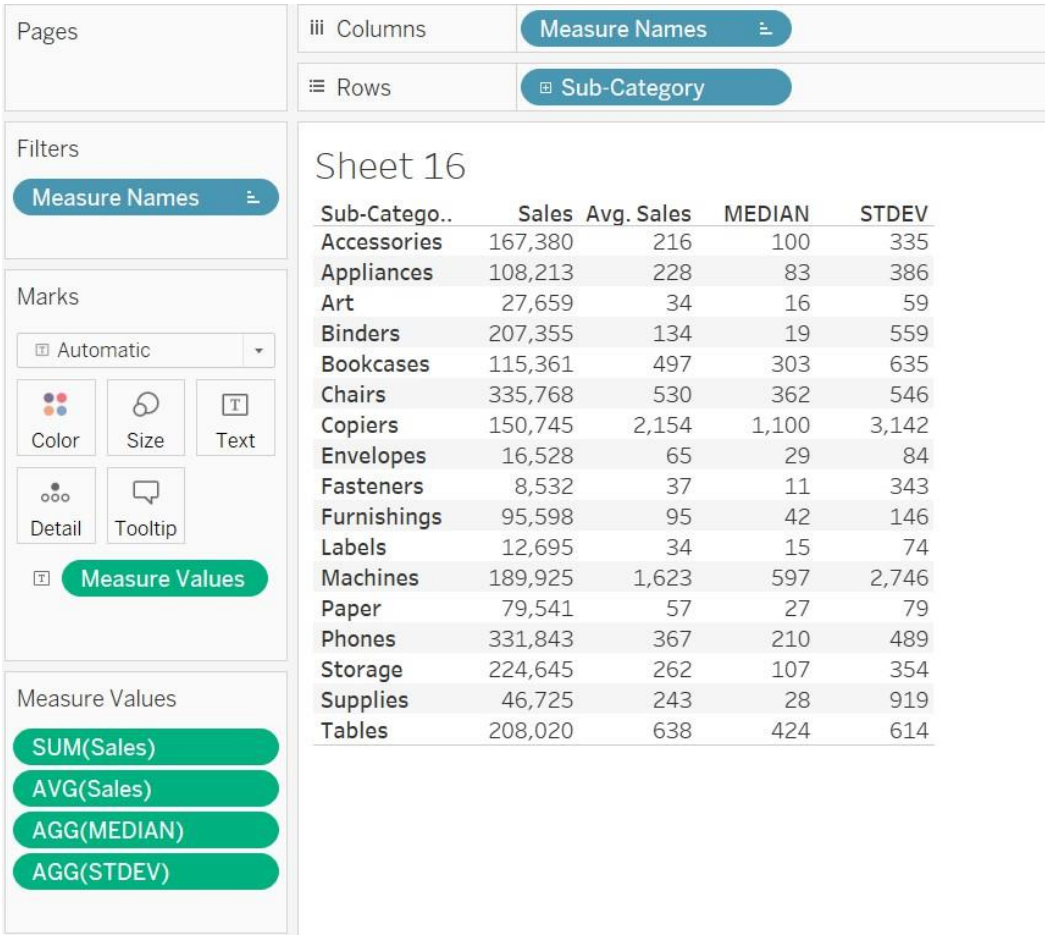


Figure 3.1: Calculated field help section - use the dropdown to select the calculation type category



Customer Name	MIN	Sales	Quantity	SUM
Aaron Bergman	18/02/2020	886	13	68
Aaron Hawkins	22/04/2020	1,745	54	32
Aaron Smayling	27/07/2020	3,051	48	64
Adam Bellavance	18/09/2021	7,756	56	138
Adam Hart	16/11/2020	3,250	75	43
Adam Shillingsb..	22/09/2020	3,255	81	40
Adrian Barton	20/12/2020	14,474	73	198
Adrian Hane	18/07/2020	1,736	65	27
Adrian Shami	13/11/2022	59	9	7
Aimee Bixby	05/03/2020	967	37	26
Alan Barnes	16/11/2020	1,215	54	23
Alan Dominguez	19/11/2020	6,107	40	153
Alan Haines	05/03/2021	1,587	28	57
Alan Hwang	29/11/2020	4,805	53	91
Alan Schoenberg..	18/10/2020	4,261	41	104
Alan Shonely	15/03/2020	585	39	15
Alejandro Ballen..	22/07/2020	915	39	23
Alejandro Grove	13/05/2020	2,720	78	35
Alejandro Savely	21/05/2022	3,214	39	82
Aleksandra Gann..	26/04/2020	368	16	23
Alex Avila	31/03/2020	5,564	30	185
Alex Grayson	03/08/2022	661	47	14
Alex Russell	10/09/2020	1,073	21	51

Figure 3.2: The SUM function is used to get the total sales, which is then divided by the total quantity, and the MIN function is used to get the first order date for each customer



Sub-Catego..	Sales	Avg. Sales	MEDIAN	STDEV
Accessories	167,380	216	100	335
Appliances	108,213	228	83	386
Art	27,659	34	16	59
Binders	207,355	134	19	559
Bookcases	115,361	497	303	635
Chairs	335,768	530	362	546
Copiers	150,745	2,154	1,100	3,142
Envelopes	16,528	65	29	84
Fasteners	8,532	37	11	343
Furnishings	95,598	95	42	146
Labels	12,695	34	15	74
Machines	189,925	1,623	597	2,746
Paper	79,541	57	27	79
Phones	331,843	367	210	489
Storage	224,645	262	107	354
Supplies	46,725	243	28	919
Tables	208,020	638	424	614

Figure 3.3: Sub-Category table created showing the total and average sales as well as the median and standard deviation created using the MEDIAN and STDEV functions

1.

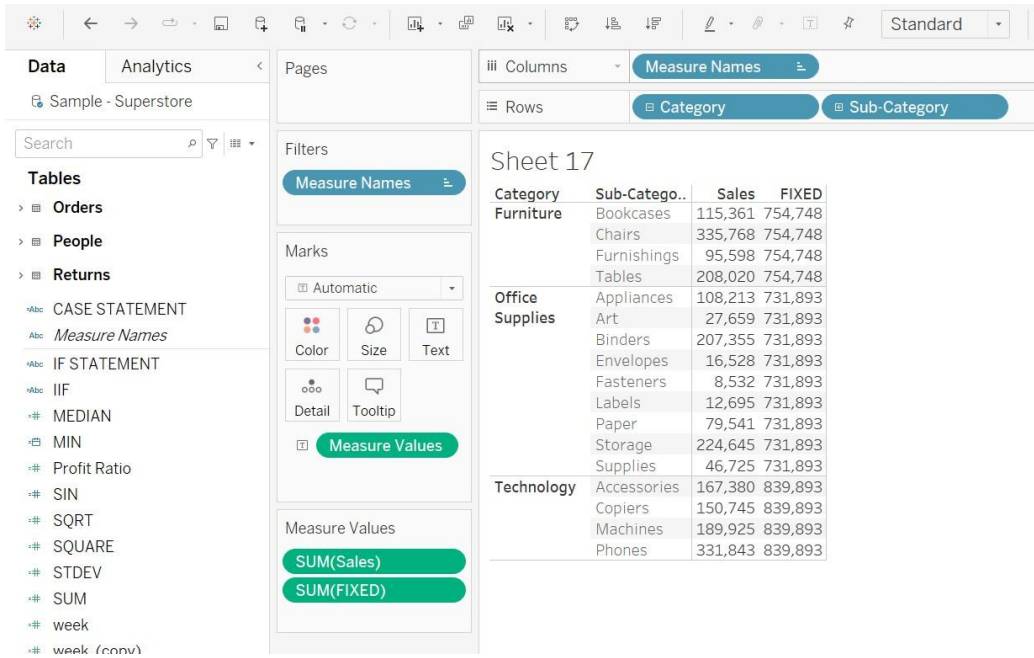


Figure 3.4: The FIXED sales values can be observed to be fixed at the category total level regardless of the level of detail in the view

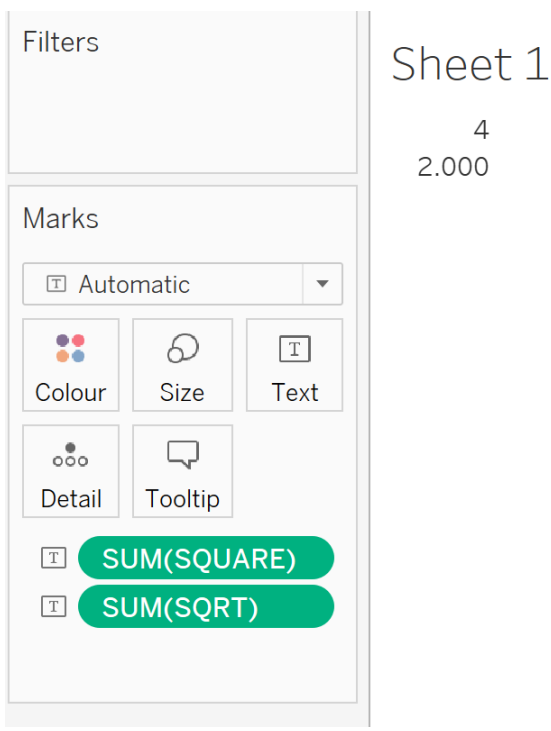


Figure 3.5: SQUARE and SQRT functions used in separate calculated fields with the SQRT column canceling out the SQUARE function

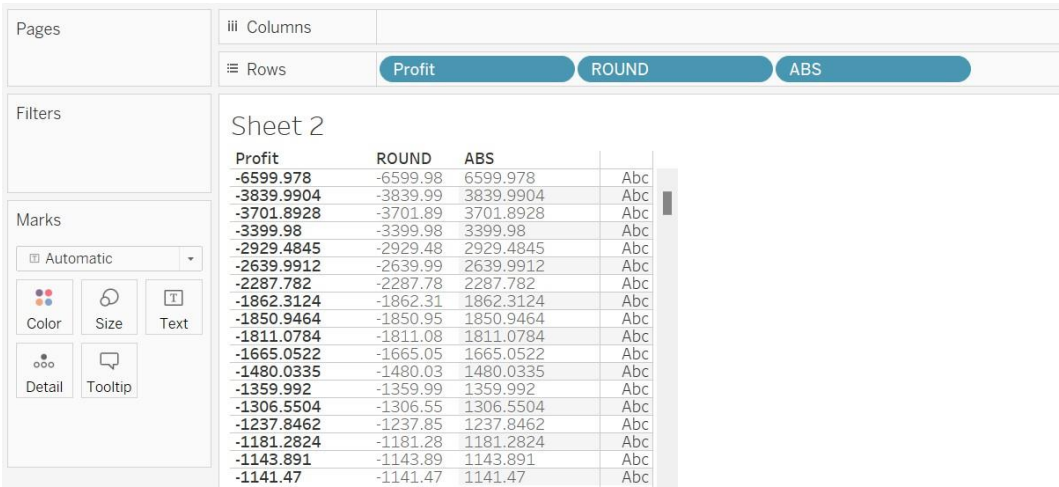


Figure 3.6: ROUND and ABS functions applied to the Profit field and the effects observed

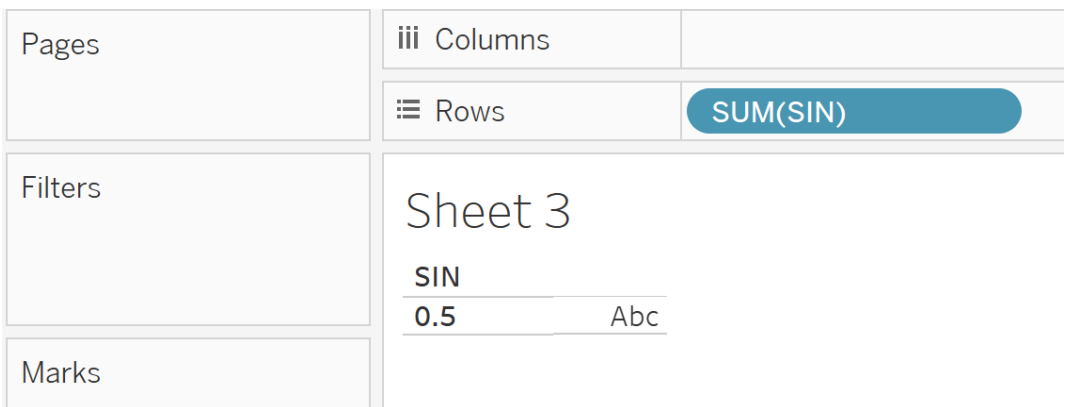
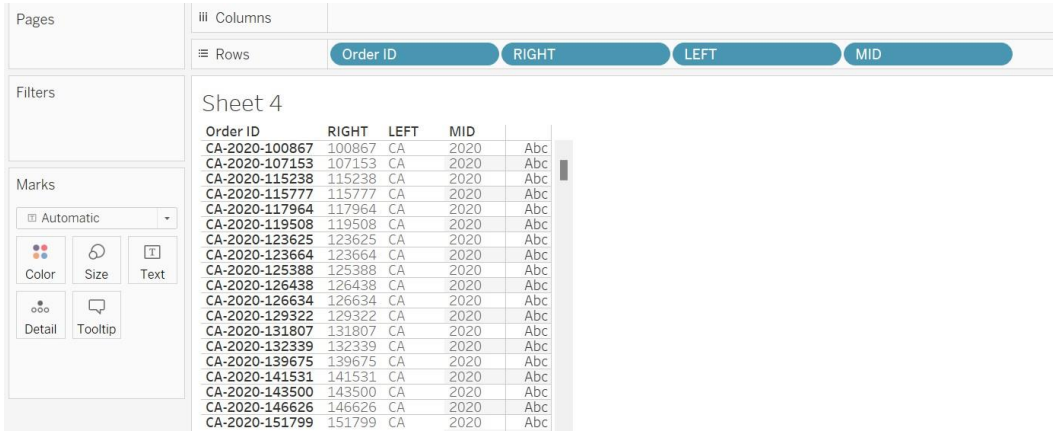
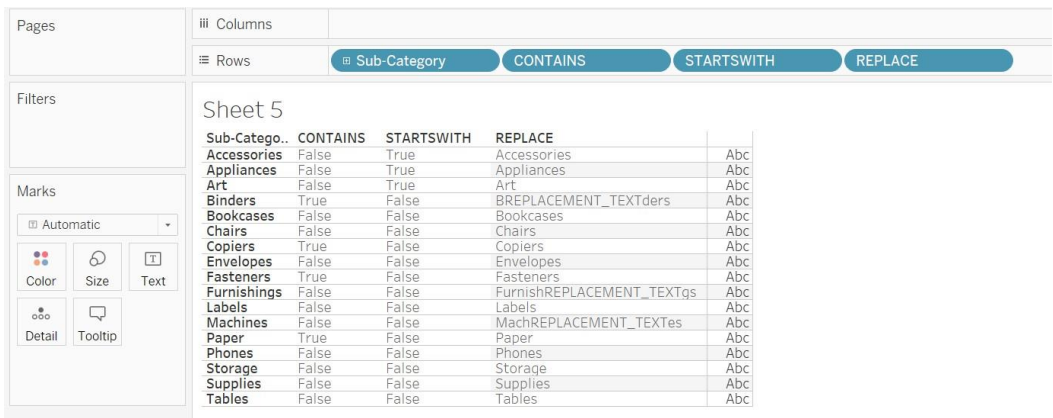


Figure 3.7: Nested functions used to find the sine of a 30-degree angle using the SIN and RADIANS functions



Order ID	RIGHT	LEFT	MID	
CA-2020-100867	100867	CA	2020	Abc
CA-2020-107153	107153	CA	2020	Abc
CA-2020-115238	115238	CA	2020	Abc
CA-2020-115777	115777	CA	2020	Abc
CA-2020-117964	117964	CA	2020	Abc
CA-2020-119508	119508	CA	2020	Abc
CA-2020-123625	123625	CA	2020	Abc
CA-2020-123664	123664	CA	2020	Abc
CA-2020-125388	125388	CA	2020	Abc
CA-2020-126438	126438	CA	2020	Abc
CA-2020-126634	126634	CA	2020	Abc
CA-2020-129322	129322	CA	2020	Abc
CA-2020-131807	131807	CA	2020	Abc
CA-2020-132339	132339	CA	2020	Abc
CA-2020-139675	139675	CA	2020	Abc
CA-2020-141531	141531	CA	2020	Abc
CA-2020-143500	143500	CA	2020	Abc
CA-2020-146626	146626	CA	2020	Abc
CA-2020-151799	151799	CA	2020	Abc

Figure 3.8: Order ID subsections have been parsed out using RIGHT, LEFT, and MID functions



Sub-Catego..	CONTAINS	STARTSWITH	REPLACE	
Accessories	False	True	Accessories	Abc
Appliances	False	True	Appliances	Abc
Art	False	True	Art	Abc
Binders	True	False	BREPLACEMENT_TEXTders	Abc
Bookcases	False	False	Bookcases	Abc
Chairs	False	False	Chairs	Abc
Copiers	True	False	Copiers	Abc
Envelopes	False	False	Envelopes	Abc
Fasteners	True	False	Fasteners	Abc
Furnishings	False	False	FurnishREPLACEMENT_TEXTgs	Abc
Labels	False	False	Labels	Abc
Machines	False	False	MachREPLACEMENT_TEXTes	Abc
Paper	True	False	Paper	Abc
Phones	False	False	Phones	Abc
Storage	False	False	Storage	Abc
Supplies	False	False	Supplies	Abc
Tables	False	False	Tables	Abc

Figure 3.9: Substrings found within, at the start of, and replaced, using the CONTAINS, STARTSWITH, and REPLACE functions

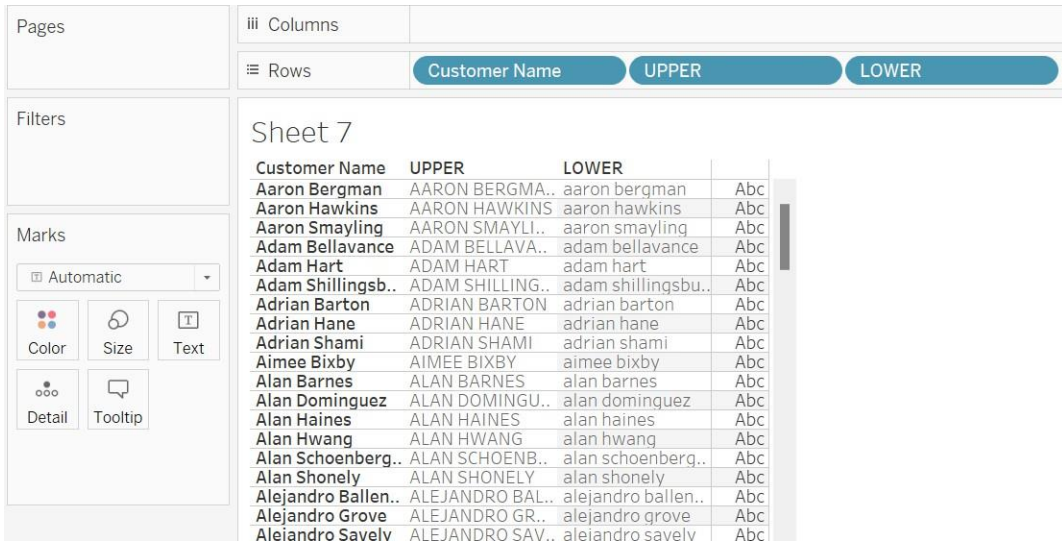


Figure 3.10: Customer names recreated in uppercase and lowercase using the UPPER and LOWER functions

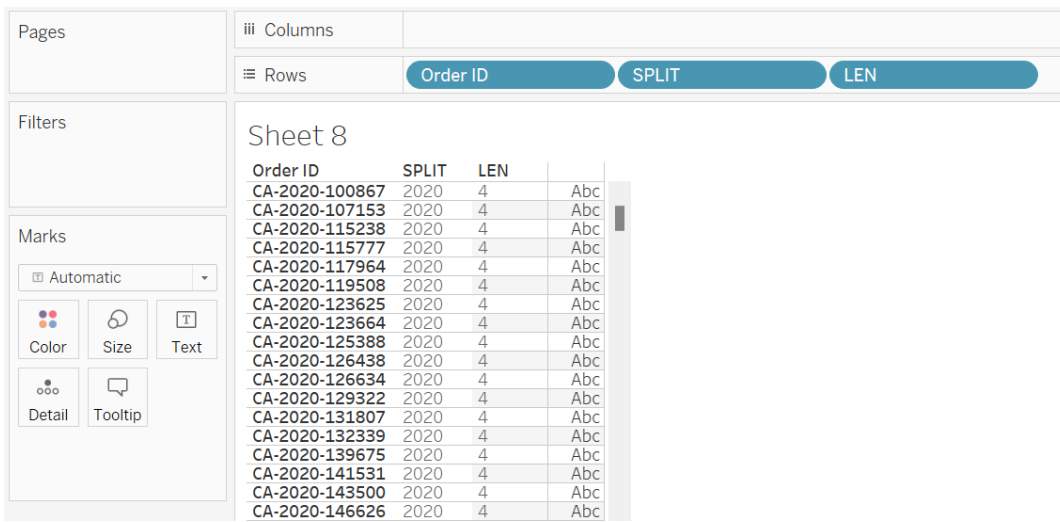


Figure 3.11: Year values parsed out from the Order ID field using the SPLIT function and then the length of each resulting year value checked using the LEN function

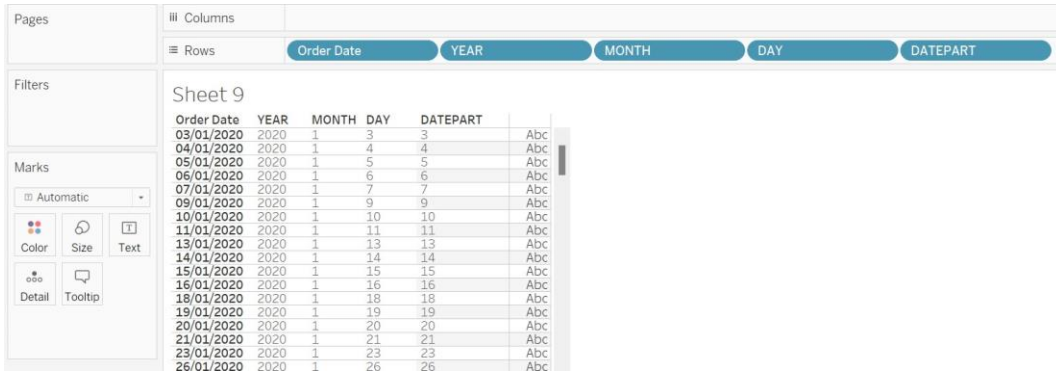


Figure 3.12: Date parts parsed from the Order Date field using the YEAR, MONTH, DAY, and DATEPART functions

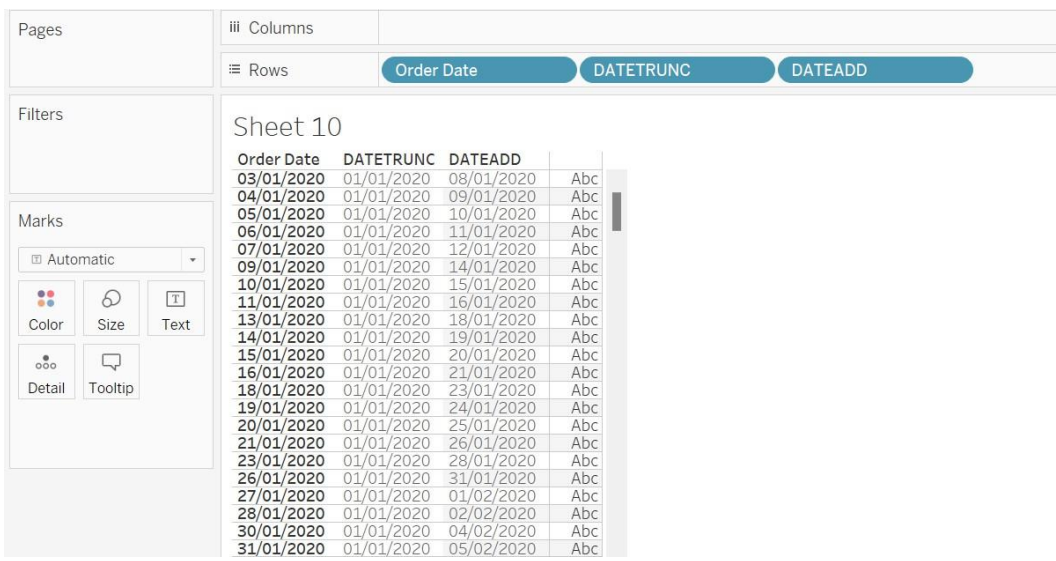
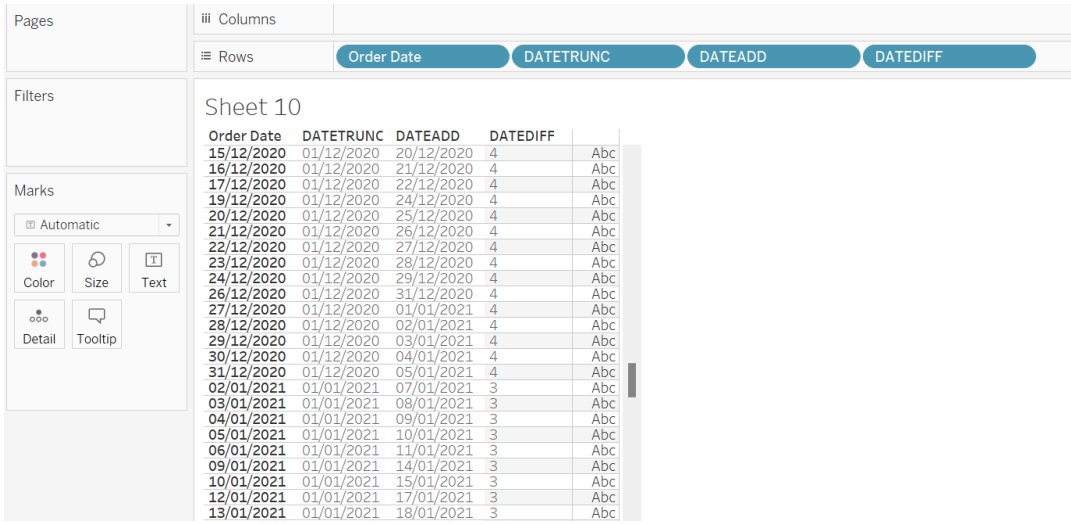
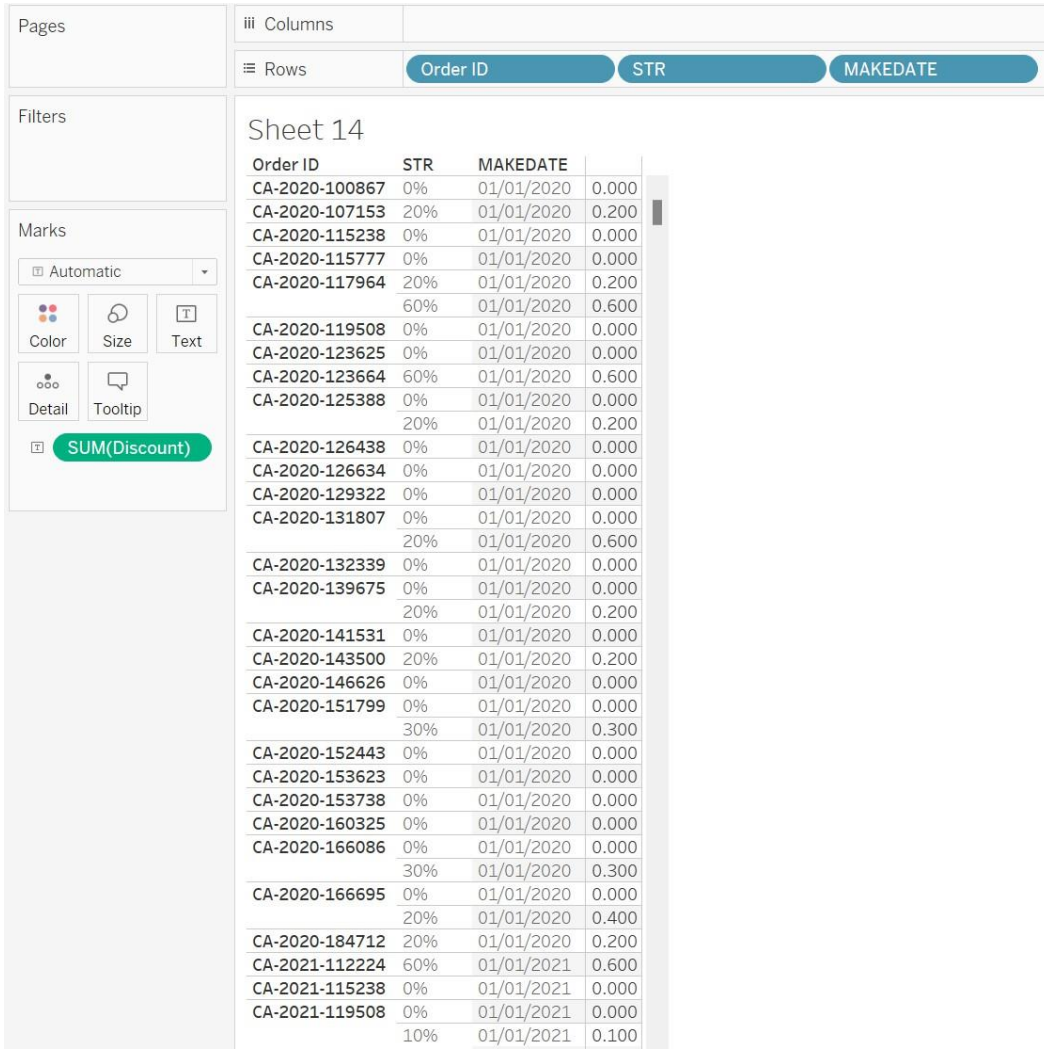


Figure 3.13: Order Date truncated to month level and 5 days added using the DATETRUNC and DATEADD functions



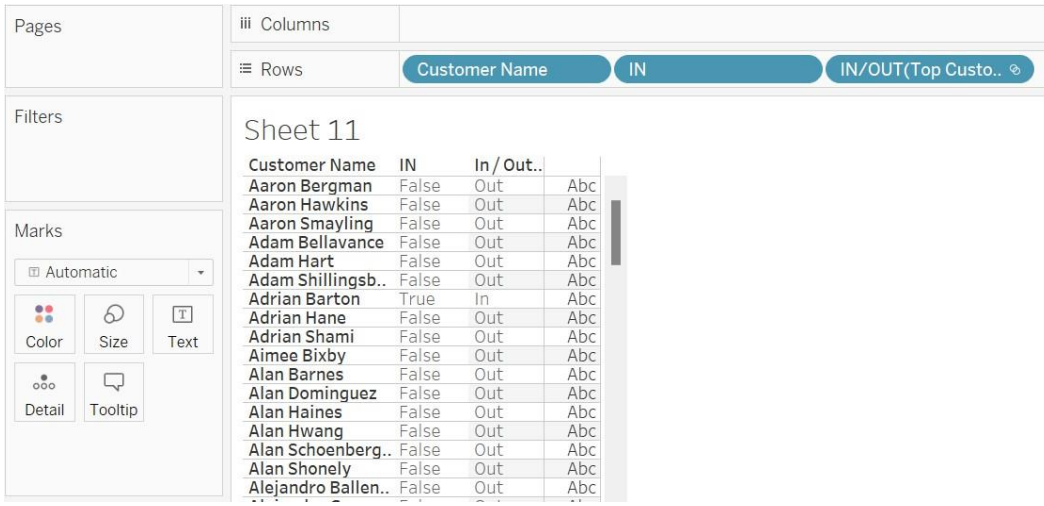
Order Date	DATETRUNC	DATEADD	DATEDIFF	
15/12/2020	01/12/2020	20/12/2020	4	Abc
16/12/2020	01/12/2020	21/12/2020	4	Abc
17/12/2020	01/12/2020	22/12/2020	4	Abc
19/12/2020	01/12/2020	24/12/2020	4	Abc
20/12/2020	01/12/2020	25/12/2020	4	Abc
21/12/2020	01/12/2020	26/12/2020	4	Abc
22/12/2020	01/12/2020	27/12/2020	4	Abc
23/12/2020	01/12/2020	28/12/2020	4	Abc
24/12/2020	01/12/2020	29/12/2020	4	Abc
26/12/2020	01/12/2020	31/12/2020	4	Abc
27/12/2020	01/12/2020	01/01/2021	4	Abc
28/12/2020	01/12/2020	02/01/2021	4	Abc
29/12/2020	01/12/2020	03/01/2021	4	Abc
30/12/2020	01/12/2020	04/01/2021	4	Abc
31/12/2020	01/12/2020	05/01/2021	4	Abc
02/01/2021	01/01/2021	07/01/2021	3	Abc
03/01/2021	01/01/2021	08/01/2021	3	Abc
04/01/2021	01/01/2021	09/01/2021	3	Abc
05/01/2021	01/01/2021	10/01/2021	3	Abc
06/01/2021	01/01/2021	11/01/2021	3	Abc
09/01/2021	01/01/2021	14/01/2021	3	Abc
10/01/2021	01/01/2021	15/01/2021	3	Abc
12/01/2021	01/01/2021	17/01/2021	3	Abc
13/01/2021	01/01/2021	18/01/2021	3	Abc

Figure 3.14: The difference in years between the Order Date values in the data and today's date is calculated using the DATEDIFF and TODAY functions



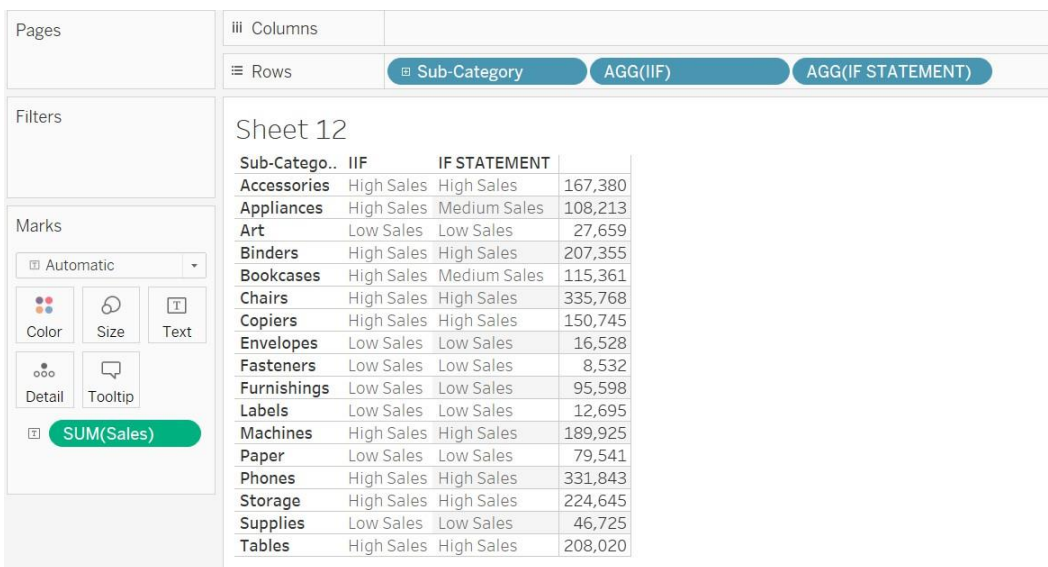
Order ID	STR	MAKEDATE	
CA-2020-100867	0%	01/01/2020	0.000
CA-2020-107153	20%	01/01/2020	0.200
CA-2020-115238	0%	01/01/2020	0.000
CA-2020-115777	0%	01/01/2020	0.000
CA-2020-117964	20%	01/01/2020	0.200
	60%	01/01/2020	0.600
CA-2020-119508	0%	01/01/2020	0.000
CA-2020-123625	0%	01/01/2020	0.000
CA-2020-123664	60%	01/01/2020	0.600
CA-2020-125388	0%	01/01/2020	0.000
	20%	01/01/2020	0.200
CA-2020-126438	0%	01/01/2020	0.000
CA-2020-126634	0%	01/01/2020	0.000
CA-2020-129322	0%	01/01/2020	0.000
CA-2020-131807	0%	01/01/2020	0.000
	20%	01/01/2020	0.600
CA-2020-132339	0%	01/01/2020	0.000
CA-2020-139675	0%	01/01/2020	0.000
	20%	01/01/2020	0.200
CA-2020-141531	0%	01/01/2020	0.000
CA-2020-143500	20%	01/01/2020	0.200
CA-2020-146626	0%	01/01/2020	0.000
CA-2020-151799	0%	01/01/2020	0.000
	30%	01/01/2020	0.300
CA-2020-152443	0%	01/01/2020	0.000
CA-2020-153623	0%	01/01/2020	0.000
CA-2020-153738	0%	01/01/2020	0.000
CA-2020-160325	0%	01/01/2020	0.000
CA-2020-166086	0%	01/01/2020	0.000
	30%	01/01/2020	0.300
CA-2020-166695	0%	01/01/2020	0.000
	20%	01/01/2020	0.400
CA-2020-184712	20%	01/01/2020	0.200
CA-2021-112224	60%	01/01/2021	0.600
CA-2021-115238	0%	01/01/2021	0.000
CA-2021-119508	0%	01/01/2021	0.000
	10%	01/01/2021	0.100

Figure 3.15: STR function used to create a string field for discounts and MAKEDATE used to create a date field for the order year



Customer Name	IN	In / Out..	
Aaron Bergman	False	Out	Abc
Aaron Hawkins	False	Out	Abc
Aaron Smayling	False	Out	Abc
Adam Bellavance	False	Out	Abc
Adam Hart	False	Out	Abc
Adam Shillingsb..	False	Out	Abc
Adrian Barton	True	In	Abc
Adrian Hane	False	Out	Abc
Adrian Shami	False	Out	Abc
Aimee Bixby	False	Out	Abc
Alan Barnes	False	Out	Abc
Alan Dominguez	False	Out	Abc
Alan Haines	False	Out	Abc
Alan Hwang	False	Out	Abc
Alan Schoenberg..	False	Out	Abc
Alan Shonely	False	Out	Abc
Alejandro Ballen..	False	Out	Abc

Figure 3.16: The IN function used to look for customer names in the Top Customer by Profit set, then confirmed to match up



Sub-Catego..	IIF	IF STATEMENT	
Accessories	High Sales	High Sales	167,380
Appliances	High Sales	Medium Sales	108,213
Art	Low Sales	Low Sales	27,659
Binders	High Sales	High Sales	207,355
Bookcases	High Sales	Medium Sales	115,361
Chairs	High Sales	High Sales	335,768
Copiers	High Sales	High Sales	150,745
Envelopes	Low Sales	Low Sales	16,528
Fasteners	Low Sales	Low Sales	8,532
Furnishings	Low Sales	Low Sales	95,598
Labels	Low Sales	Low Sales	12,695
Machines	High Sales	High Sales	189,925
Paper	Low Sales	Low Sales	79,541
Phones	High Sales	High Sales	331,843
Storage	High Sales	High Sales	224,645
Supplies	Low Sales	Low Sales	46,725
Tables	High Sales	High Sales	208,020

Figure 3.17: IIF function and IF statement created to categorize sub-categories by total sales amounts

Figure 3.18: CASE statement that returns the number of customers selected in the parameter as well as the lowest or highest value when 5 or 20 is selected

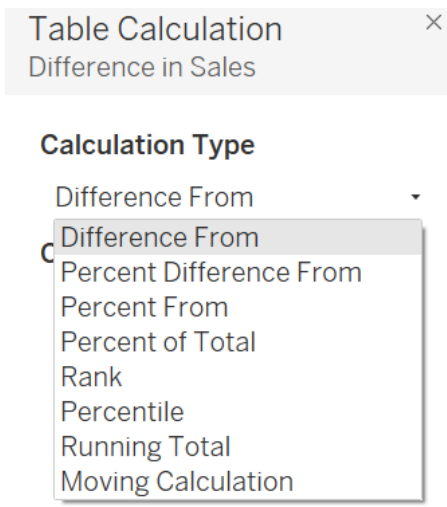


Figure 3.19: Table Calculation configuration window

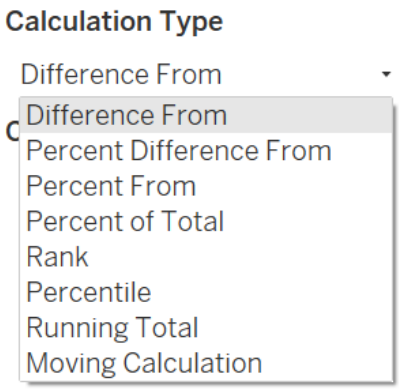


Figure 3.20: Select the calculation type

Month of Order Date	Segment	Order Date			
		2018	2019	2020	2021
January	Consumer		7,347	-8,248	17,185
	Corporate		1,681	6,103	2,736
	Home Office		-5,091	2,514	5,508
February	Consumer		6,101	6,531	-10,211
	Corporate		1,382	302	5,092
	Home Office		-51	4,195	2,441
March	Consumer		5,550	7,426	10,197
	Corporate		5,225	-2,106	2,348
	Home Office		-27,740	7,669	-5,388
April	Consumer		13,518	-8,551	-5,040
	Corporate		-10,011	12,056	-1,374
	Home Office		2,393	1,050	4,186
May	Consumer		8,060	11,295	-11,115
	Corporate		-3,687	12,997	-4,212
	Home Office		2,110	2,563	2,601
June	Consumer		-13,099	11,064	-3,616
	Corporate		5,433	-1,616	11,907
	Home Office		-2,132	6,099	4,346

Figure 3.21: Table down

Month of O..	Segment	Order Date 2018	2019	2020	2021
January	Consumer		7,347	-8,248	17,185
	Corporate		1,681	6,103	2,736
	Home Office		-5,091	2,514	5,508
February	Consumer		6,101	6,531	-10,211
	Corporate		1,382	302	5,092
	Home Office		-51	4,195	2,441
March	Consumer		5,550	7,426	10,197
	Corporate		5,225	-2,106	2,348
	Home Office		-27,740	7,669	-5,388
April	Consumer		13,518	-8,551	-5,040
	Corporate		-10,011	12,056	-1,374
	Home Office		2,393	1,050	4,186
May	Consumer		8,060	11,295	-11,115
	Corporate		-3,687	12,997	-4,212
	Home Office		2,110	2,563	2,601
June	Consumer		-13,099	11,064	-3,616
	Corporate		5,433	-1,616	11,907
	Home Office		-2,132	6,099	4,346

Figure 3.22: Table across

Month of O..	Segment	Order Date 2018	2019	2020	2021
January	Consumer		7,347	8,248	17,185
	Corporate	-21,510	1,681	6,103	2,736
	Home Office	-6,614	5,091	2,514	5,508
February	Consumer	-5,370	6,101	6,531	-10,211
	Corporate	-4,405	1,382	302	5,092
	Home Office	-7,791	-51	4,195	2,441

Figure 3.23: Table across then down

		Order Date			
Month of O..	Segment	2018	2019	2020	2021
January	Consumer		2,661	-13,025	11,079
	Corporate	-5,226	-10,893	3,458	-10,991
	Home Office	3,906	-2,866	-6,454	-3,633
February	Consumer	-2,440	8,752	12,770	-2,949
	Corporate	-1,984	-6,704	-12,933	2,370
	Home Office	-1,015	-2,448	1,445	-1,206
March	Consumer	11,701	17,302	20,533	28,239
	Corporate	-763	-1,087	-10,619	-18,467
	Home Office	21,608	-11,357	-1,582	-9,318
April	Consumer	-23,606	17,651	1,481	1,779
	Corporate	5,023	-18,505	2,102	5,768
	Home Office	-9,077	3,327	-7,680	-2,119
May	Consumer	7,764	13,431	23,677	8,376
	Corporate	-3,677	-15,424	-13,772	-6,820
	Home Office	-7,455	-1,657	-12,091	-5,278

Figure 5.24: Table down then across

Month of O..	Segment	2018	2019	2020	2021
January	Consumer				
	Corporate	-5,226	-10,893	3,458	-10,991
	Home Office	3,906	-2,866	-6,454	-3,683
February	Consumer				
	Corporate	-1,984	-6,704	-12,933	2,370
	Home Office	-1,015	-2,448	1,445	-1,206
March	Consumer				
	Corporate	-763	-1,087	-10,619	-18,467
	Home Office	21,608	-11,357	-1,582	-9,318
April	Consumer				
	Corporate	5,023	-18,505	2,102	5,768
	Home Office	-9,077	3,327	-7,680	-2,119

Figure 3.25: Pane down

Month of O..	Segment	Order Date 2018	2019	2020	2021
January	Consumer		8,667	5,510	20,181
	Corporate	-5,226	-10,893	3,458	-10,991
	Home Office	3,906	-2,866	-6,454	-3,683
February	Consumer		9,101	15,683	1,277
	Corporate	-1,984	-6,704	-12,933	2,370
	Home Office	-1,015	-2,448	1,445	-1,206
March	Consumer		-15,296	19,870	22,397
	Corporate	-763	-1,087	-10,619	-18,467
	Home Office	21,608	-11,357	-1,582	-9,318
April	Consumer		17,571	6,627	538
	Corporate	5,023	-18,505	2,102	5,768
	Home Office	-9,077	3,327	-7,680	-2,119

Figure 3.26: Pane down then across

Month of O..	Segment	Order Date 2018	2019	2020	2021
January	Consumer		7,347	-8,248	17,185
	Corporate	21,510	1,681	6,103	2,736
	Home Office	6,614	5,091	2,514	5,508
February	Consumer		6,101	6,531	-10,211
	Corporate	-4,405	1,382	302	5,092
	Home Office	-7,791	-51	4,195	2,441
March	Consumer		5,550	7,426	10,197
	Corporate	-23,935	5,225	-2,106	2,348
	Home Office	16,140	-27,740	7,669	-5,388
April	Consumer		13,518	-8,551	-5,040
	Corporate	5,097	-10,011	12,056	-1,374
	Home Office	-9,748	2,393	1,050	4,186

Figure 3.27: Pane across then down

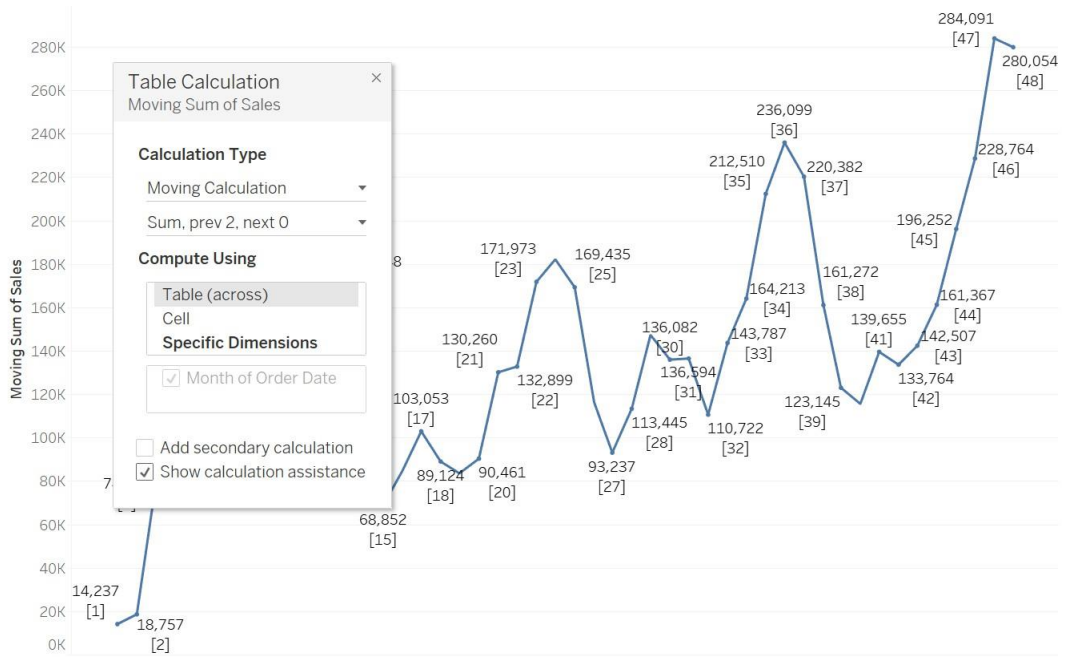


Figure 3.28: Table calculation of moving sum

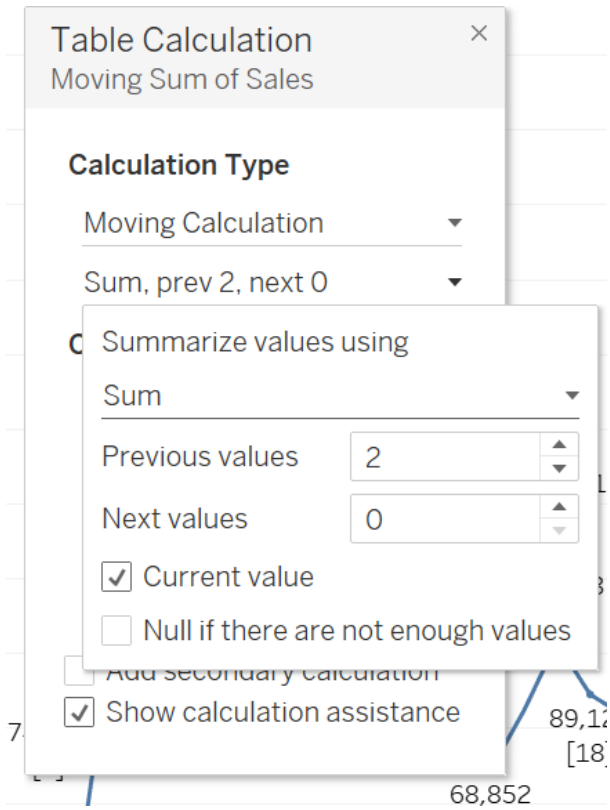


Figure 3.29: Table Calculation pane

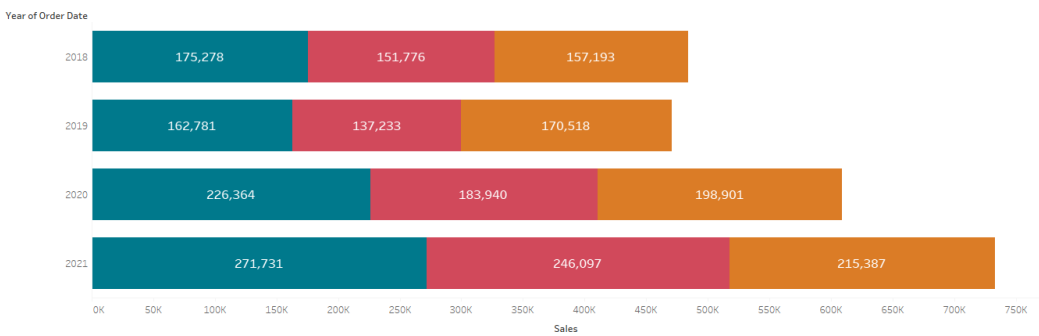


Figure 3.30: Example of a sum of sales table

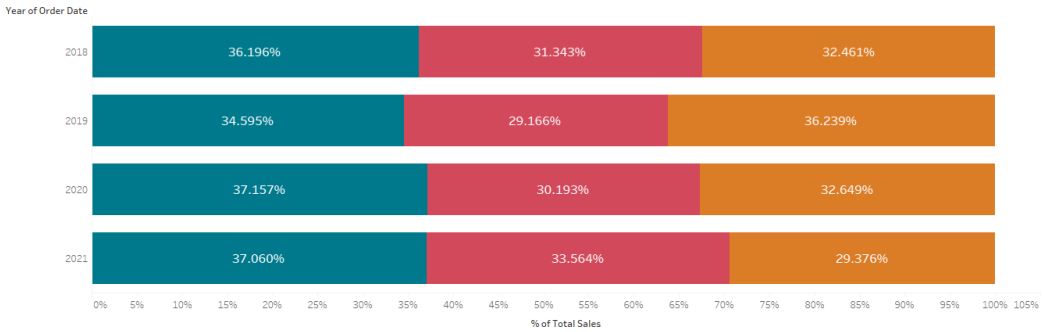


Figure 3.31: Example of a Percent of Total calculation on categories by sales

Year of Order Date	Segment	Running Sum of Sales along Table (Down)
2018	Consumer	266,097
	Corporate	394,532
	Home Office	484,247
2019	Consumer	750,783
	Corporate	879,541
	Home Office	954,780
2020	Consumer	1,251,644
	Corporate	1,458,750
	Home Office	1,563,986
2021	Consumer	1,895,890
	Corporate	2,137,738
	Home Office	2,297,201

Figure 3.32: Example of Running Sum

Year of Order Date	Segment	Running Sum of Sales restarting every Year of Order Date
2018	Consumer	266,097
	Corporate	394,532
	Home Office	484,247
2019	Consumer	266,536
	Corporate	395,293
	Home Office	470,533
2020	Consumer	296,864
	Corporate	503,970
	Home Office	609,206
2021	Consumer	331,905
	Corporate	573,753
	Home Office	733,215

Figure 3.33: Running sum restarting every year

Year of Order Date	Segment	Difference in Sales from the Previous along Year of Order Date, Segment
2018	Consumer	
	Corporate	-137,662
	Home Office	-38,719
2019	Consumer	176,820
	Corporate	-137,779
	Home Office	-53,518
2020	Consumer	221,625
	Corporate	-89,758
	Home Office	-101,871
2021	Consumer	226,669
	Corporate	-90,057
	Home Office	-82,385

Figure 3.34: Difference from the previous value

Year of Order Date	Segment	Percentile of Sales along Table (Down)
2018	Consumer	72.73%
	Corporate	27.27%
	Home Office	9.09%
2019	Consumer	81.82%
	Corporate	36.36%
	Home Office	0.00%
2020	Consumer	90.91%
	Corporate	54.55%
	Home Office	18.18%
2021	Consumer	100.00%
	Corporate	63.64%
	Home Office	45.45%

Figure 3.35: Percent ranking

Year of Order Date	Month of Order Date	Index	Sales	Profit	Profit Ratio
2018	January	1	29	-9	-31.54%
	April	2	7	2	33.75%
	May	3	16	8	49.00%
	July	4	5	-12	-250.00%
	August	5	14	7	48.00%
	September	6	24	5	21.11%
	November	7	216	37	17.19%
	December	8	153	-2	-1.39%
2019	February	9	44	11	25.82%
	March	10	74	19	26.03%
	April	11	48	9	17.74%
	May	12	71	28	39.93%
	June	13	43	21	49.00%
	July	14	52	-1	-1.46%
	August	15	37	12	32.13%
	September	16	23	-7	-30.40%
	October	17	32	-22	-70.00%
	November	18	29	7	25.37%
	December	19	100	21	20.42%
2020	February	20	11	5	47.00%
	March	21	65	26	40.27%

Figure 3.36: Example table of rankings

Year of Order Date	Month of Order Date	Index	Sales	Profit	Profit Ratio
2018	January	1	14,237	2,450	17.21%
	February	2	4,520	862	19.08%
	March	3	55,691	499	0.90%
	April	4	28,295	3,489	12.33%
	May	5	23,648	2,739	11.58%
	June	6	34,595	4,977	14.39%
	July	7	33,946	-841	-2.48%
	August	8	27,909	5,318	19.05%
	September	9	81,777	8,328	10.18%
	October	10	31,453	3,448	10.96%
	November	11	78,629	9,292	11.82%
	December	12	69,546	8,984	12.92%
2019	January	13	18,174	-3,281	-18.05%
	February	14	11,951	2,814	23.54%
	March	15	38,726	9,732	25.13%
	April	16	34,195	4,187	12.25%
	May	17	30,132	4,668	15.49%
	June	18	24,797	3,336	13.45%
	July	19	28,765	3,289	11.43%
	August	20	36,898	5,356	14.52%
	September	21	64,596	8,209	12.71%
	October	22	31,405	2,817	8.97%
	November	23	75,973	12,475	16.42%
	December	24	74,920	8,017	10.70%
2020	January	25	18,542	2,825	15.23%
	February	26	22,979	5,005	21.78%
	March	27	51,716	3,612	6.98%
	April	28	38,750	2,978	7.68%
	May	29	56,988	8,662	15.20%
	June	30	40,345	4,750	11.77%
	July	31	39,262	4,433	11.29%
	August	32	31,115	2,062	6.63%
	September	33	73,410	9,329	12.71%
	October	34	59,688	16,243	27.21%
	November	35	79,412	4,011	5.05%
	December	36	96,999	17,885	18.44%
2021	January	37	43,971	7,140	16.24%
	February	38	20,301	1,614	7.95%

Figure 3.37: Table highlighting the first 25 rows

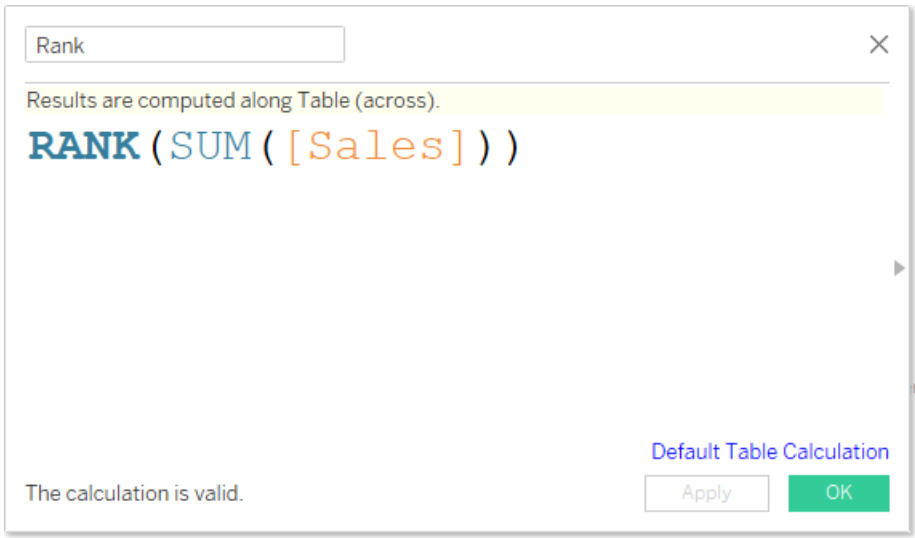


Figure 3.38: Tableau calculation for RANK

Year of Order Date	Segment	Sales	First along Table (Down)	Last along Table (Down)
2018	Consumer	266,097	0	11
	Corporate	128,435	-1	10
	Home Office	89,716	-2	9
2019	Consumer	266,536	-3	8
	Corporate	128,757	-4	7
	Home Office	75,239	-5	6
2020	Consumer	296,864	-6	5
	Corporate	207,106	-7	4
	Home Office	105,235	-8	3
2021	Consumer	331,905	-9	2
	Corporate	241,848	-10	1
	Home Office	159,463	-11	0

Figure 3.39: Example of the First and Last functions

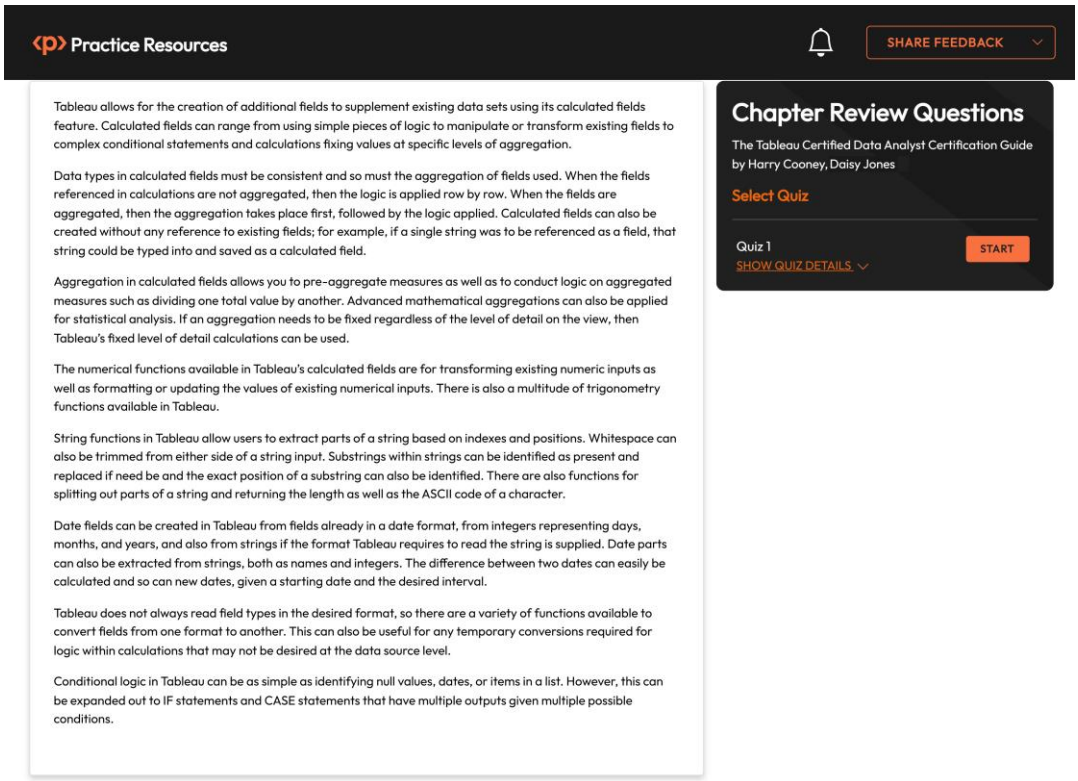


Figure 3.41 – Chapter Review Questions for Chapter 3

4

Grouping and Filtering

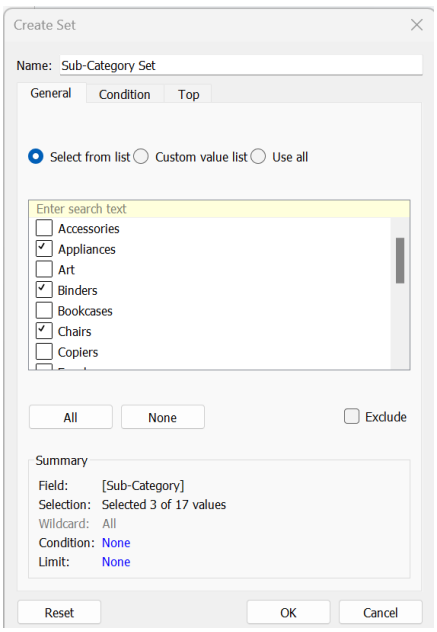


Figure 4.1: The interface to create the new Sub-Category Set set field with Appliances, Binders, and Chairs as set members

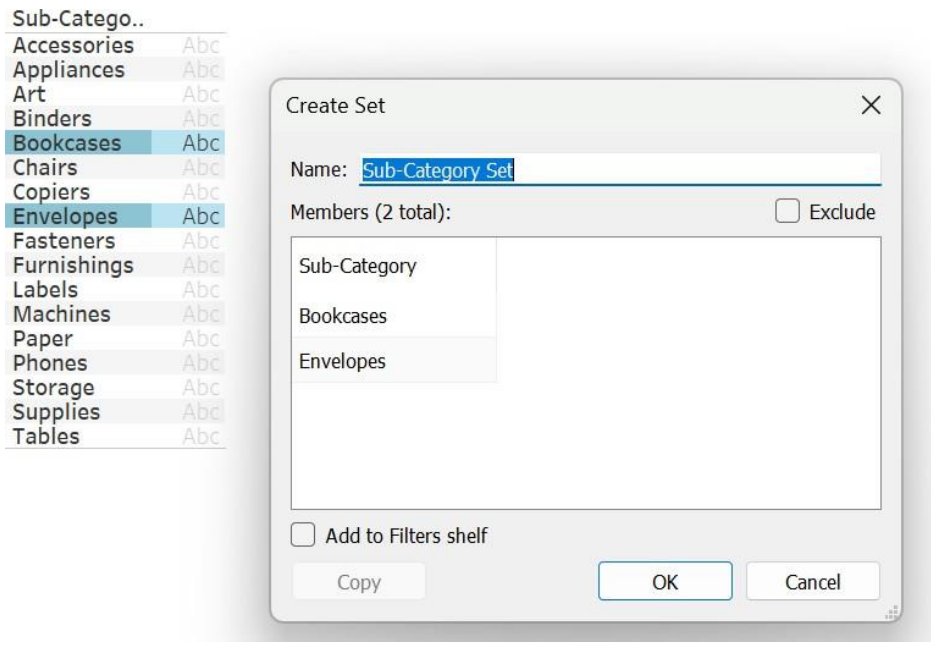


Figure 4.2: The interface popup when creating a fixed set via a selection of values on the view

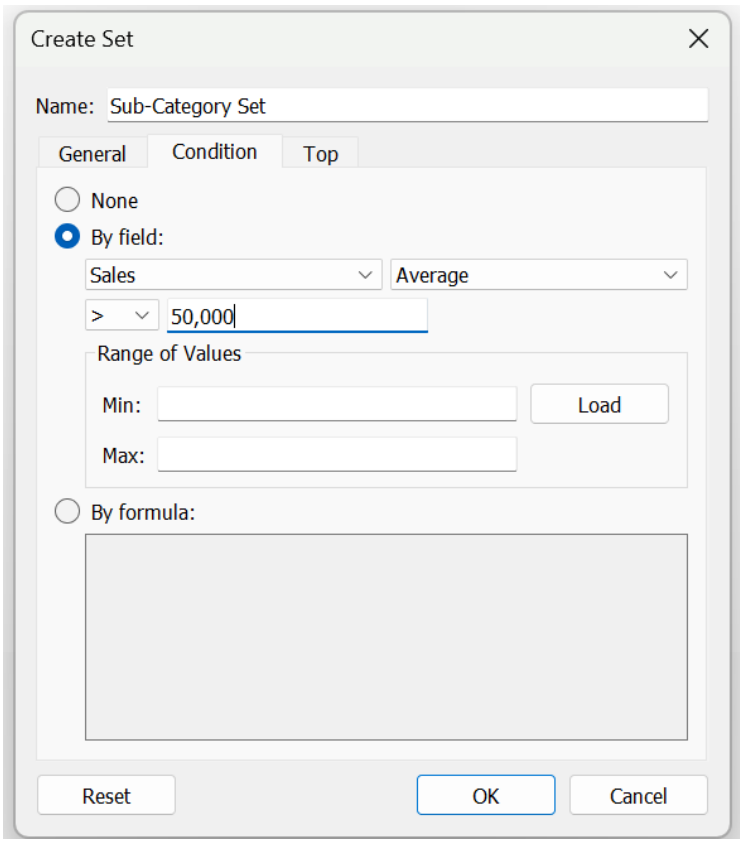


Figure 4.3: The interface configuration for a conditional set that selects sub-category members, based on average sales being greater than 50,000

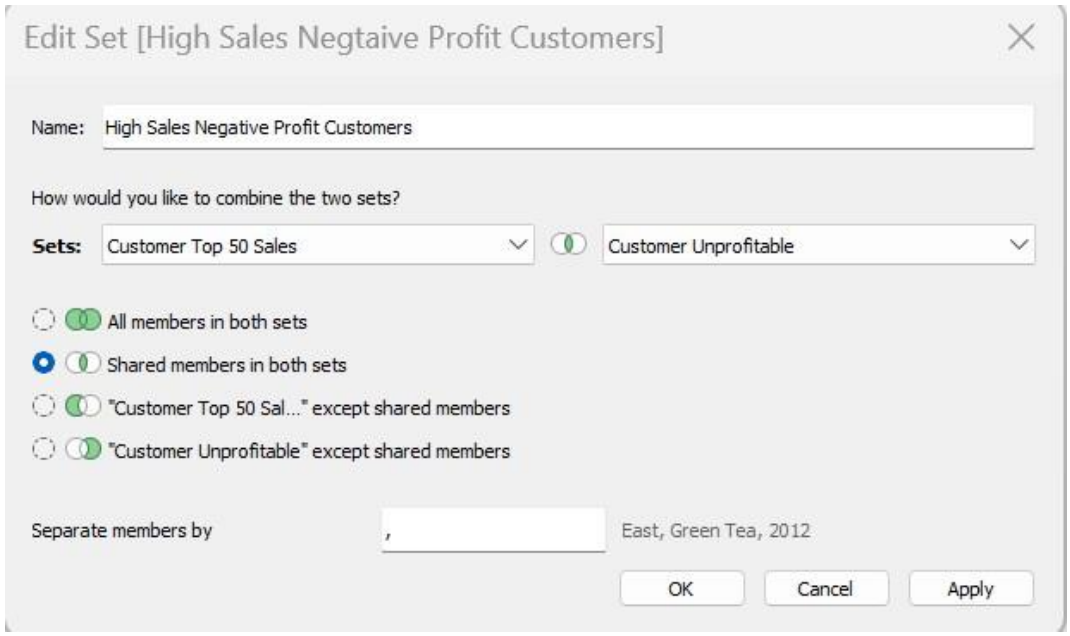


Figure 4.4: A combined set configuration to create a set that includes only members that are both in the top 50 in terms of total sales but have less than zero total profit

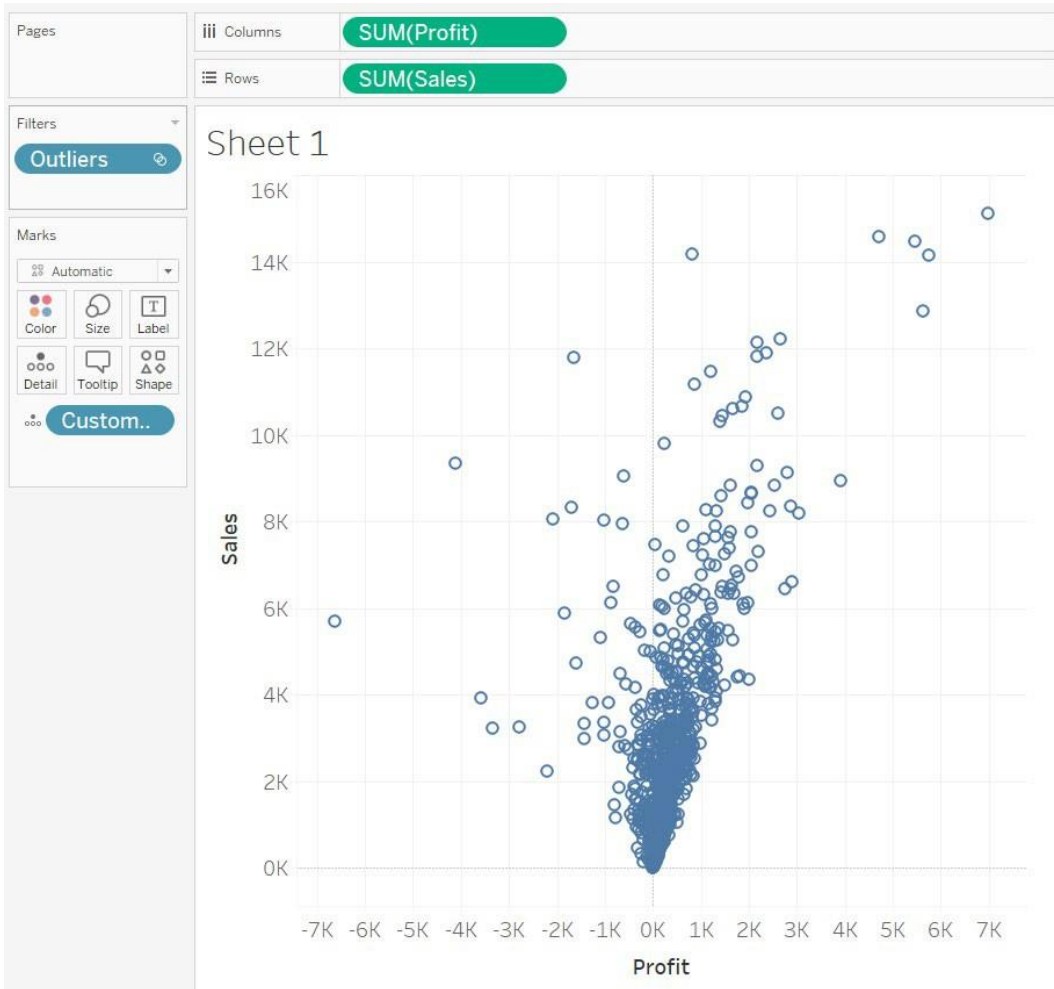


Figure 4.5: Outliers removed using a set on Customer Name

Figure 4.6: The customers in the top 50 sales colored differently from the rest

Figure 4.7: The unprofitable customers are colored differently from profitable customers

Figure 4.8: Customers with high sales but who are unprofitable are colored differently

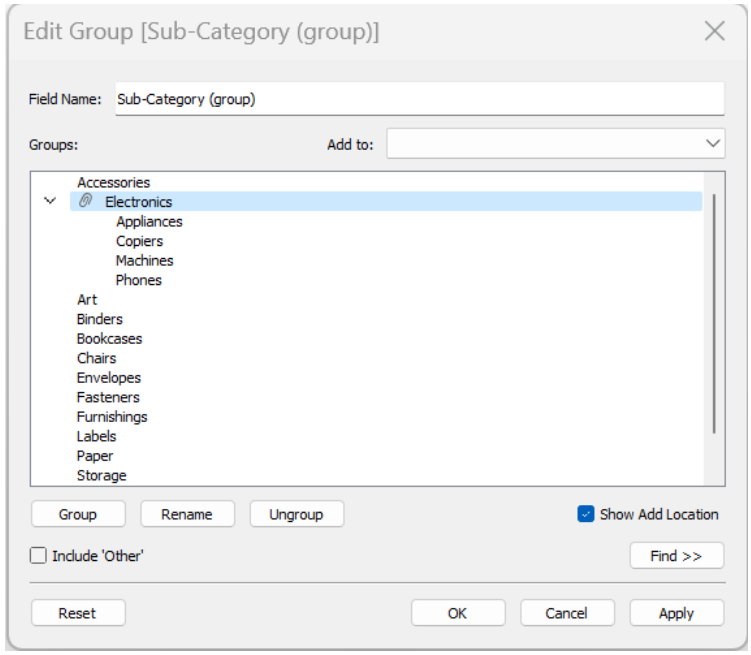


Figure 4.9: The Edit Group user interface showing the creation of a new Sub-Category (group) field that has grouped Appliances, Copiers, Machines, and Phones into a higher-level Electronics grouping

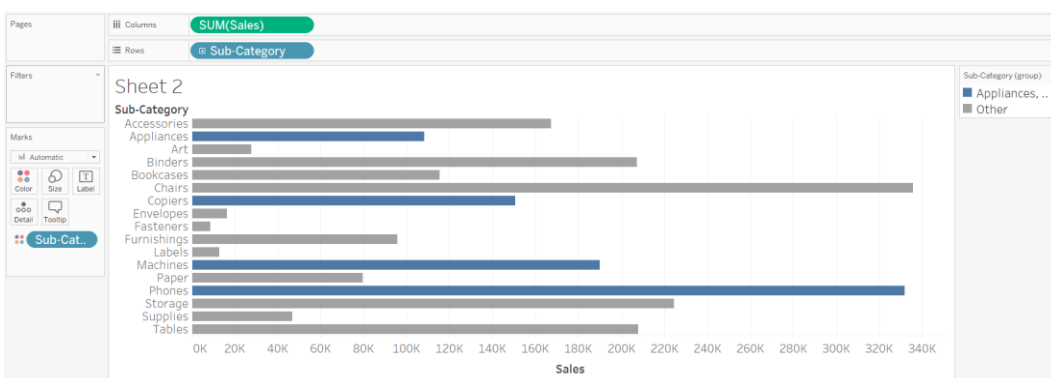


Figure 4.10: The Sub-Category grouping is created and colors the bar chart

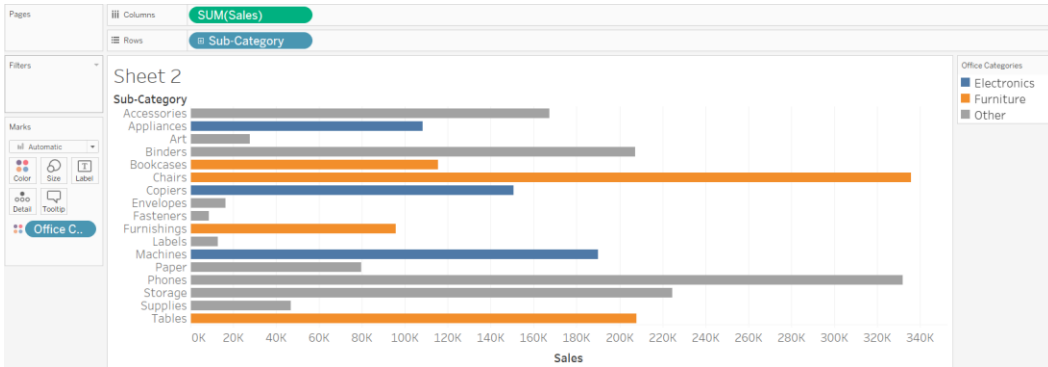


Figure 4.11: The named group field with two groupings and the other grouping coloring the bar chart

Figure 4.12: Dragging and dropping the Postal Code field on top of the City field creates a hierarchy from City to Postal Code

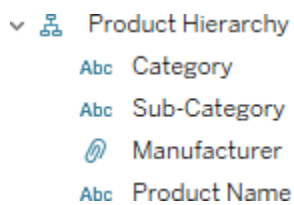


Figure 4.13: Product Hierarchy recreated from scratch

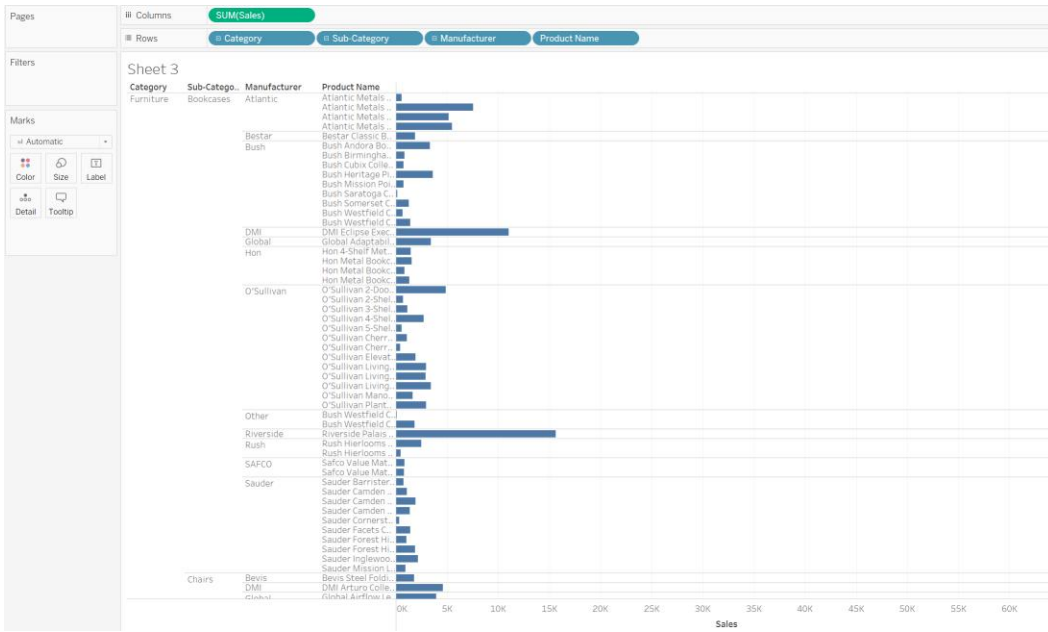


Figure 4.14: A hierarchy added to the view and the levels drilled down and up

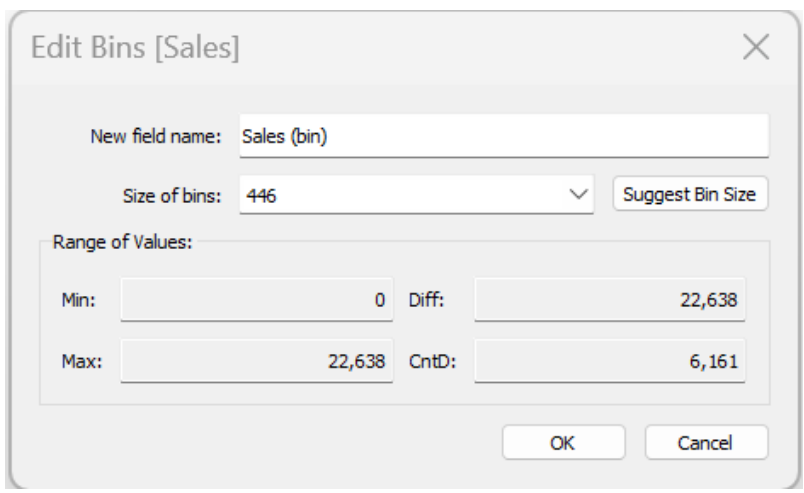


Figure 4.15: The Edit Bins [Sales] user interface allowing you to name the bin field and setting the bin size

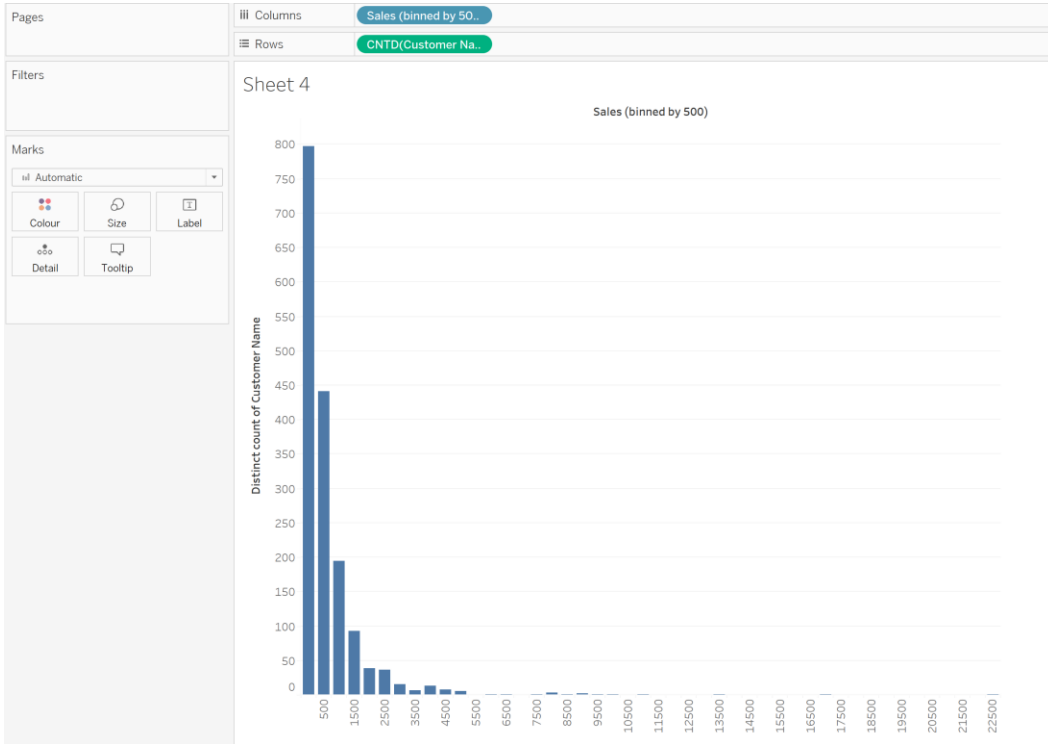


Figure 4.16: The bin field created and the number of customers in each bin displayed

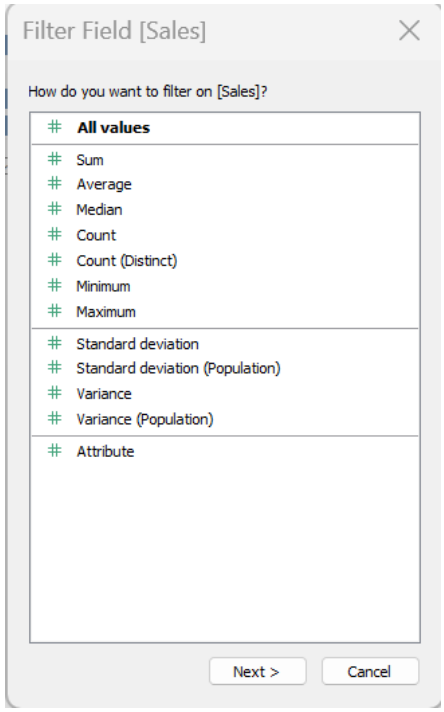


Figure 4.17: The Measure filter aggregation methods available

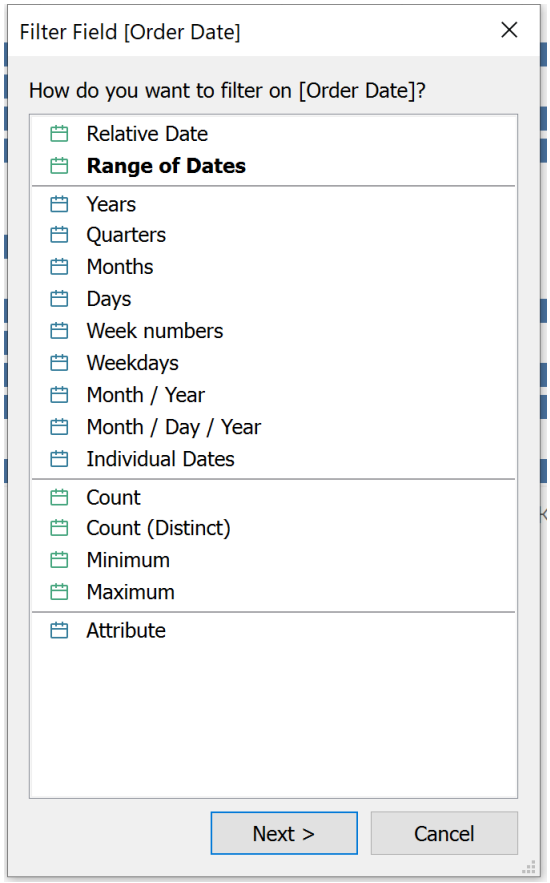


Figure 4.18: The date filter methods available

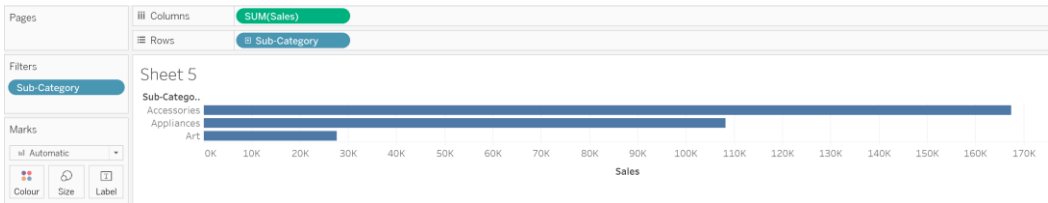


Figure 4.19: A Sub-Category filter created directly from the view by selecting data points

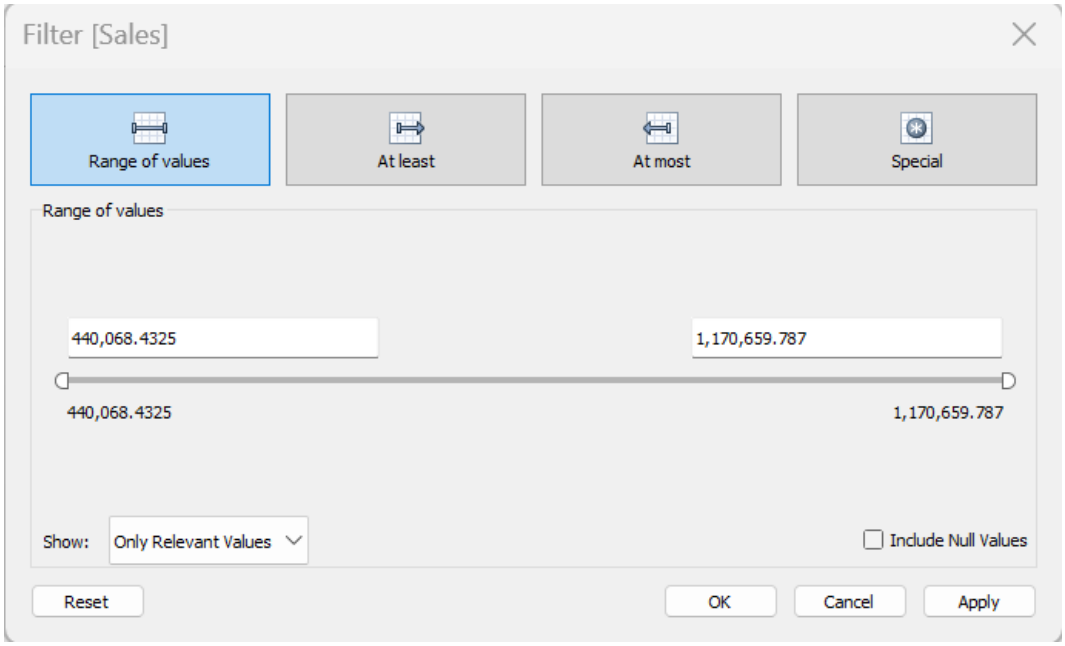


Figure 4.20: The measure filter configuration

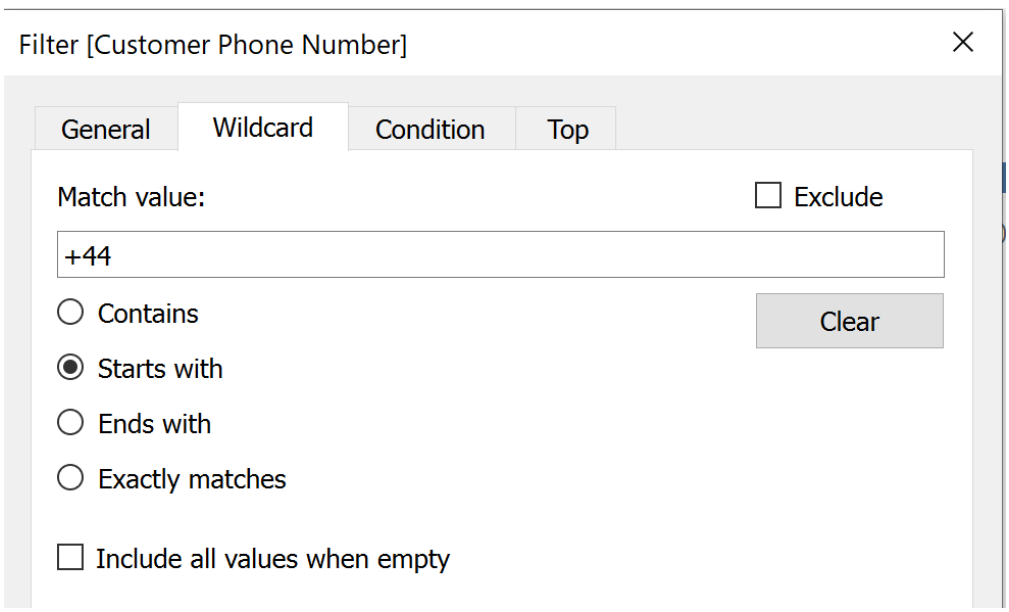


Figure 4.21: Wildcard filter configuration to limit data in the view to UK phone numbers only

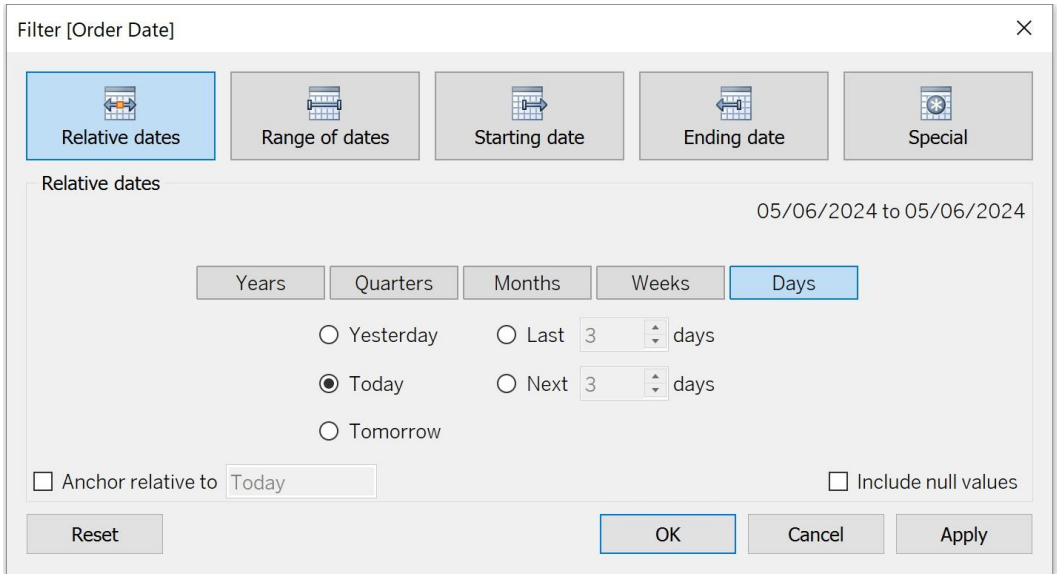


Figure 4.22: Relative date filter configuration allows you to select an anchor date, as well as the period relative to that date, to filter the data to

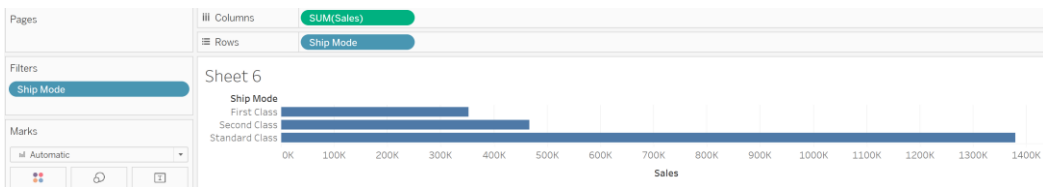


Figure 4.23: Ship Mode filtered to modes with the word Class as a suffix

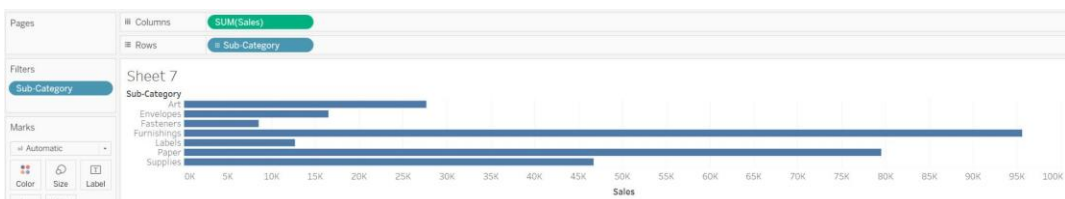


Figure 4.24: The bar chart filtered to sub-categories with less than 100,000 sales

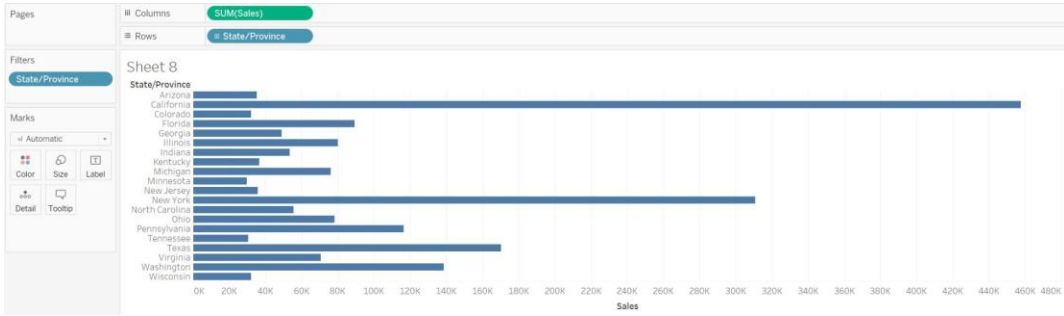


Figure 4.25: The top 20 states/provinces by sales bar chart created

Figure 4.26: Data showing for January 2020 only using relative state filter logic

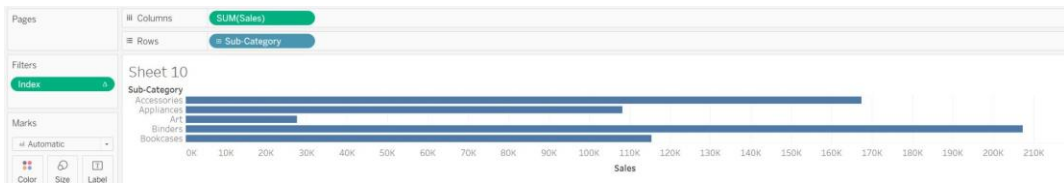


Figure 4.27: Only the top five bars (positionally) in the view are visible

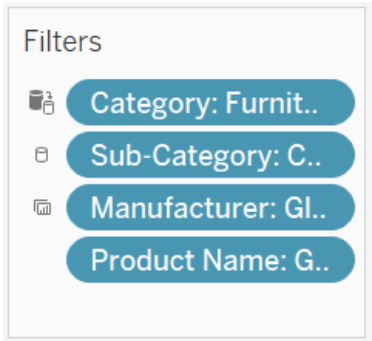


Figure 4.28: Filter icons, with Category applied to All Using Related Data Source, Sub- Category applied to All Using This Data Source, Manufacturer applied to Selected Worksheets, and Product Name applied to the current worksheet only

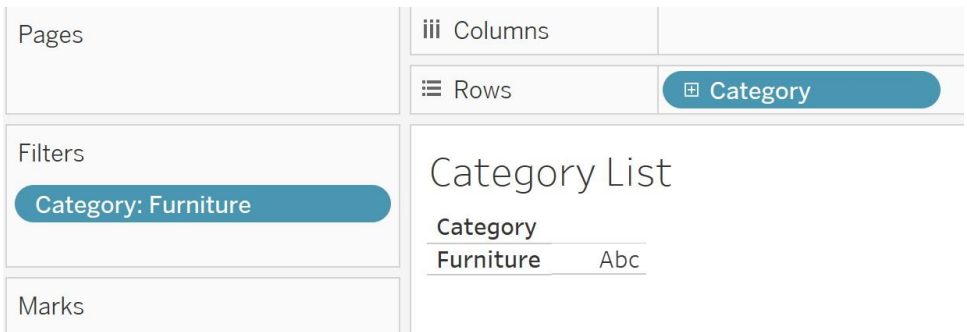


Figure 4.29: The Category filter applied to the selected worksheet

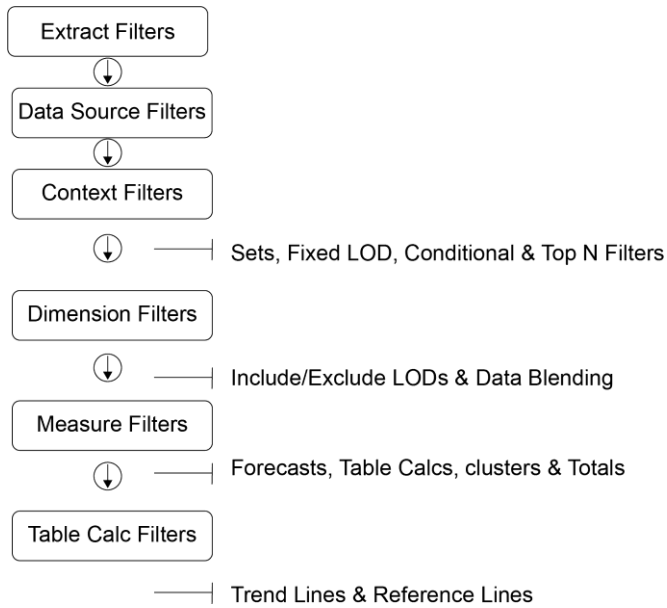


Figure 4.30: Tableau's order of operations – filters are shown in the boxes with other operations to the right

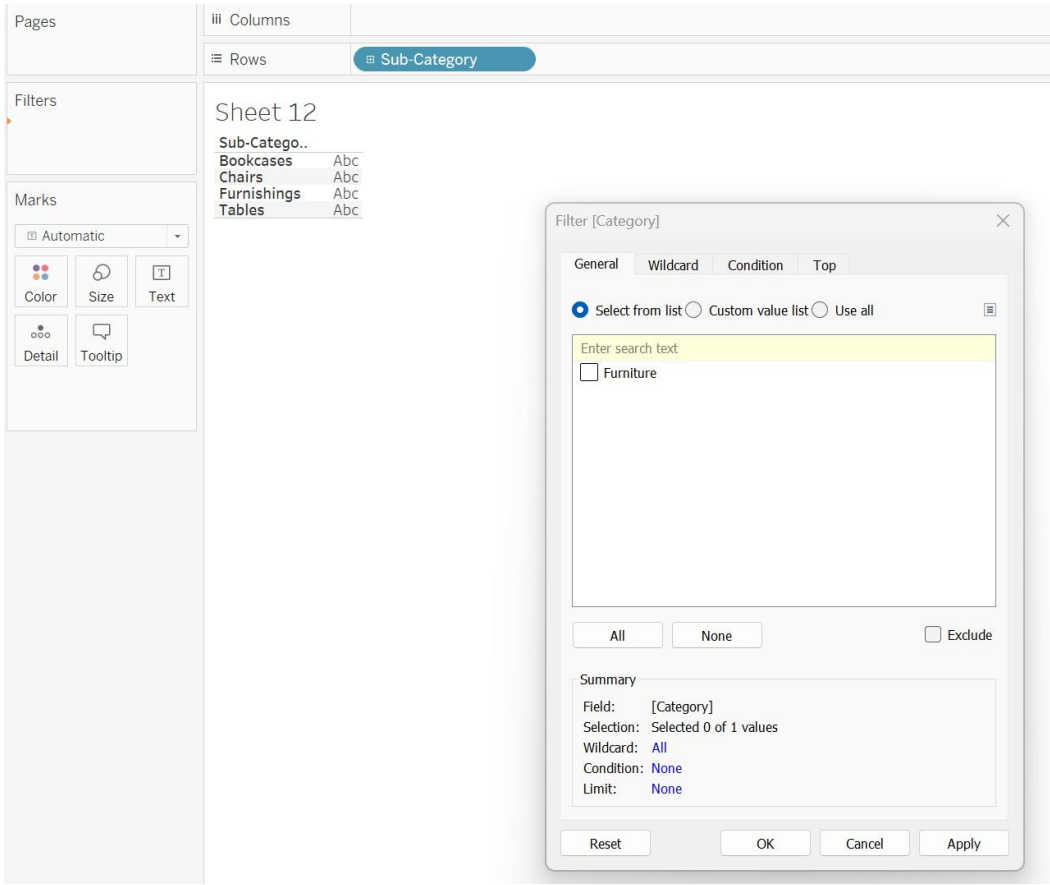


Figure 4.31: The Category data source filter added, pre-filtering the data to Furniture only

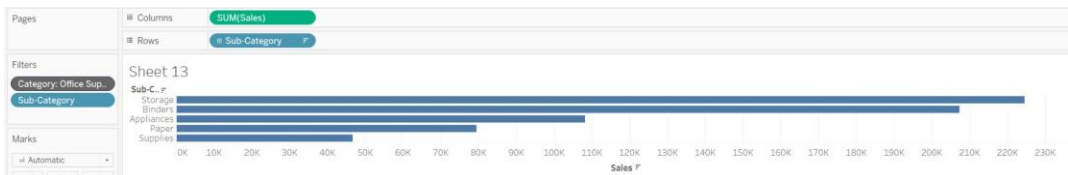


Figure 4.32: The Category filter has been added to context and now occurs before the sub-category top N filter

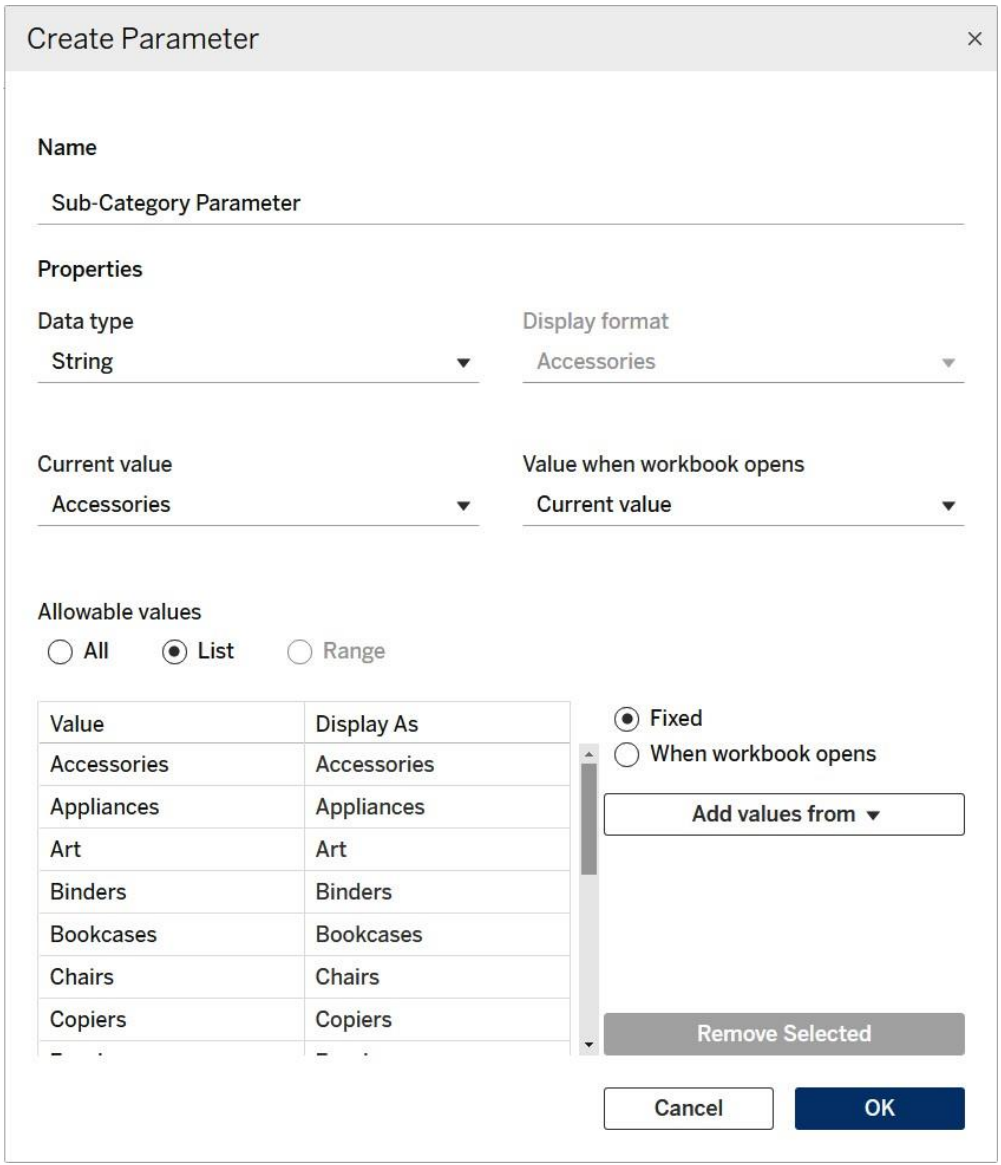


Figure 4.33: A parameter created from the Sub-Category field set to a string type by default, with the allowable values taken as a list from the Sub-Category field

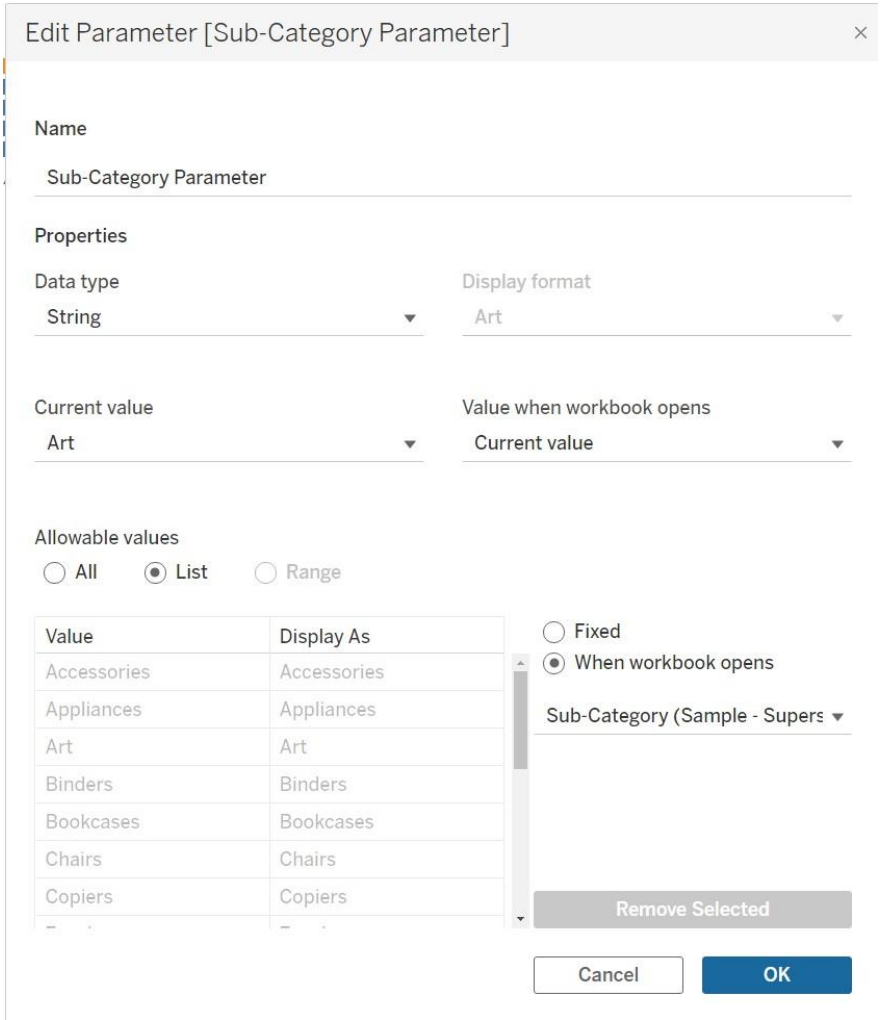


Figure 4.34: The Sub-Category parameter created and edited to update the values when the workbook opens

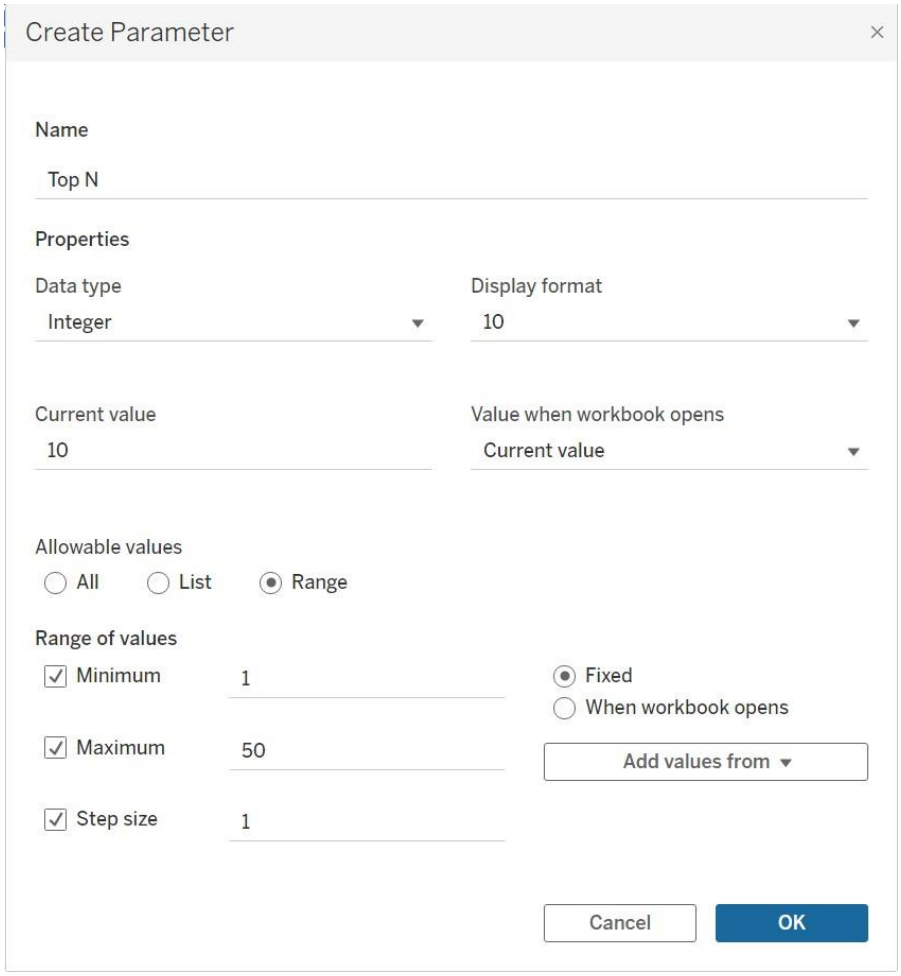


Figure 4.35: The integer parameter created from scratch, with allowable values between 1 and 50 and the default set to 10

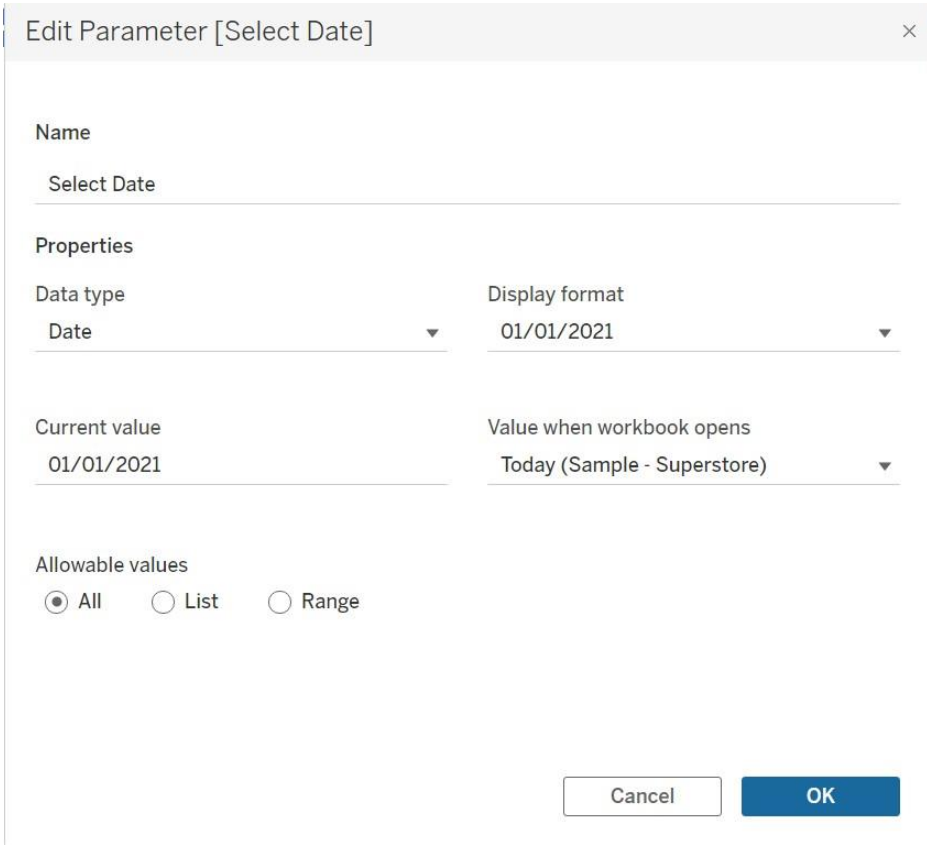


Figure 4.36: The date parameter created that has a default value dynamically set to today's date

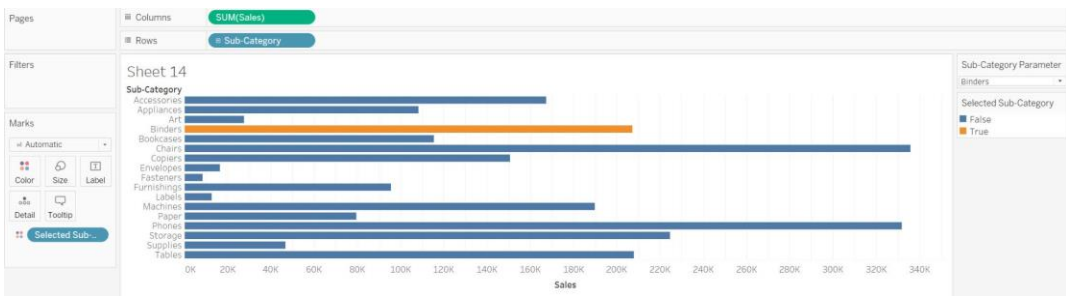


Figure 4.37: The Sub-Category parameter used in a calculated field, which is applied to Color to highlight the selected sub-category

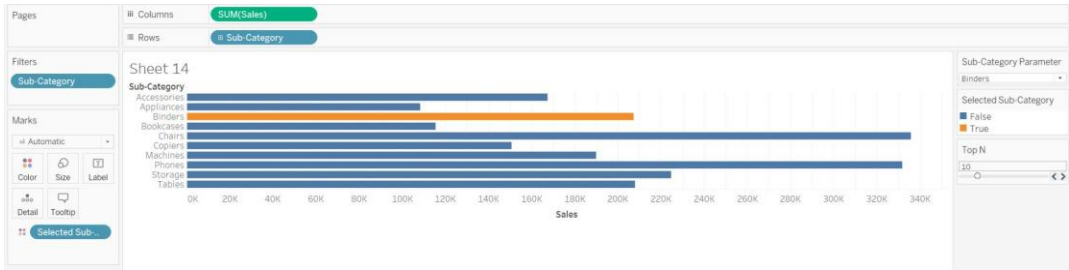


Figure 4.38: The Top N parameter is used to filter the number of sub-categories displayed in the view

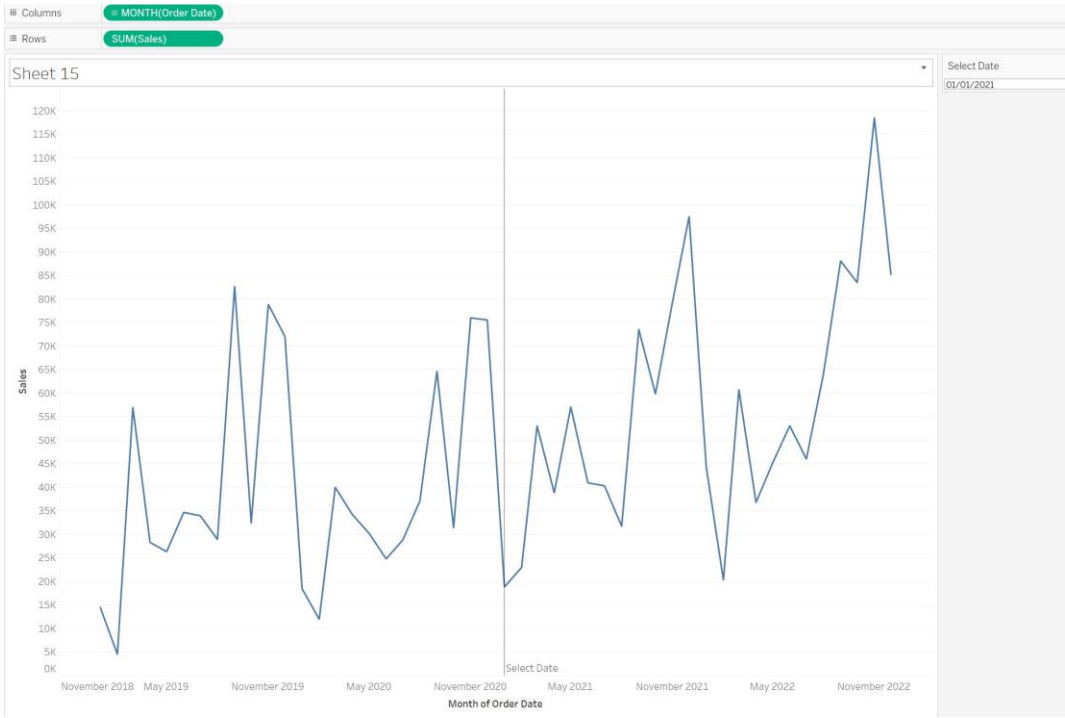


Figure 4.39: The customizable reference line created using a date parameter

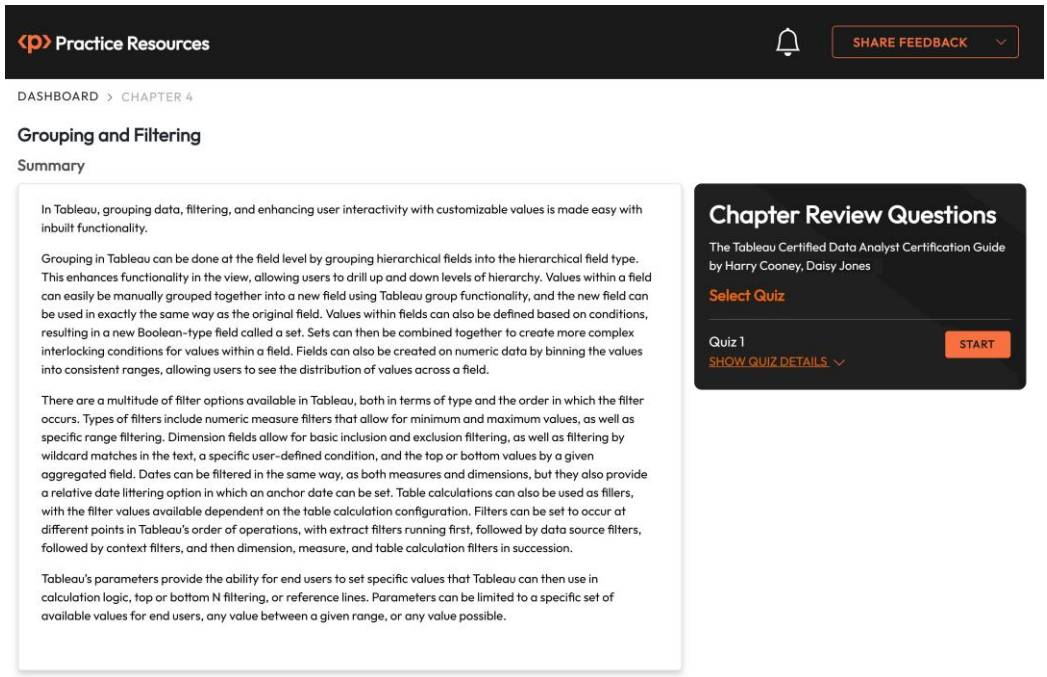


Figure 4.41 – Chapter Review Questions for Chapter 4

5
Charts

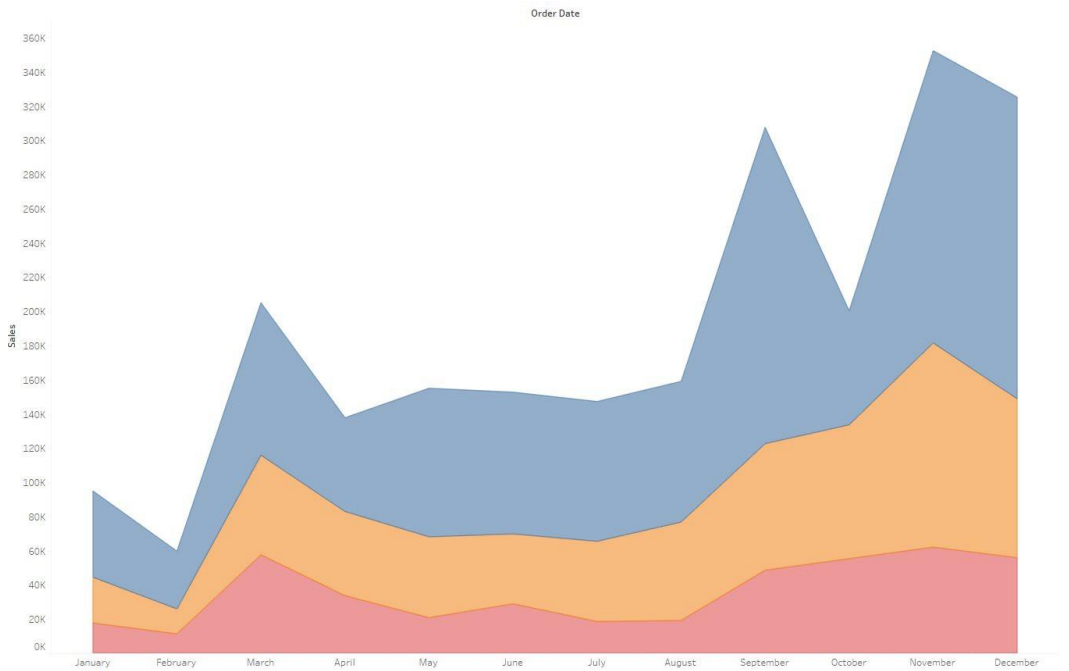


Figure 5.1 – Example of an area chart

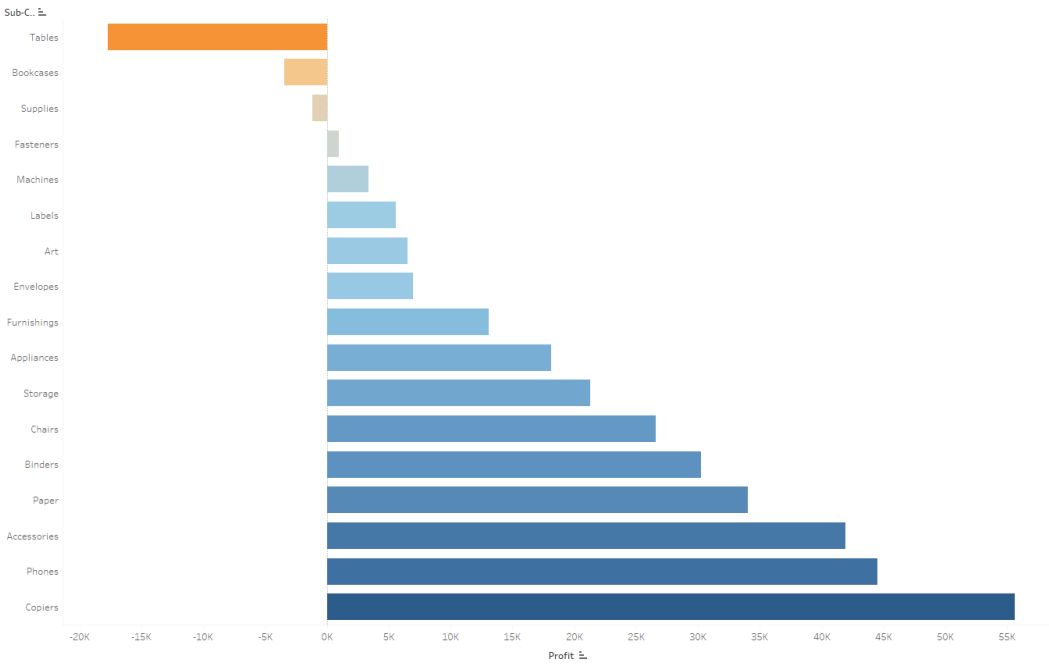


Figure 5.2 - Example of a bar chart

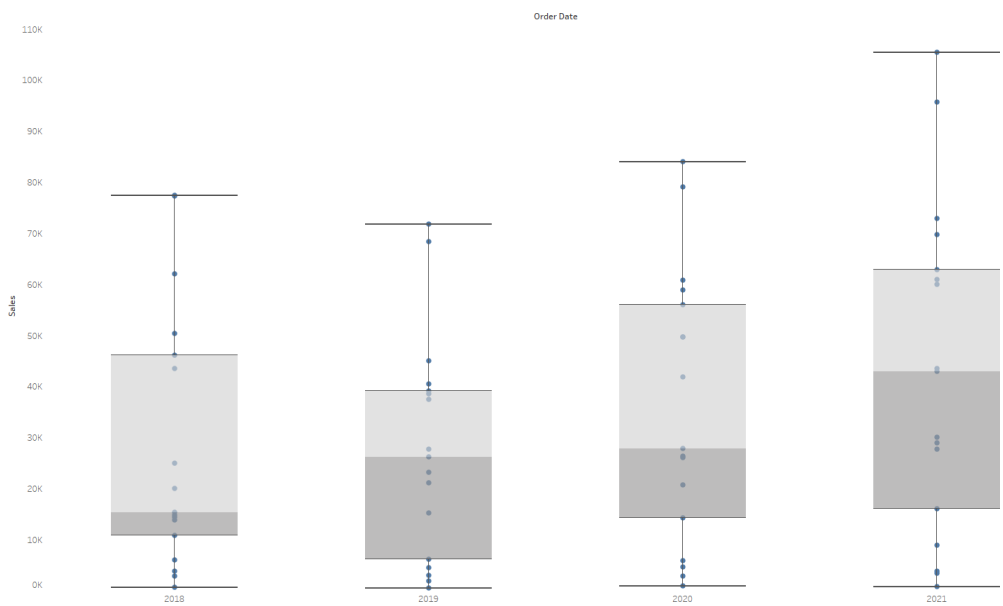


Figure 5.3 - Example of a box plot

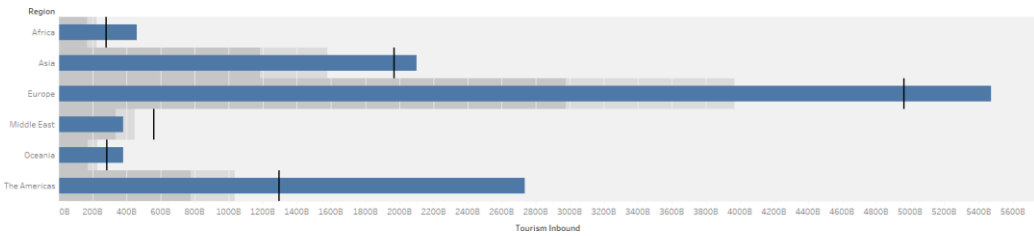


Figure 5.4 – Example of a bullet graph

Figure 5.5 – Calculation window for Boolean

Figure 5.6 – Example of a heatmap

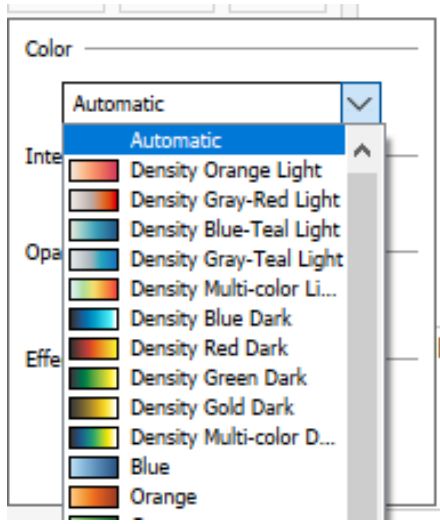


Figure 5.7 – Density color choices

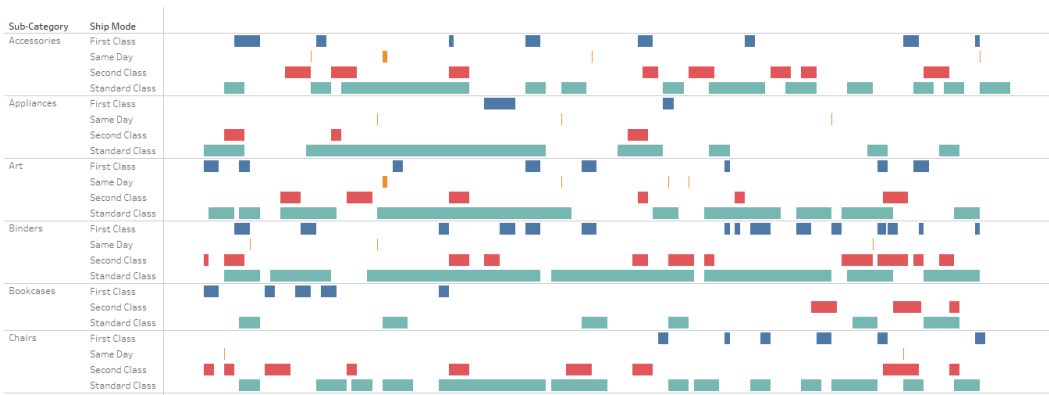


Figure 5.8 – Example of a Gantt chart

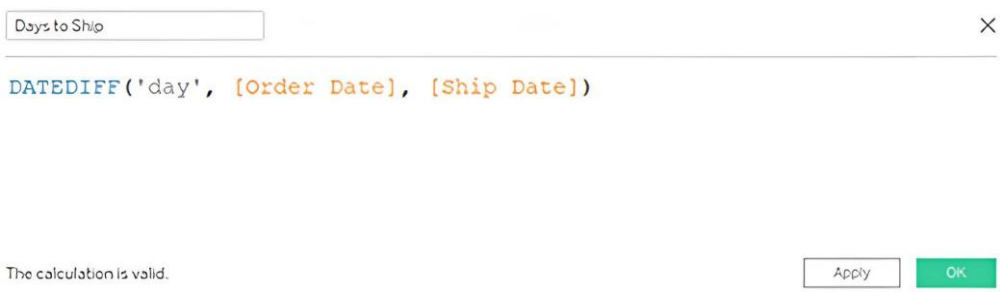


Figure 5.9 – Calculation window for Gantt chart

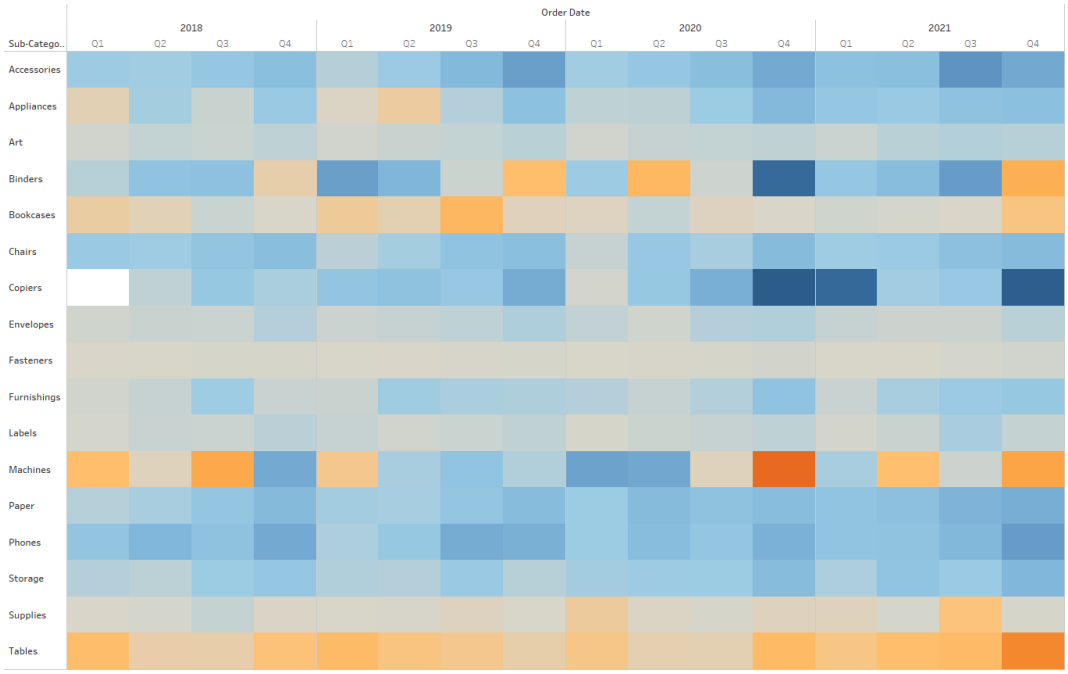


Figure 5.10 – Example of a highlight table

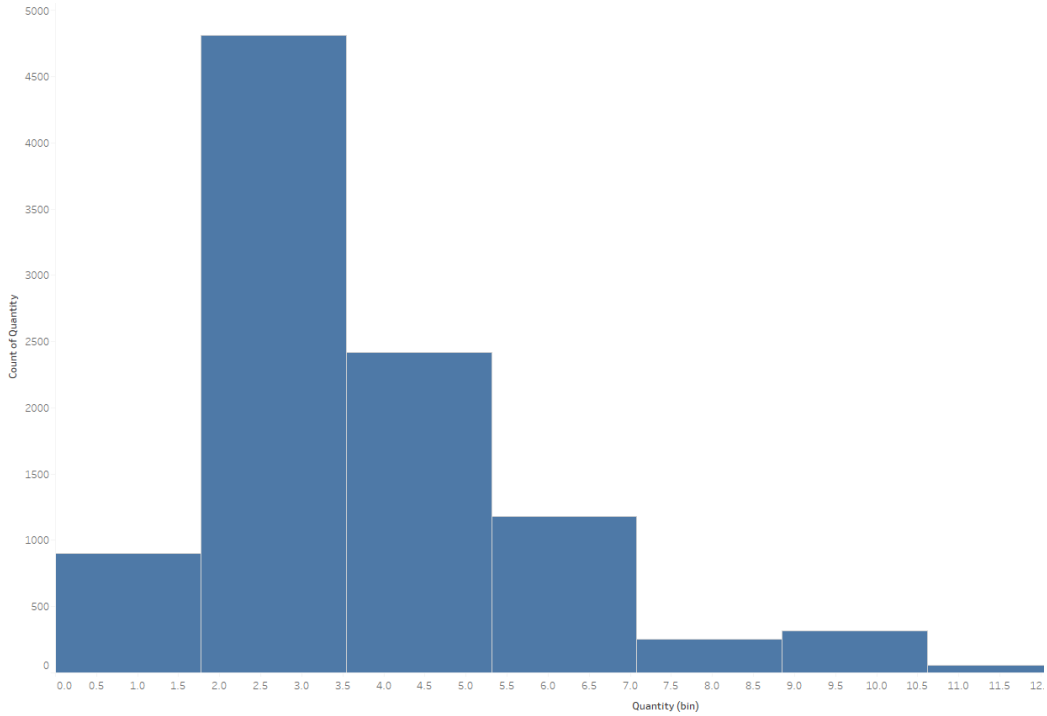


Figure 5.11 – Example of a histogram

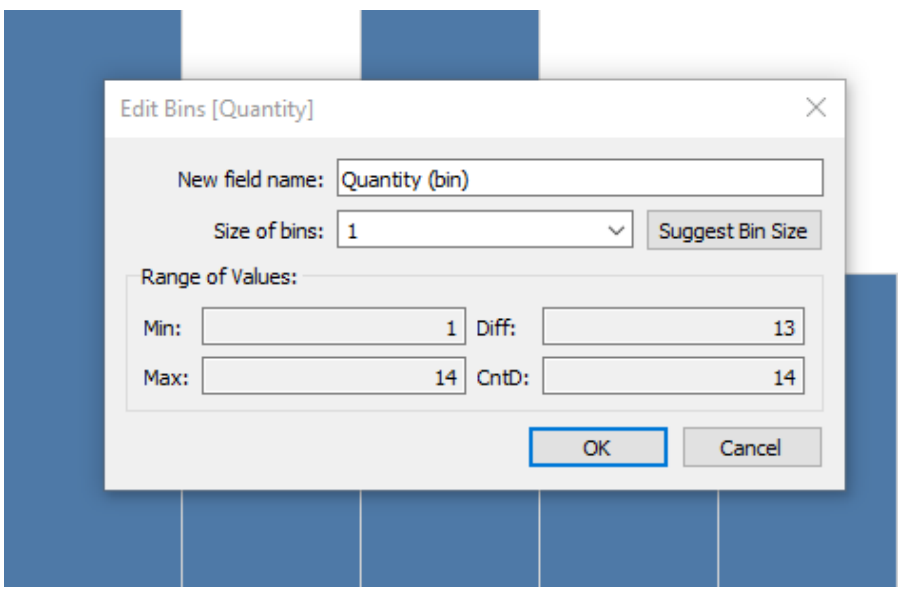


Figure 5.12 – Edit Bins window

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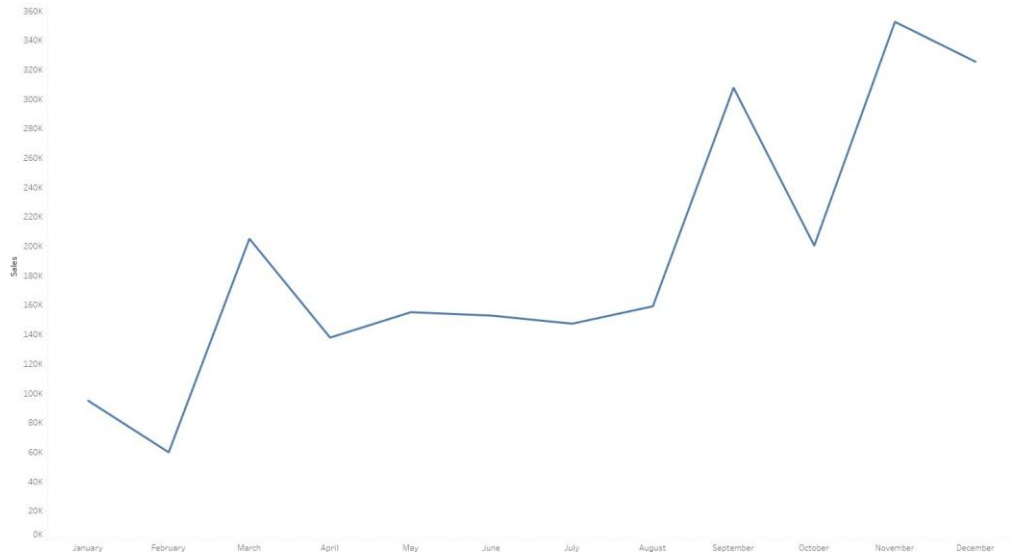


Figure 5.13 – Example of a line chart

Figure 5.14 – Example of a packed bubble chart

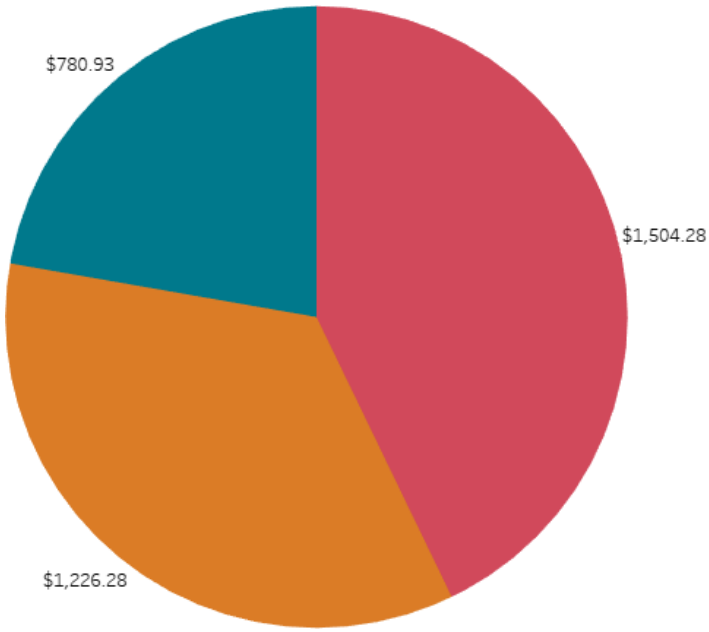


Figure 5.15 – Example of a pie chart

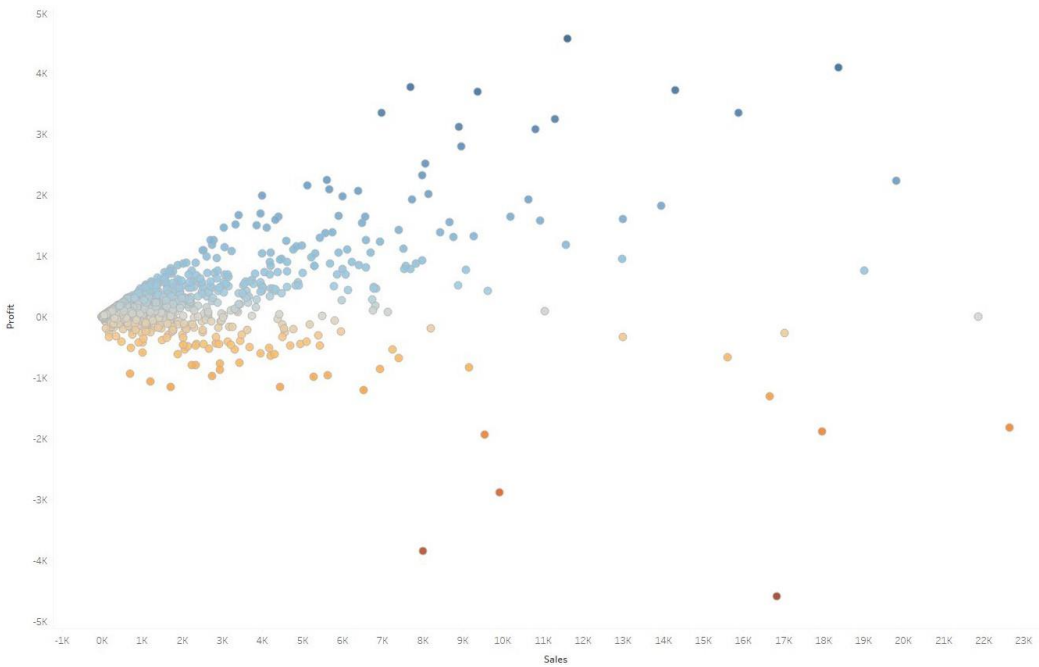


Figure 5.16 – Example of a scatter plot

Figure 5.17 – Color, Opacity, and Effects options

Category	Sub-Category	Sales	Profit	Profit Ratio	Discount	Quantity
Furniture	Bookcases	114,880	-3,473	-3.02%	48	868
	Chairs	328,449	26,590	8.10%	105	2,356
	Furnishings	91,705	13,059	14.24%	132	3,563
	Tables	206,966	-17,725	-8.56%	83	1,241
Office Supplies	Appliances	107,532	18,138	16.87%	78	1,729
	Art	27,119	6,528	24.07%	60	3,000
	Binders	203,413	30,222	14.86%	567	5,974
	Envelopes	16,476	6,964	42.27%	20	906
	Fasteners	3,024	950	31.40%	18	914
	Labels	12,486	5,546	44.42%	25	1,400
	Paper	78,479	34,054	43.39%	103	5,178
	Storage	223,844	21,279	9.51%	63	3,158
	Supplies	46,674	-1,189	-2.55%	15	647
Technology	Accessories	167,380	41,937	25.05%	61	2,976
	Copiers	149,528	55,618	37.20%	11	234
	Machines	189,239	3,385	1.79%	35	440
	Phones	330,007	44,516	13.49%	137	3,289

Figure 5.18 -- Example of a text table

Figure 5.19 – Example of Abc

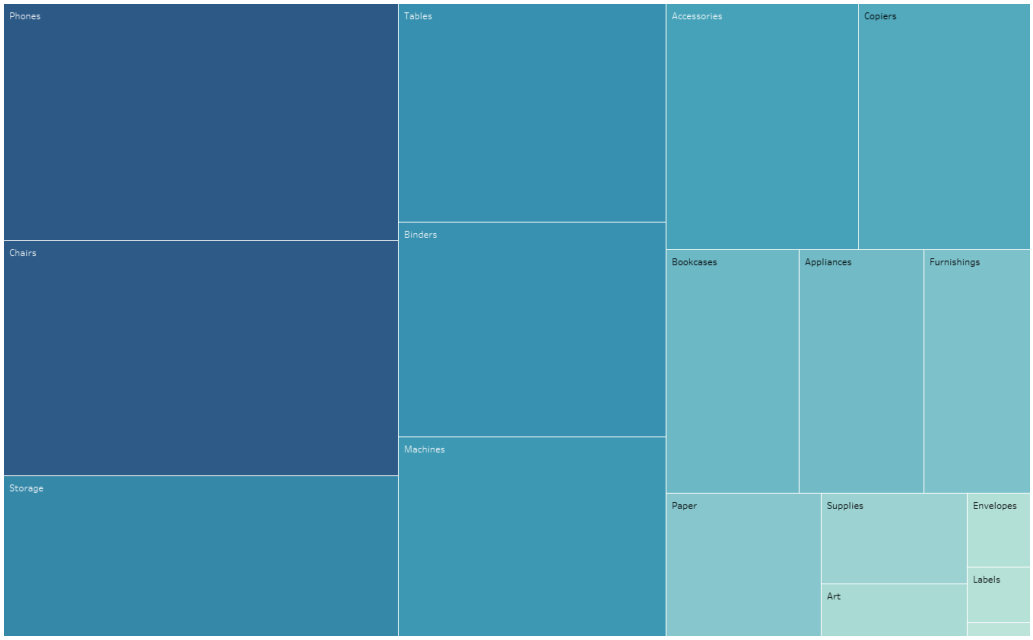


Figure 5.20 – Example of a treemap

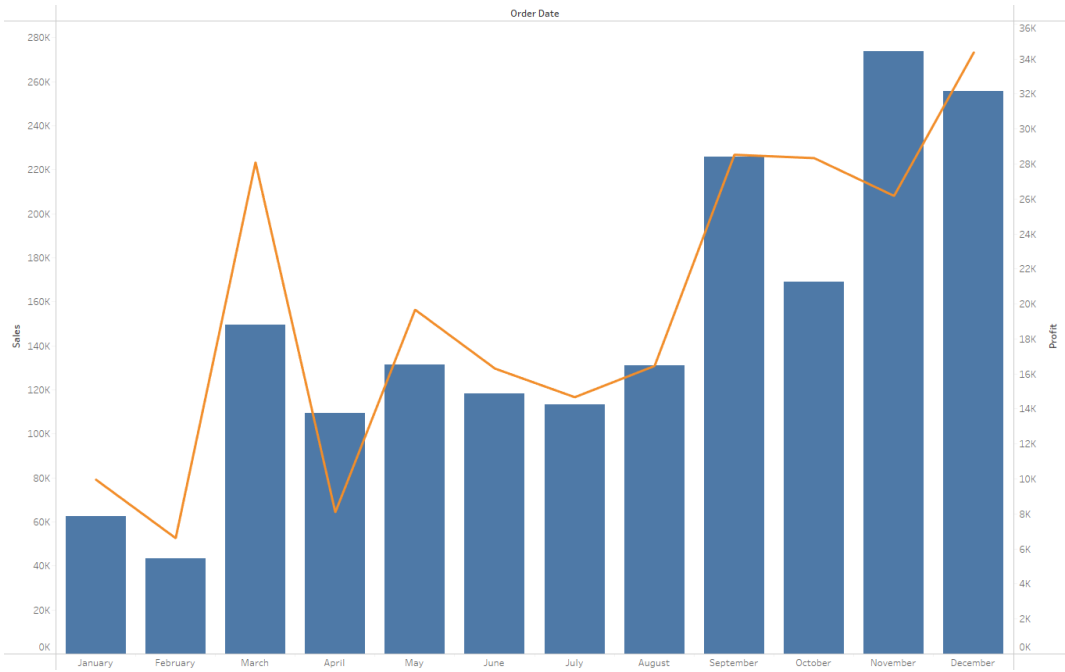


Figure 5.21 - Example of a combination chart

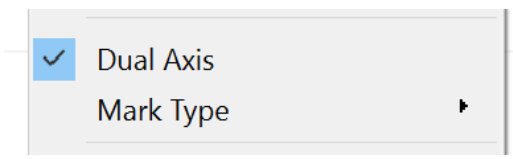


Figure 5.22 - Axis selection

Figure 5.23 - Marks card

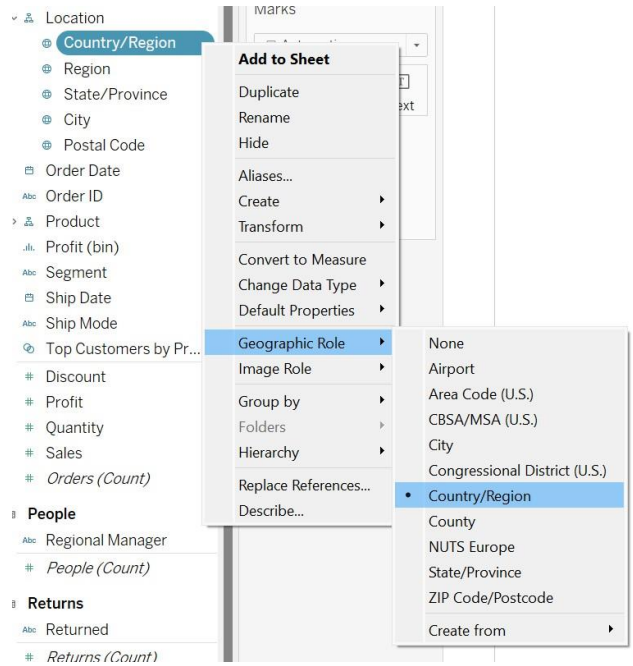


Figure 5.24 - The Country field with the Country/Region geographic role applied

Latitude (generated)

Longitude (generated)

Figure 5.25 – Latitude and Longitude fields generated by Tableau will have a (generated) suffix

Figure 5.26 – Tableau map toolbar allowing location search, zooming, location pinning, panning, and selection of data points via square, circle, or custom shape

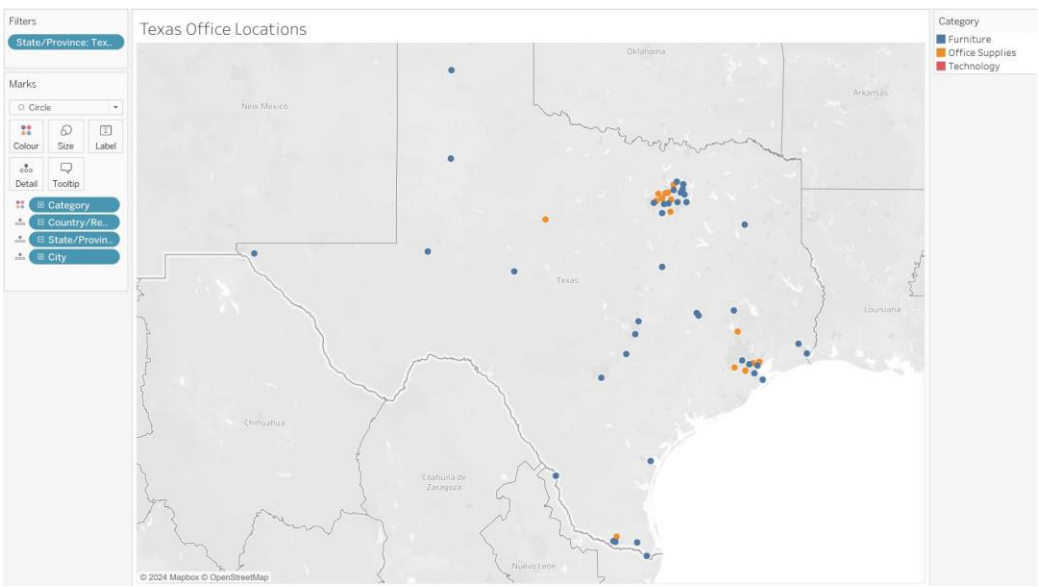


Figure 5.27 – Symbol map showing office locations in Texas colored by Category

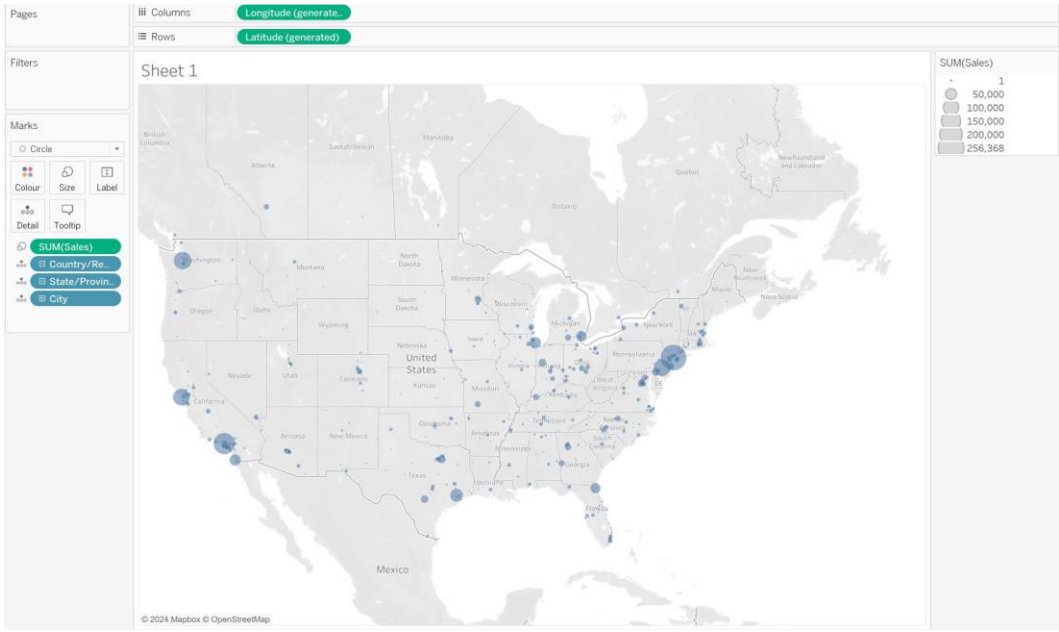


Figure 5.28 – Sales mapped per city using a symbol map in Tableau

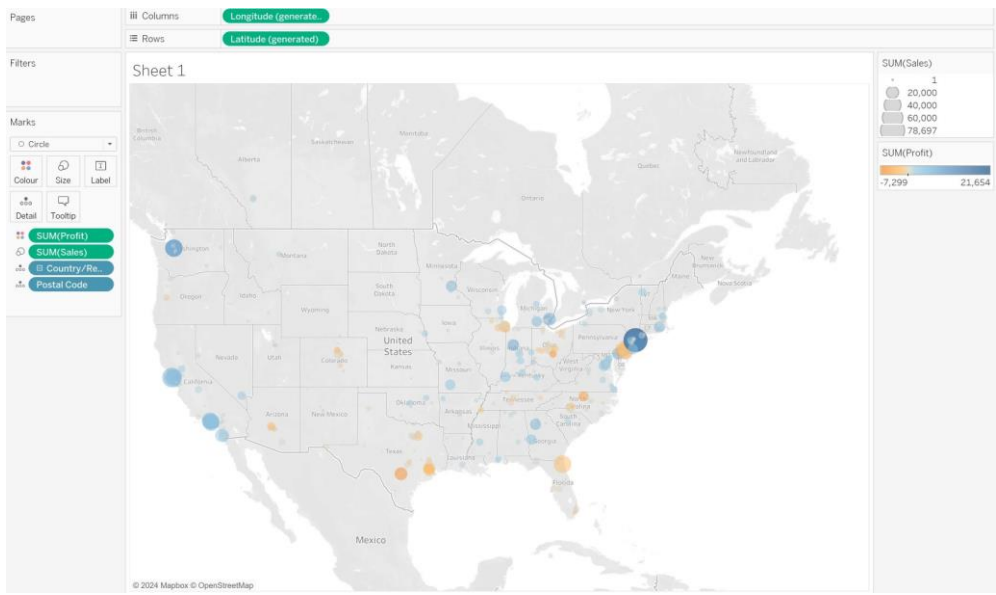


Figure 5.29 – Symbol map created showing every postcode where there were sales in the USA sized by the total sales and colored by total profit

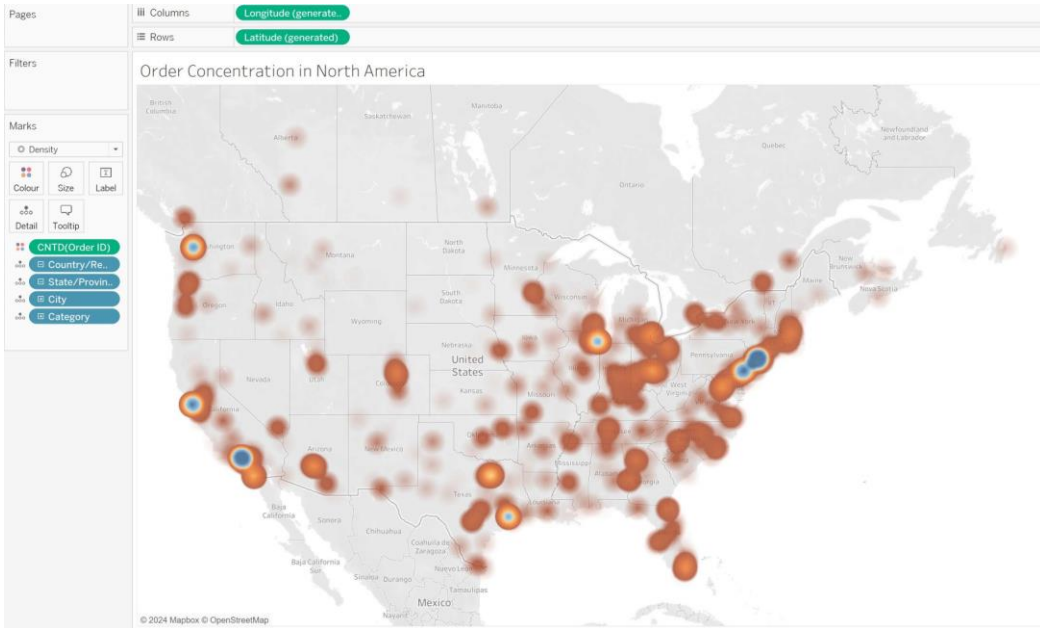


Figure 5.30 – Density map showing the concentration or density of orders across North America

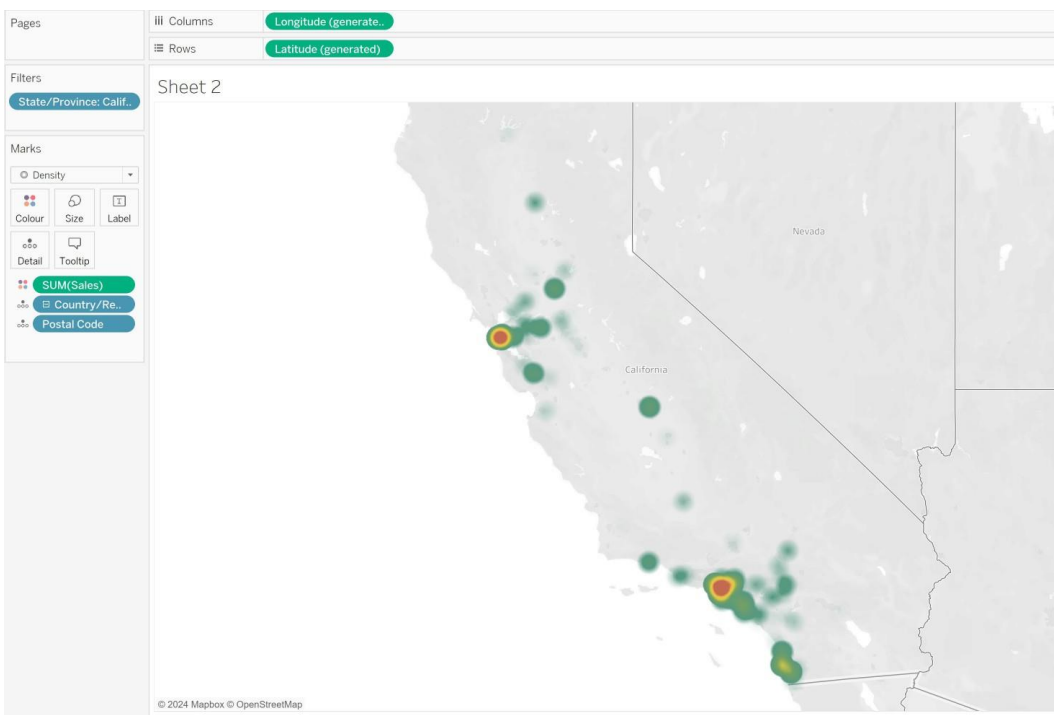


Figure 5.31 – Density chart created showing the clustering of sales in specific areas of California

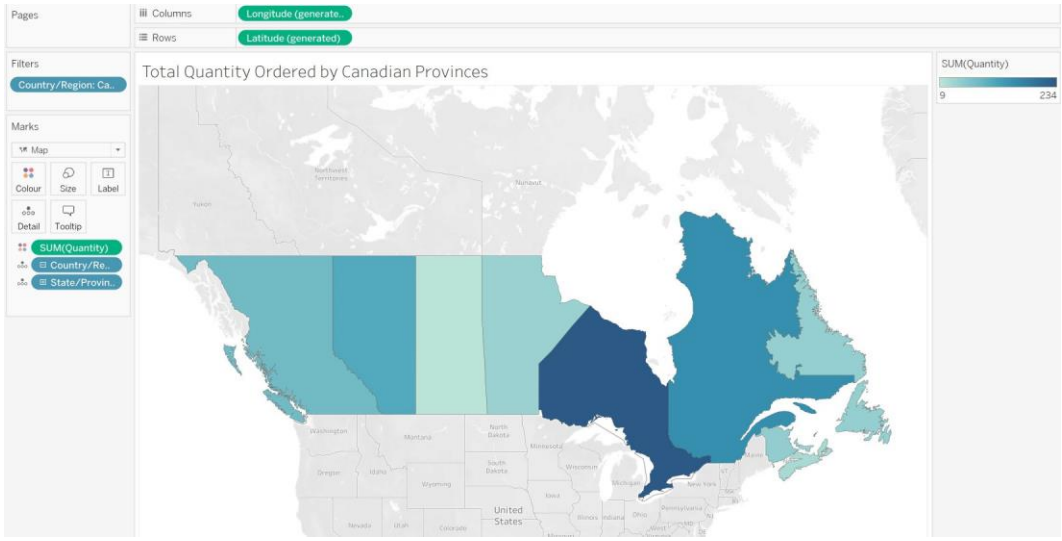


Figure 5.32 – Filled map chart showing total quantity ordered by State/Province in Canada

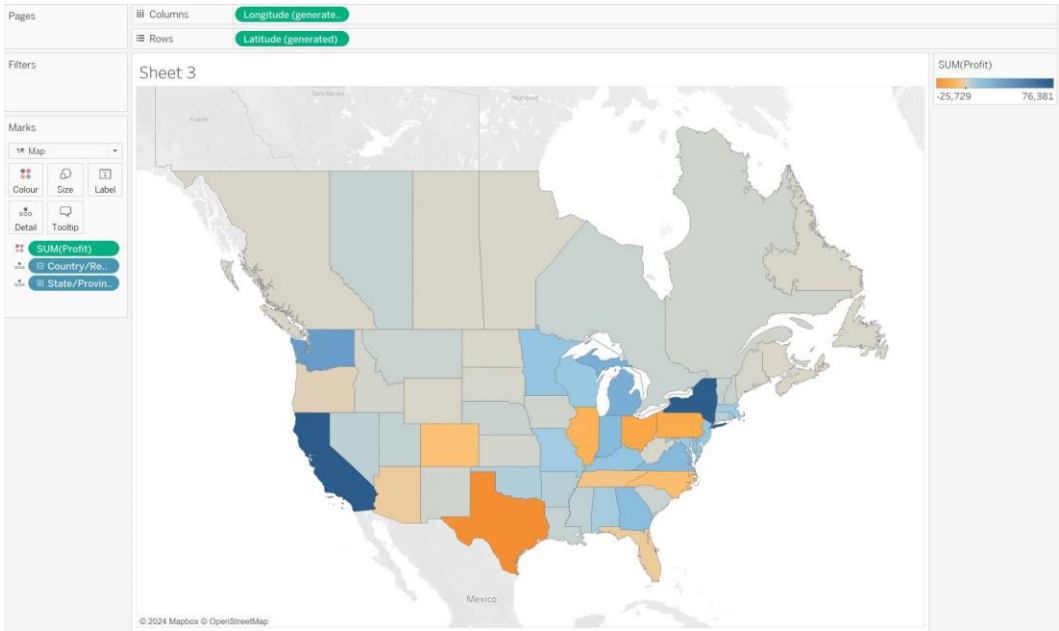


Figure 5.33 – A filled map showing the difference in total profit between states of the USA and Canada

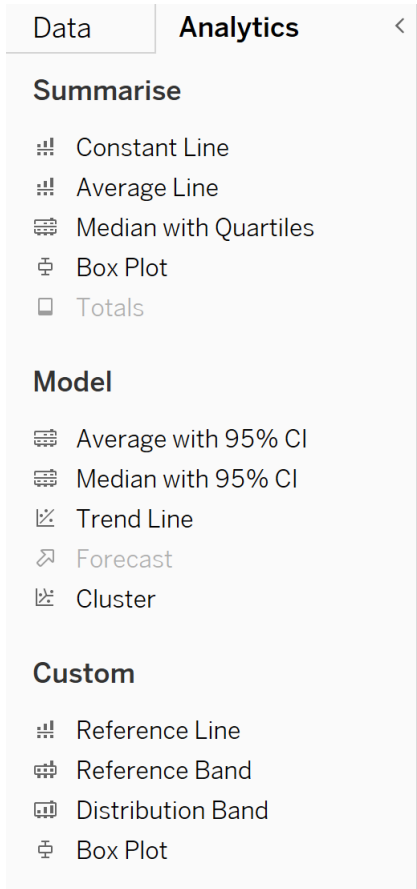


Figure 5.34 - The Analytics pane in Tableau's user interface

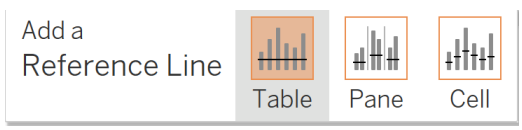


Figure 5.35 - A reference line analytics object being dragged onto the view across the whole table

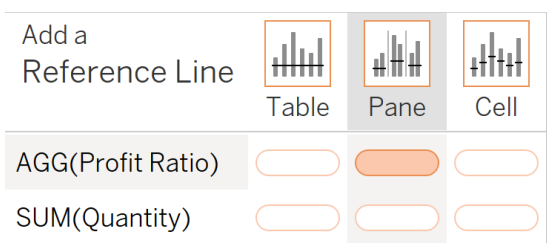


Figure 5.36 - A view with both Profit Ratio and total Quantity measures included having a reference line added in each Profit Ratio pane

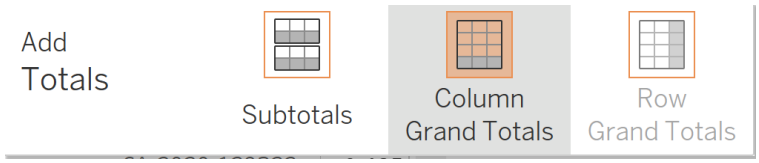
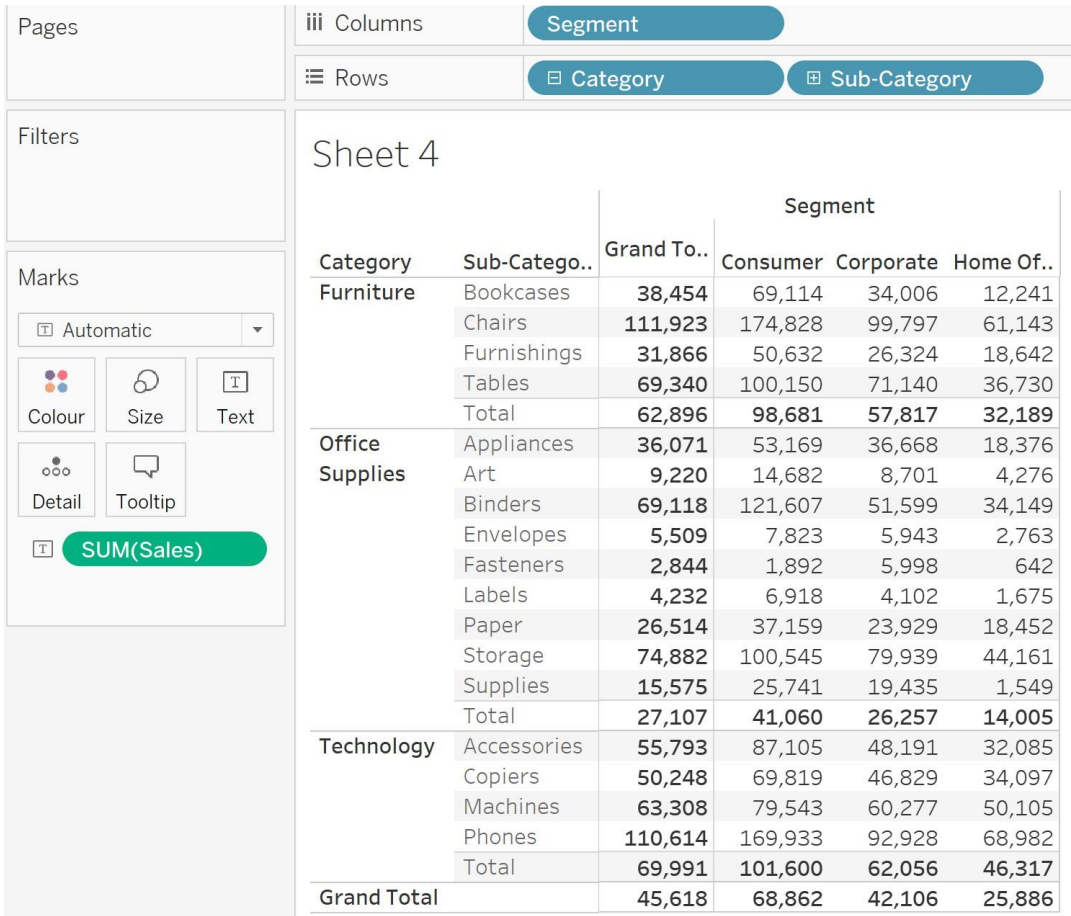


Figure 5.37 - Total and subtotal pop-up options when dragging the Total object from the Analytics pane onto the view



Sheet 4

			Segment		
Category	Sub-Catego..	Grand To..	Consumer	Corporate	Home Of..
Furniture	Bookcases	38,454	69,114	34,006	12,241
	Chairs	111,923	174,828	99,797	61,143
	Furnishings	31,866	50,632	26,324	18,642
	Tables	69,340	100,150	71,140	36,730
	Total	62,896	98,681	57,817	32,189
Office Supplies	Appliances	36,071	53,169	36,668	18,376
	Art	9,220	14,682	8,701	4,276
	Binders	69,118	121,607	51,599	34,149
	Envelopes	5,509	7,823	5,943	2,763
	Fasteners	2,844	1,892	5,998	642
	Labels	4,232	6,918	4,102	1,675
	Paper	26,514	37,159	23,929	18,452
	Storage	74,882	100,545	79,939	44,161
	Supplies	15,575	25,741	19,435	1,549
	Total	27,107	41,060	26,257	14,005
Technology	Accessories	55,793	87,105	48,191	32,085
	Copiers	50,248	69,819	46,829	34,097
	Machines	63,308	79,543	60,277	50,105
	Phones	110,614	169,933	92,928	68,982
	Total	69,991	101,600	62,056	46,317
Grand Total		45,618	68,862	42,106	25,886

Figure 5.38 - Totals and subtotals added to the view in Tableau and configured positionally in terms of aggregation

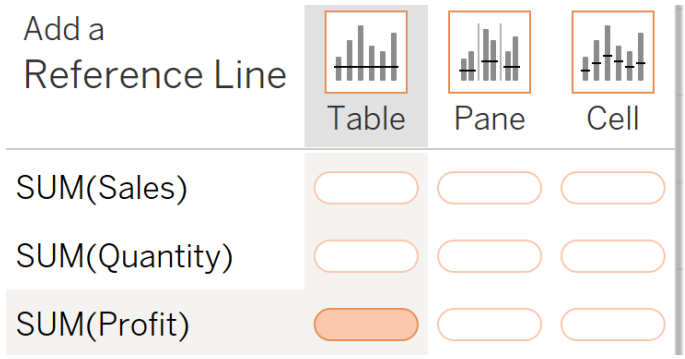


Figure 5.39 – Options when dragging a reference line onto a view with multiple measures; here, a reference line is being created on the Profit axis across the whole view/table

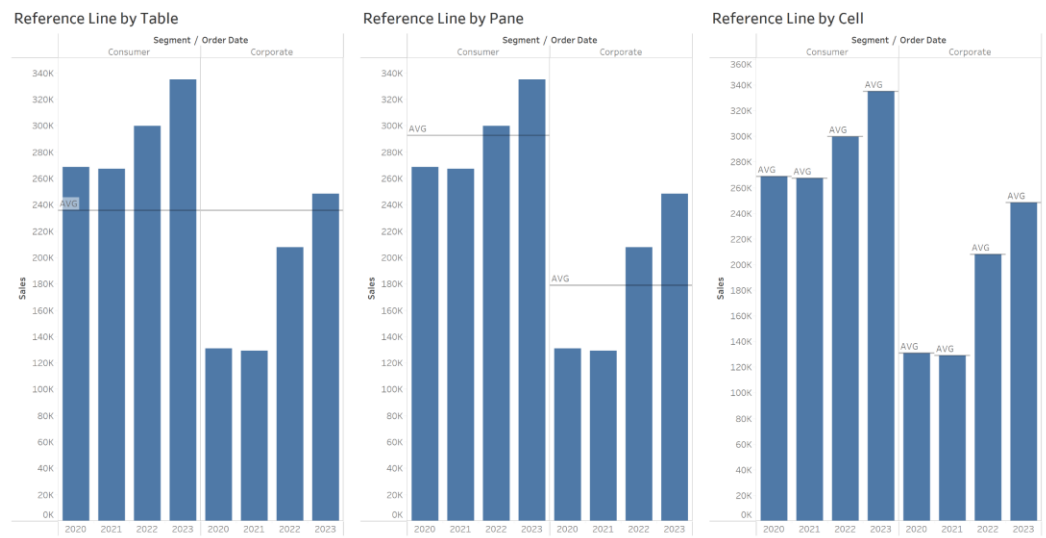


Figure 5.40 – The same bar chart has reference lines with different scope settings; the left chart shows an average line across the whole table, the middle chart shows an average line per pane, and the rightmost chart shows an average line per cell

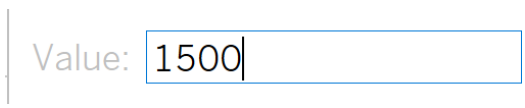


Figure 5.41 – Popup for constant line value configuration

Figure 5.42 – Constant line and average line added to a Sales versus Profit scatter plot and the average line further customized

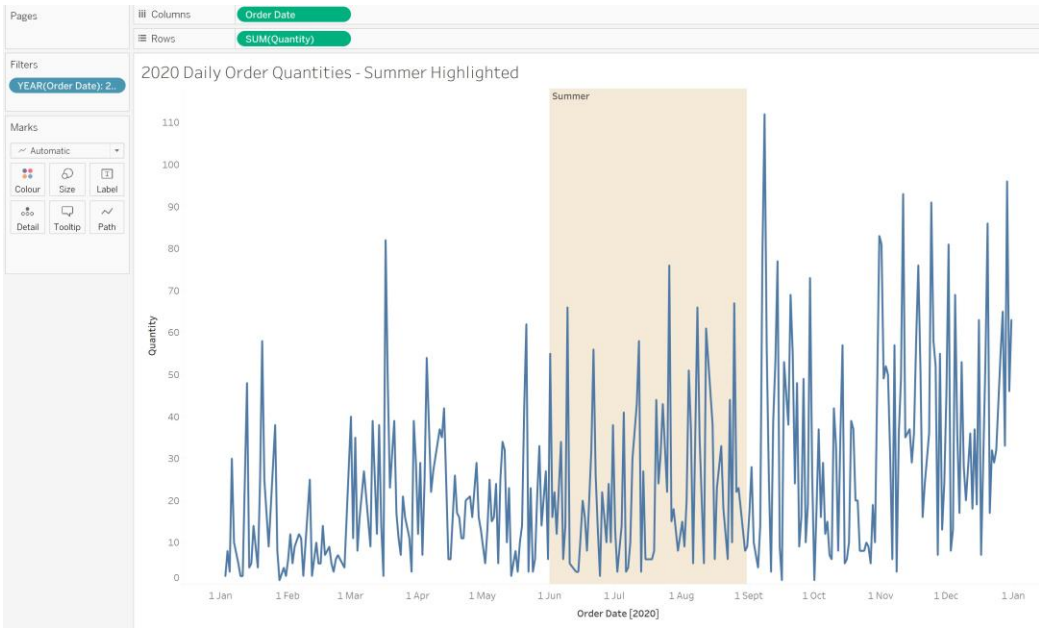


Figure 5.43 – Reference band highlighting data points that fall during summer

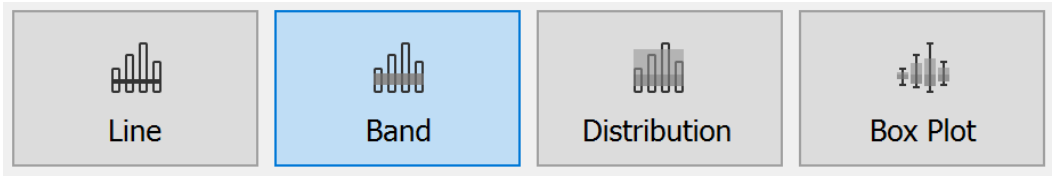


Figure 5.44 – The configuration window allows users to select whether to add a reference line, reference band, distribution band, or box plot; here, a reference band is selected

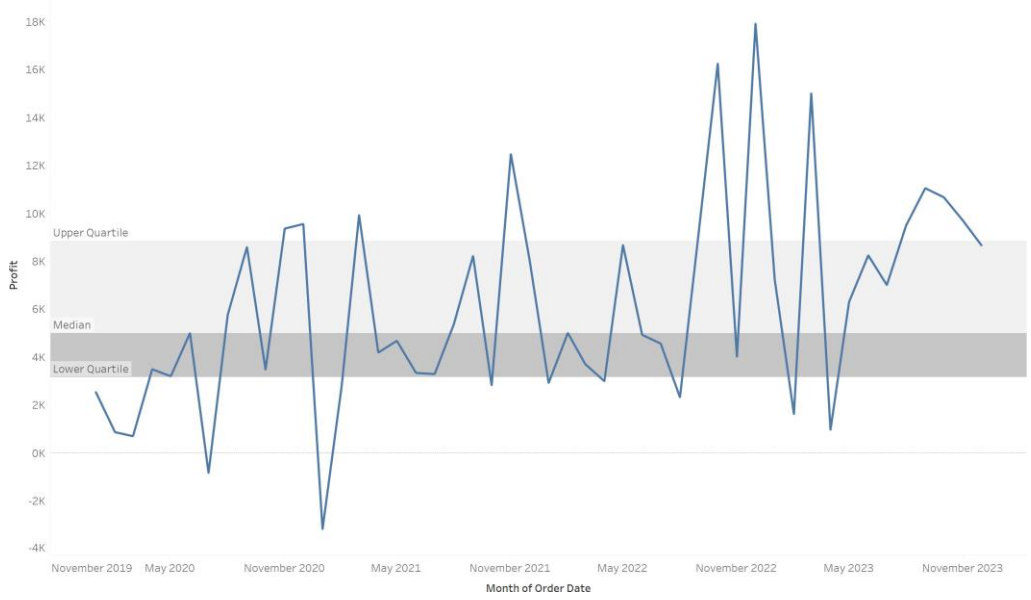


Figure 5.45 – Distribution band calculated with four quartiles; the lower quartile to the median is shaded darker than the median to the upper quartile

Figure 5.46 – Distribution band created on the Sales axis by pane showing the quantile breakdown for each segment; reference band created for Profit highlighting the areas between 10k and the most highly profitable month

Figure 5.47 – Box plots showing the distribution of orders by Profit for each region

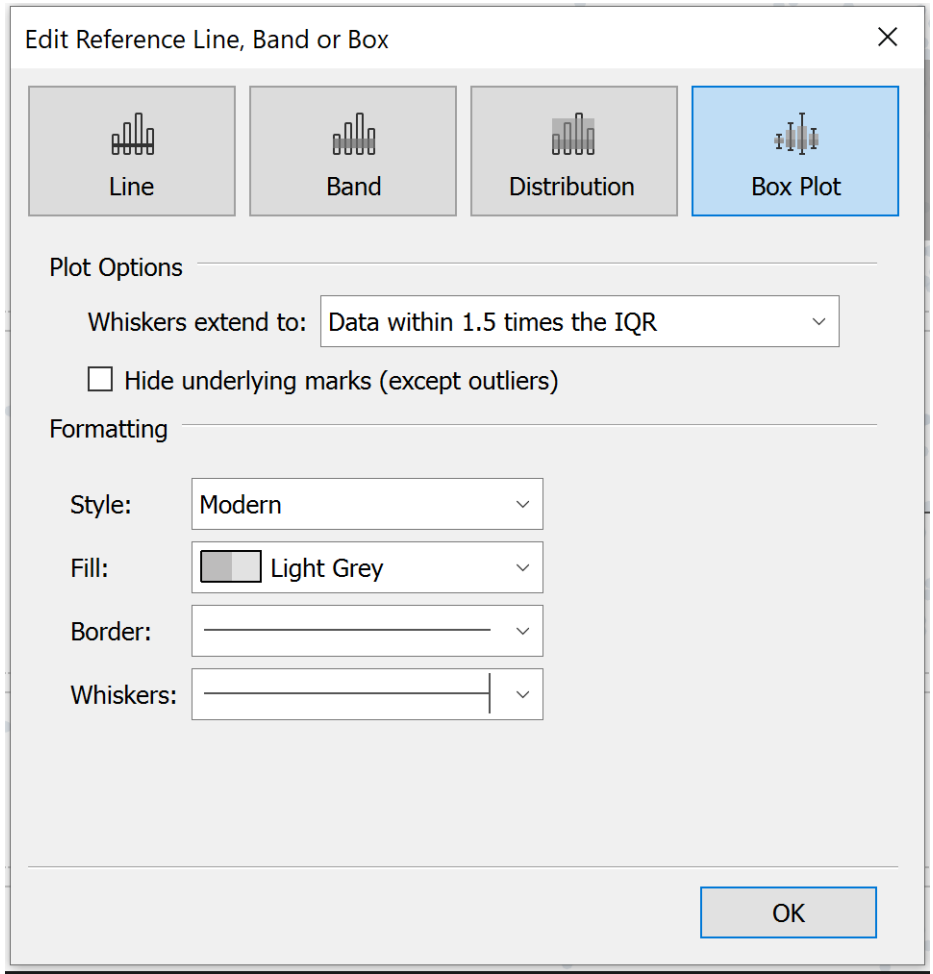


Figure 5.48 - Box plot configuration window

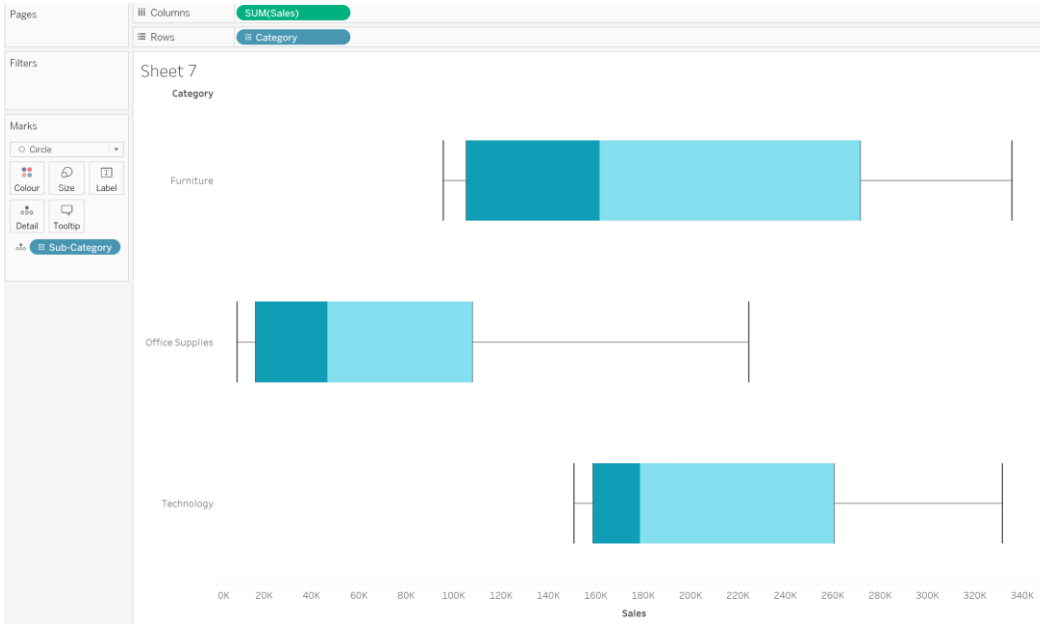


Figure 5.49 – Box plots created showing the distribution of total sales for subcategories within each category

Figure 5.50 – Trend line model options with Linear being selected

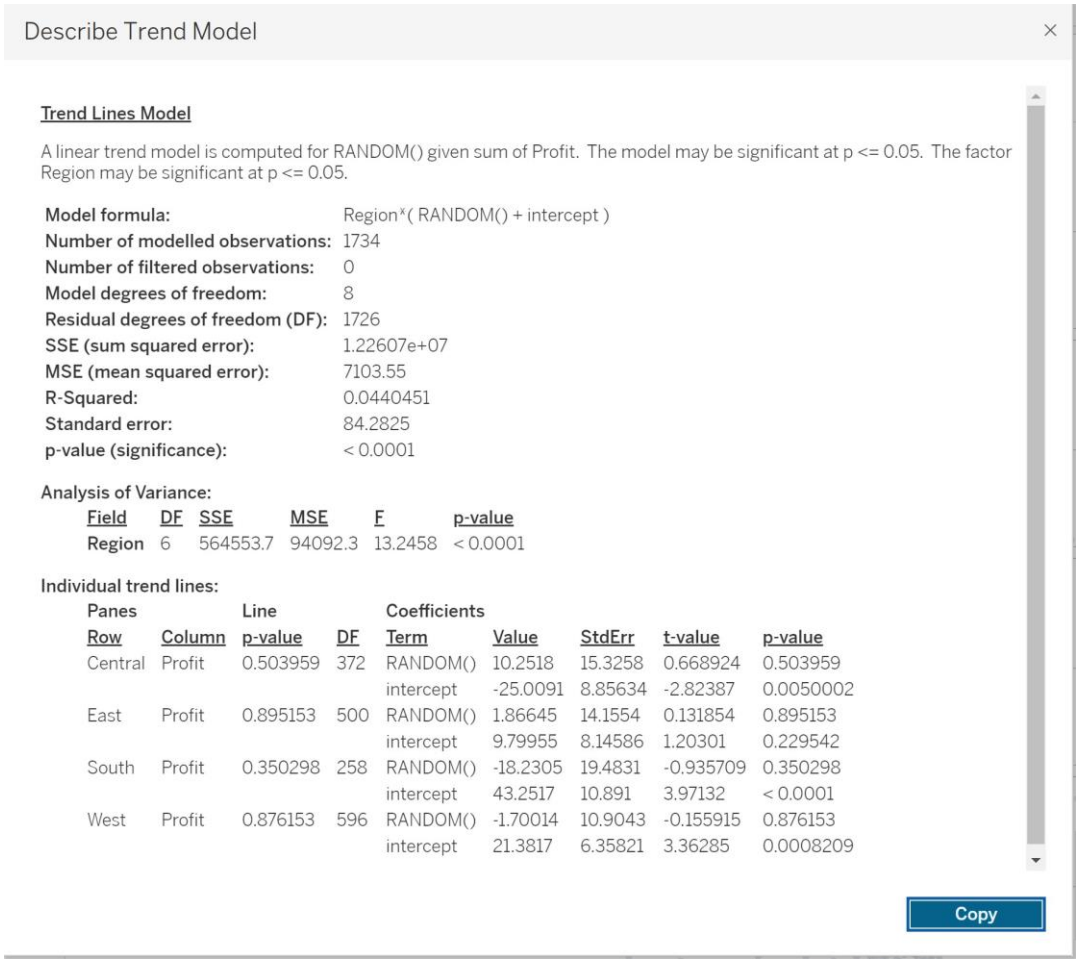


Figure 5.51 – The Describe Trend Model popup for a Tableau trend line

Figure 5.52 – Linear trend line added to the scatter plots with a line for each category but standardized across segments

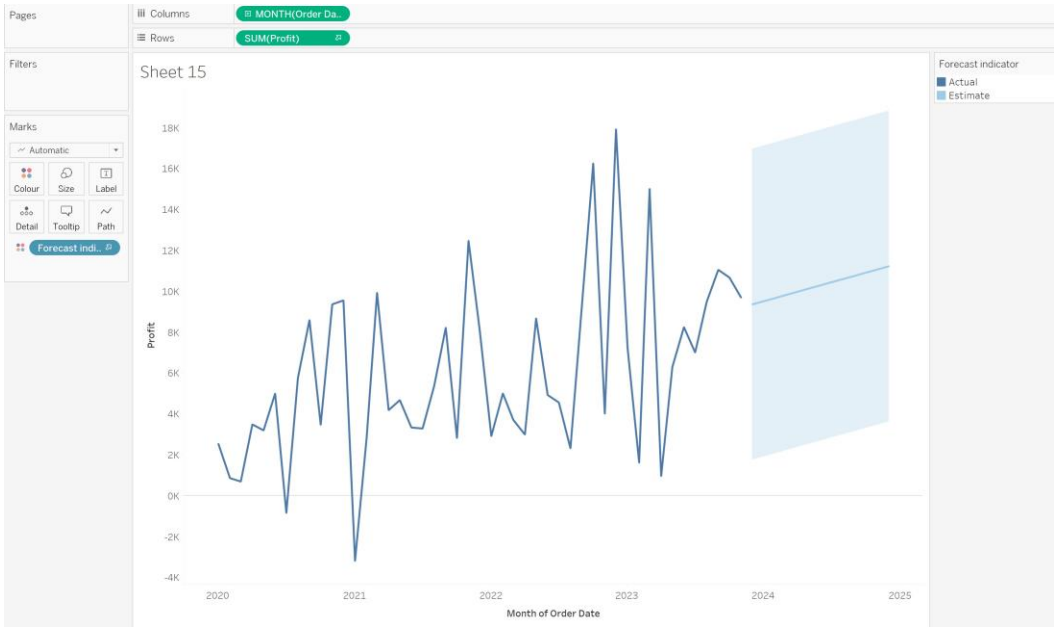


Figure 5.53 – Forecast added to a monthly profit analysis chart

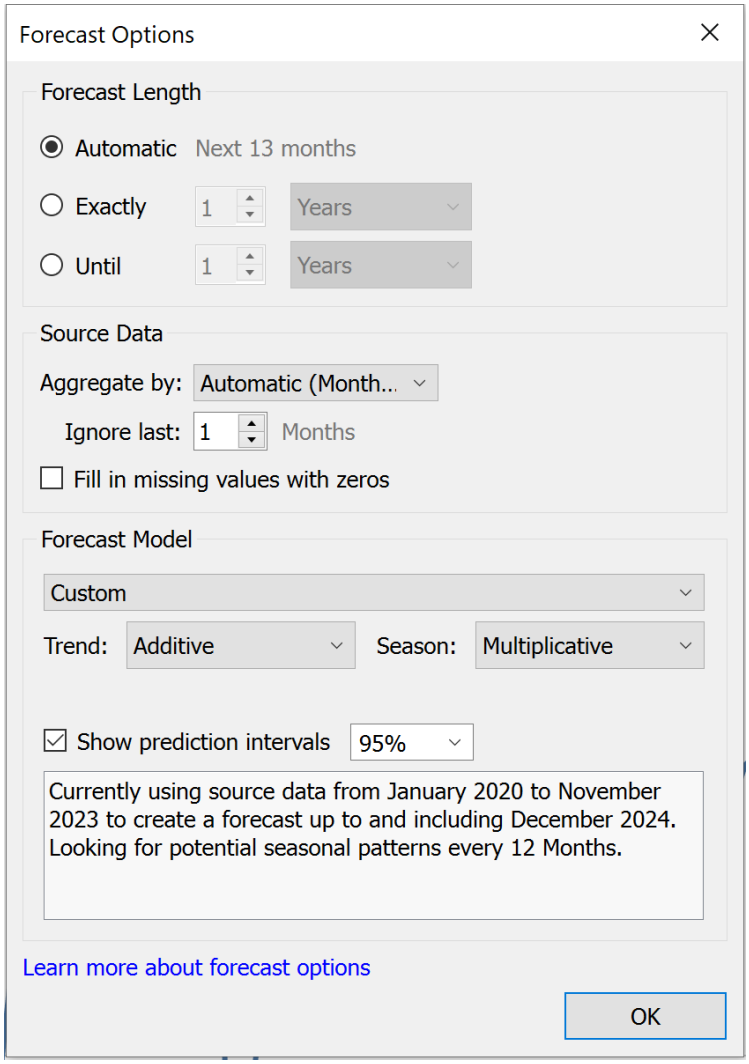


Figure 5.54 - Forecast Options configuration for a Custom forecast model

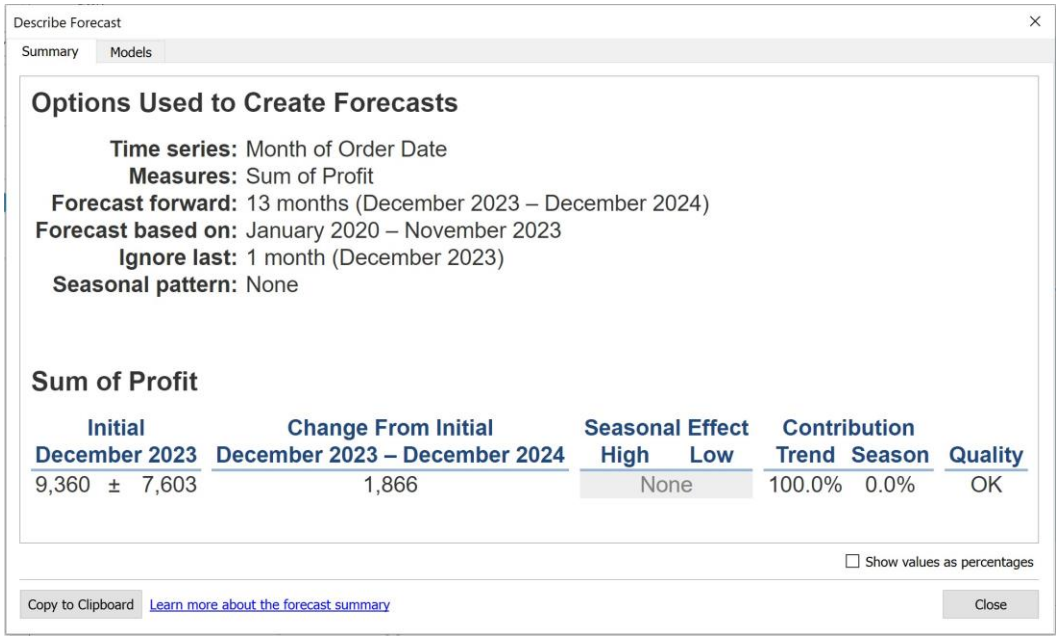


Figure 5.55 – Tableau forecast model description

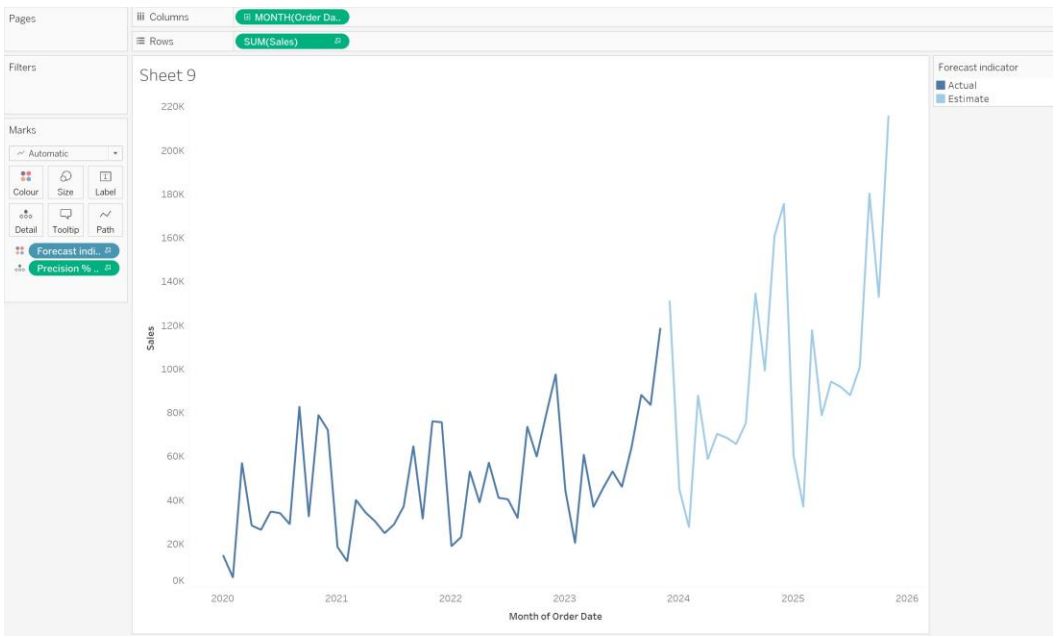


Figure 5.56 – Two-year forecast created using multiplicative trend and seasonality

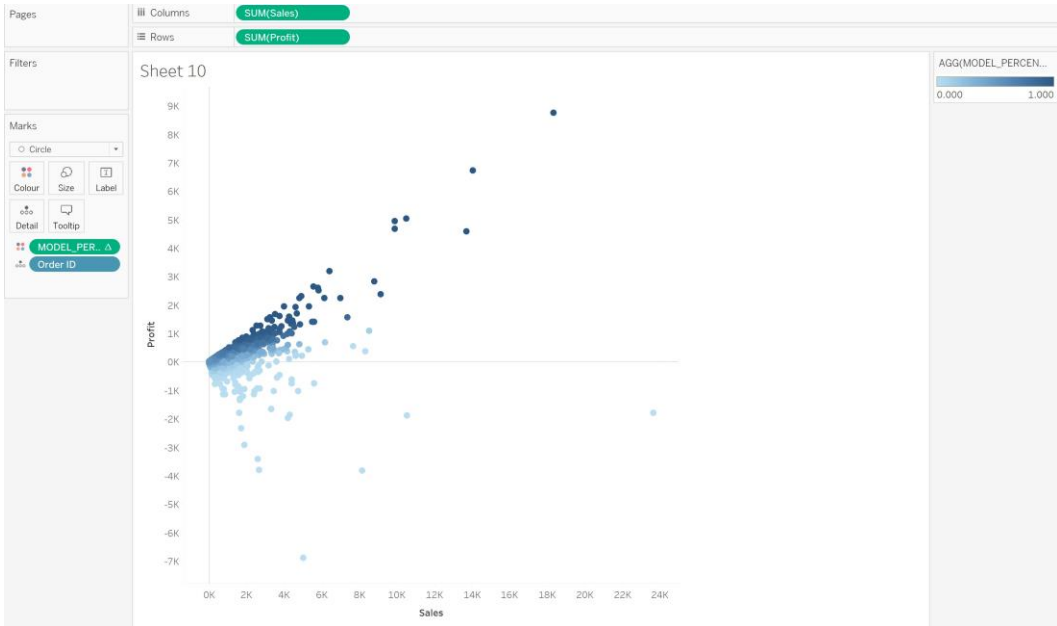


Figure 5.57 – Predictive model created that predicts profit total based on sales total, placed on a view to clearly demonstrate the prediction works correctly with higher sales orders that have higher profit being colored darker

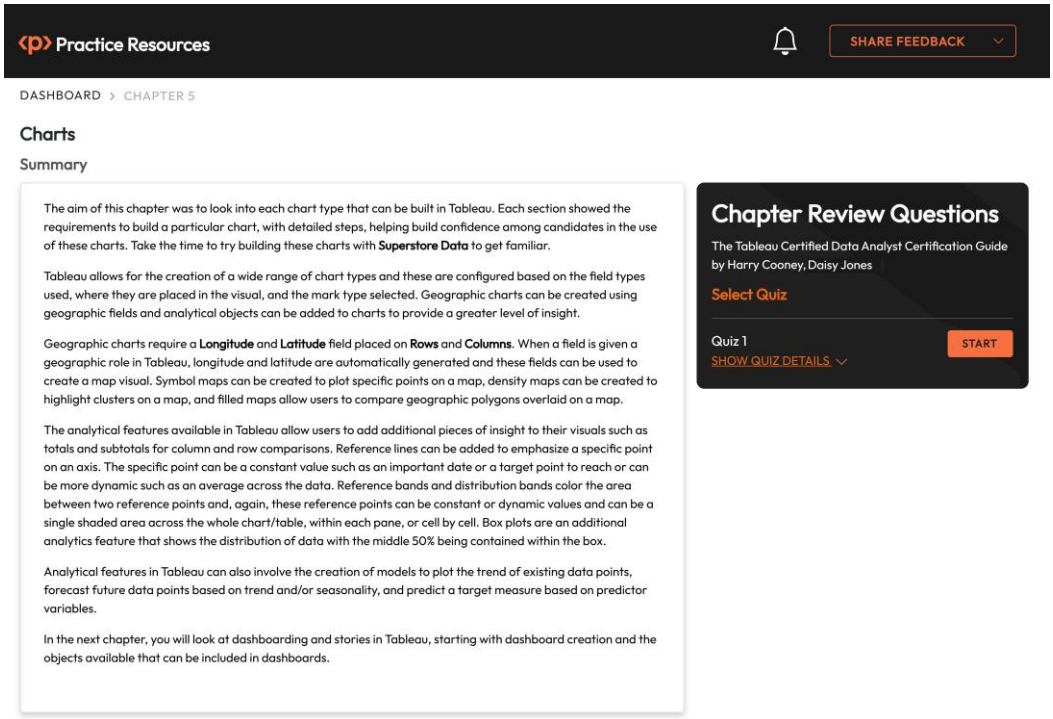


Figure 5.59 – Chapter Review Questions for Chapter 5

6
Dashboards

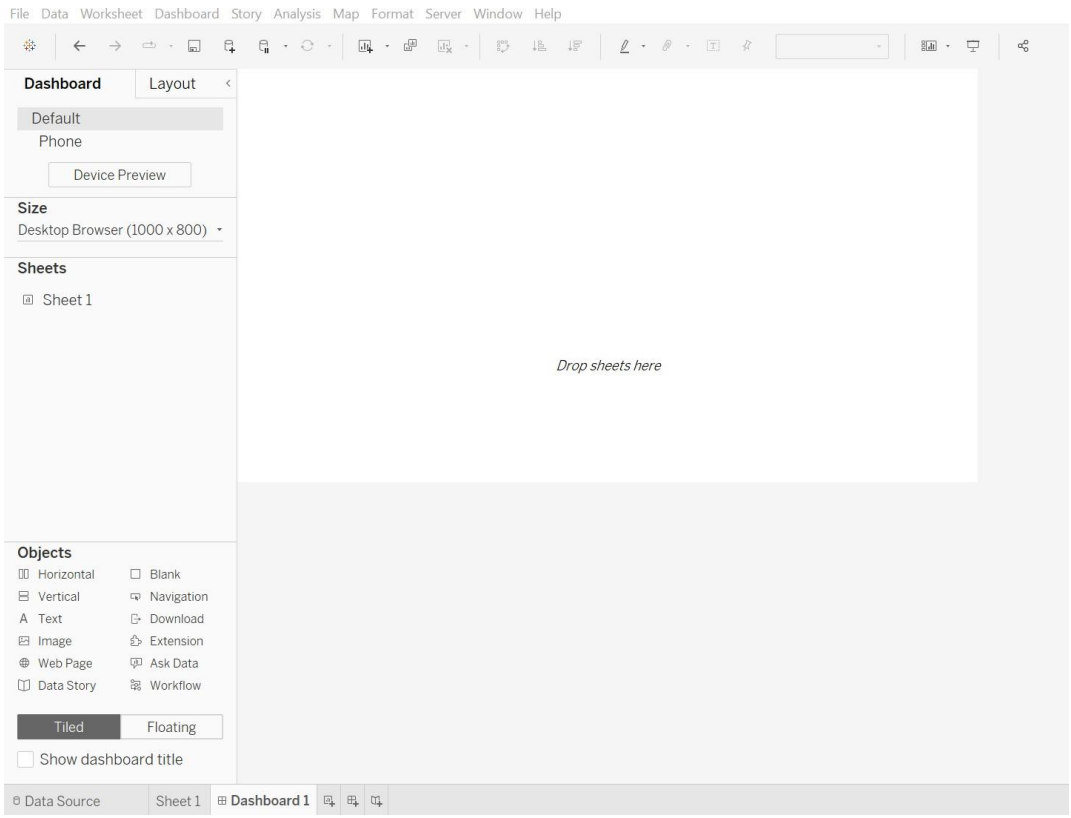


Figure 6.1: New dashboard created, ready to be configured

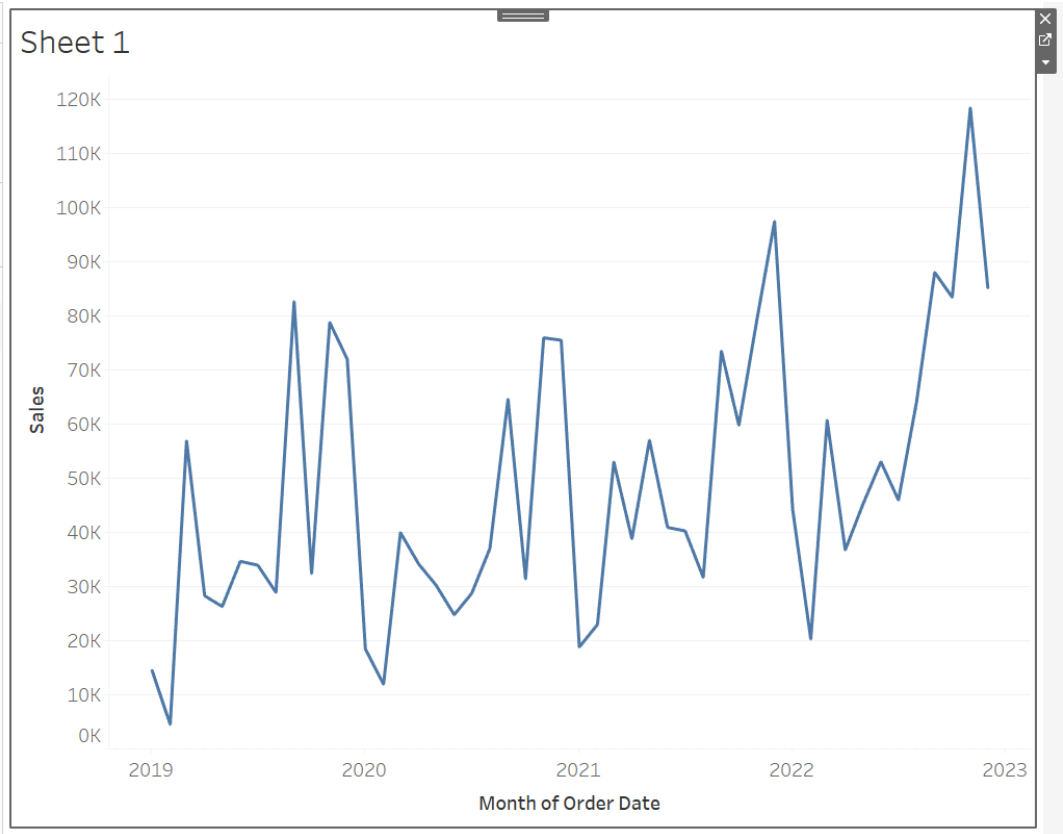


Figure 6.2: A single sheet on a dashboard is selected, resulting in a gray outline

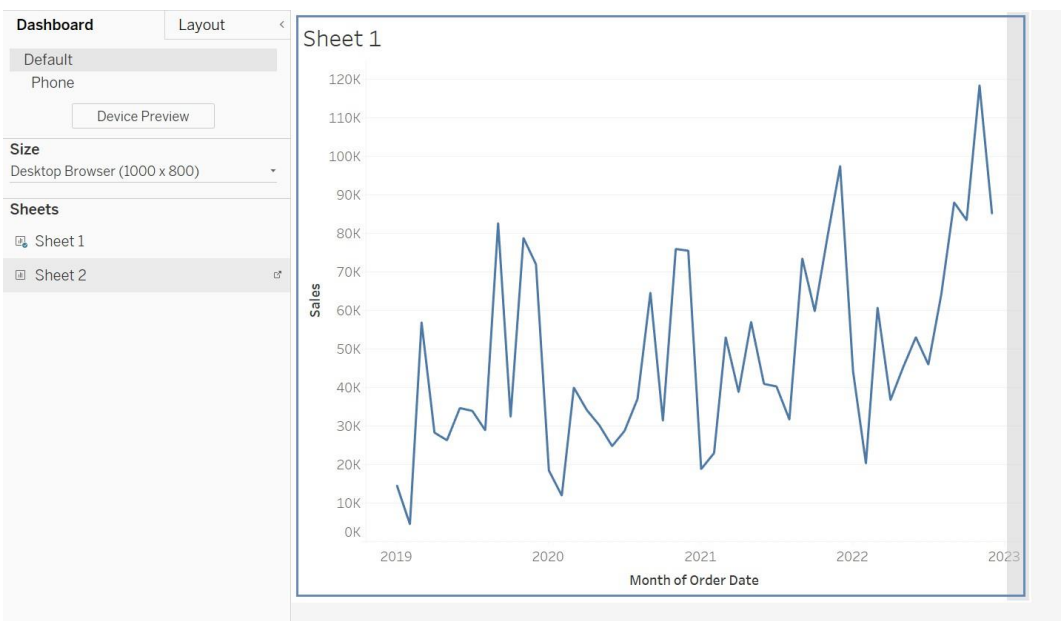


Figure 6.3: Sheet 2 is being added to a container along with Sheet 1 – it is being placed to the right, resulting in a horizontal container

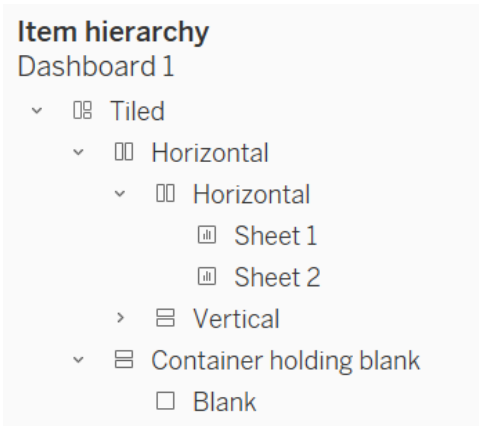


Figure 6.4: Item hierarchy showing multiple containers and objects within - there is a horizontal and vertical container within a horizontal container; a container item has been renamed Container holding blank

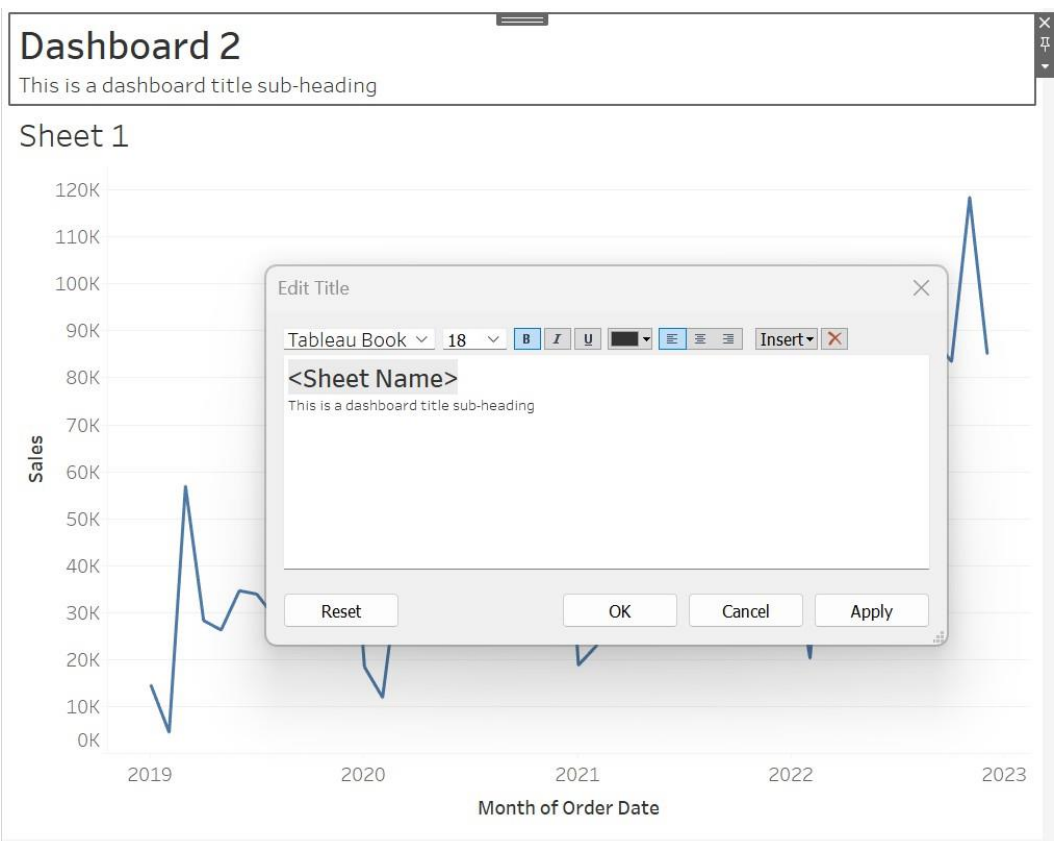


Figure 6.5: Textbox configuration with varied text formatting and a dynamic title set using the sheet name

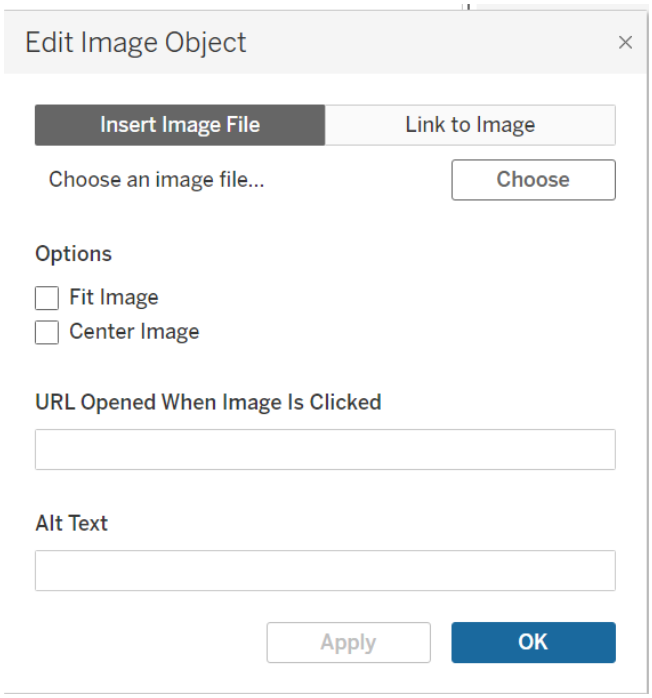


Figure 6.6: Image dashboard object configuration options

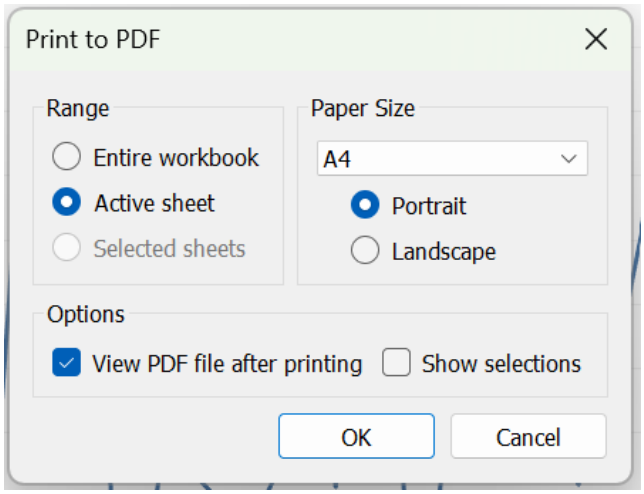


Figure 6.7: Download options after the Download to PDF button clicked

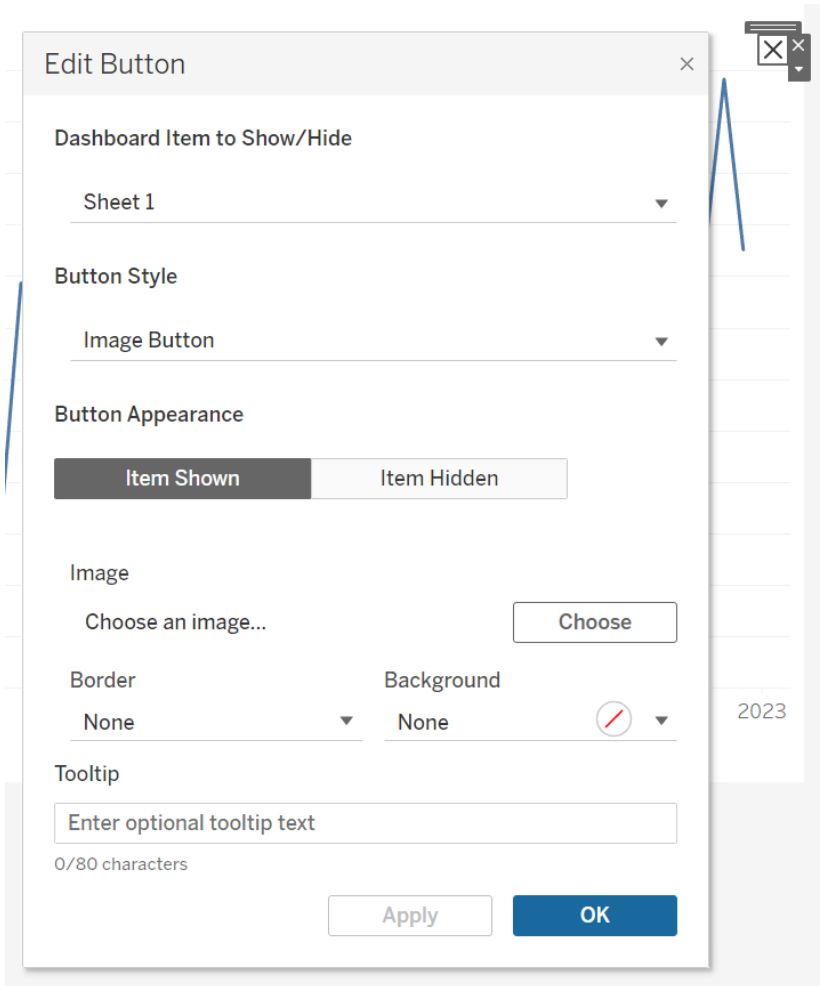


Figure 6.8: Show/hide button configuration with the default x button visible at the top right

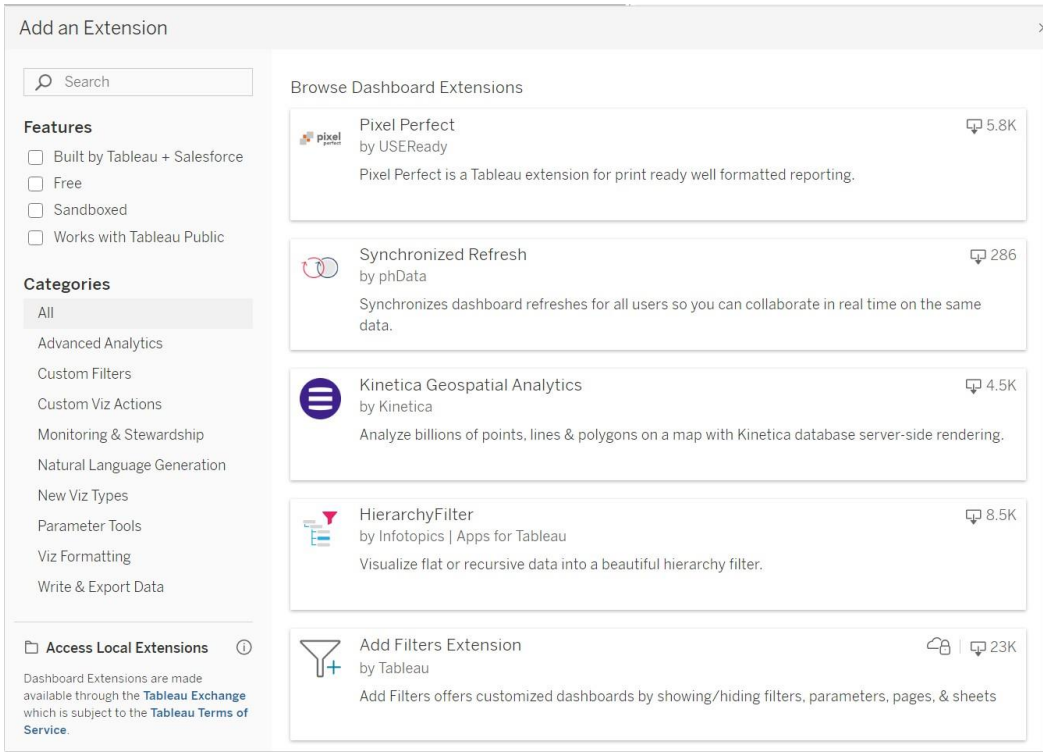


Figure 6.9: Tableau extension browsing and selection

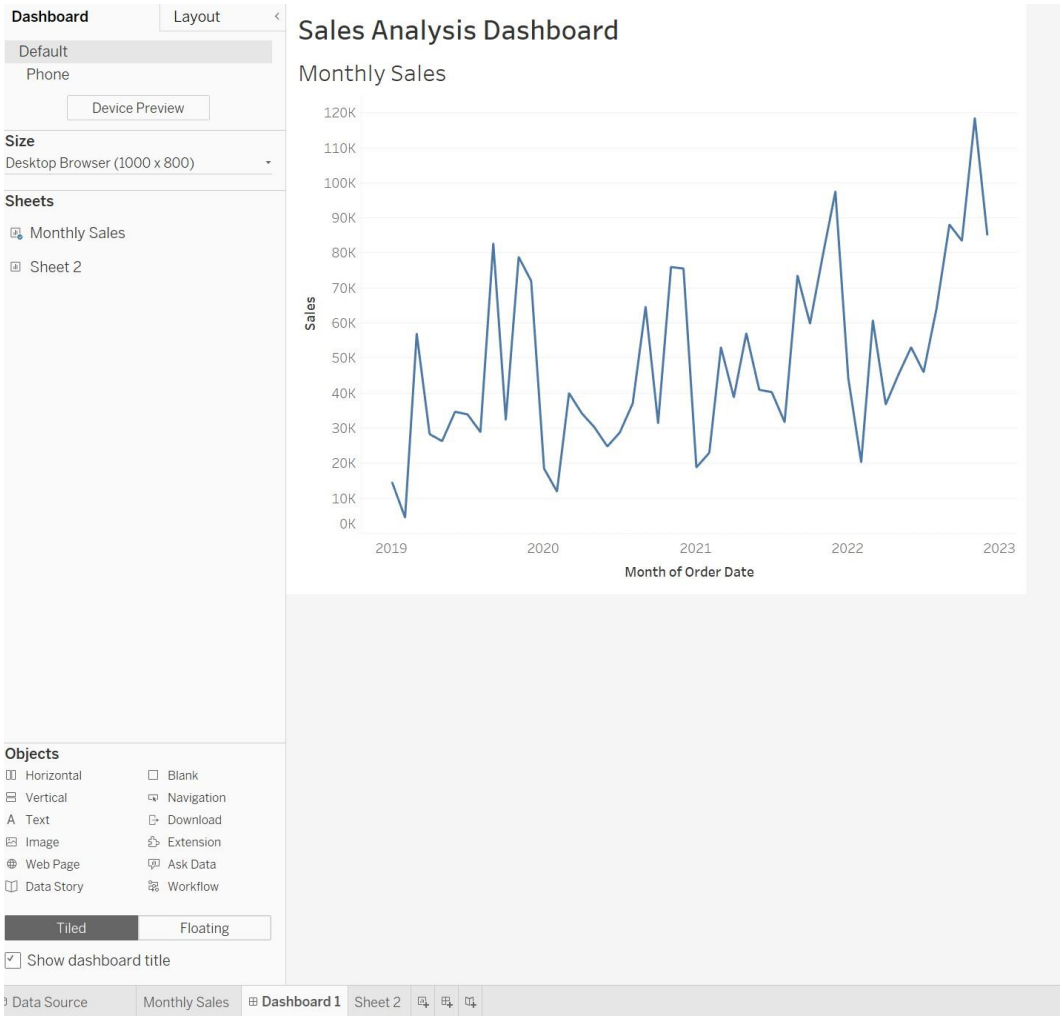


Figure 6.10: A new dashboard was created with a chart and a title added

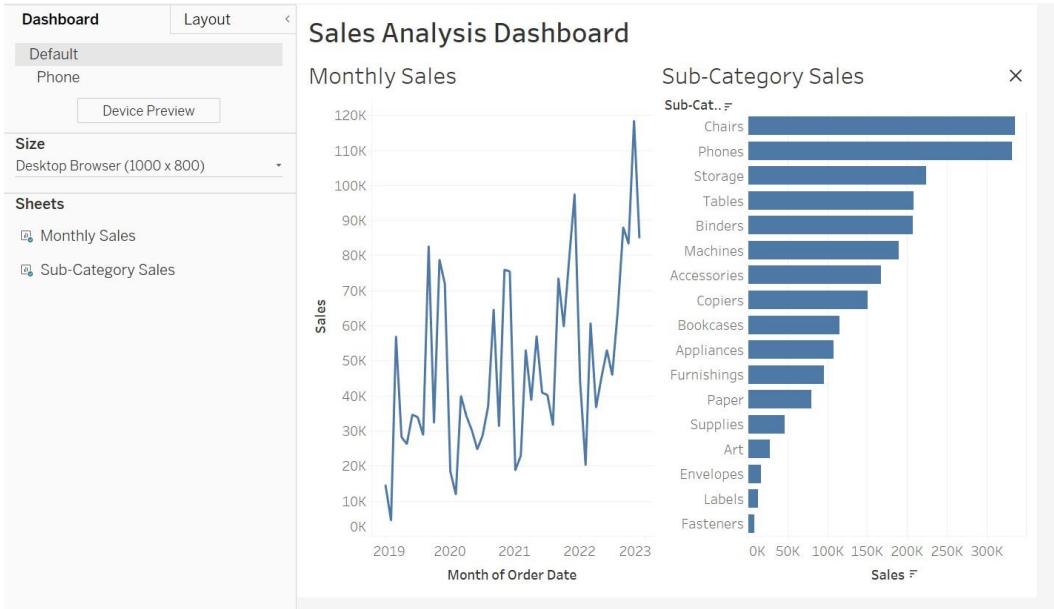


Figure 6.11: The Dashboard now has two sheets within a container

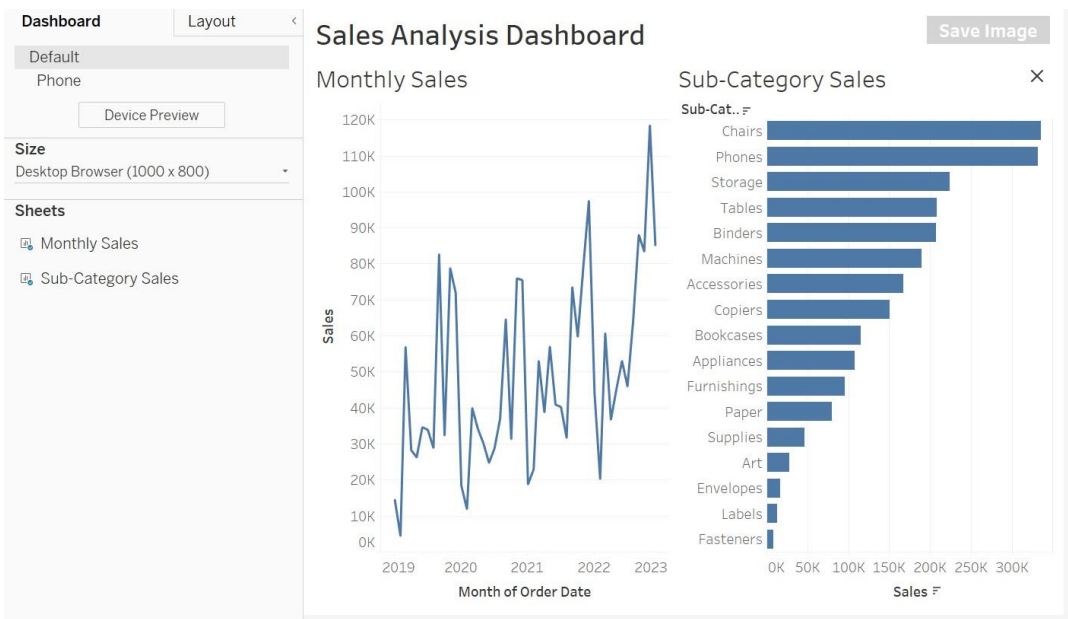


Figure 6.12: Download and show/hide buttons added to the dashboard

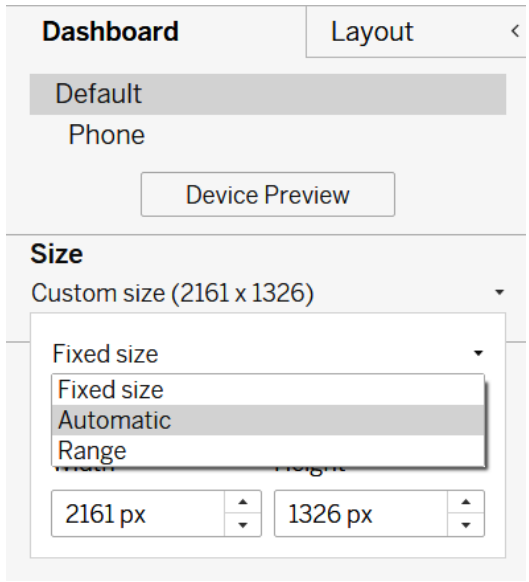


Figure 6.13: Dashboard canvas size options

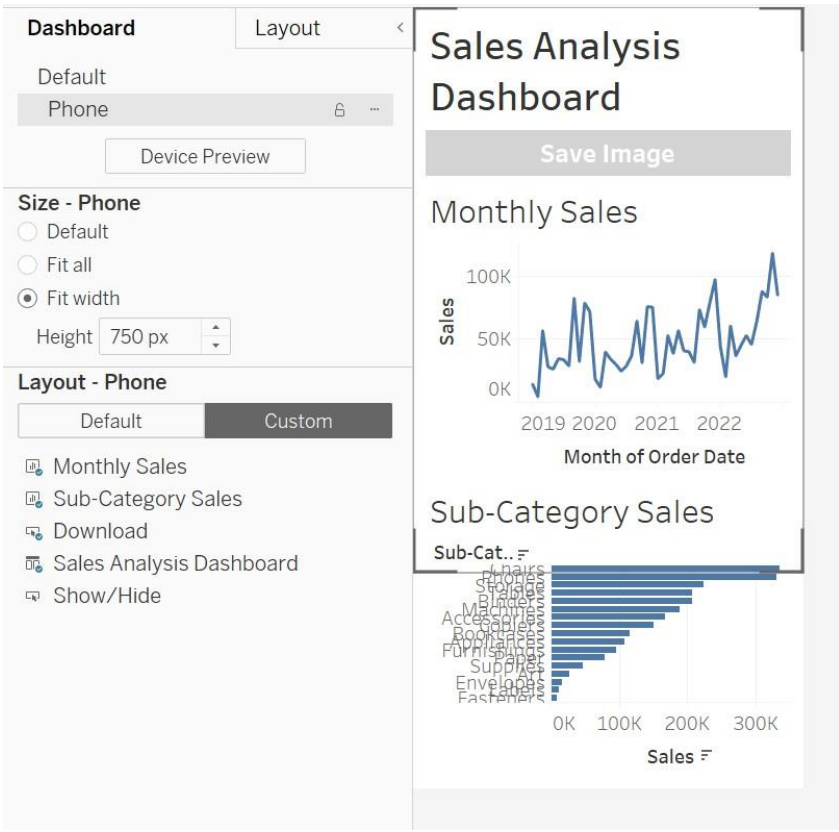


Figure 6.14: The Phone layout selected with content fit to phone width size and with the sub-category sales bar chart, which requires the phone user to scroll down to

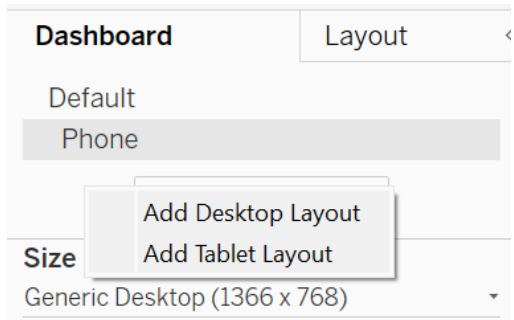


Figure 6.15: Additional layout options

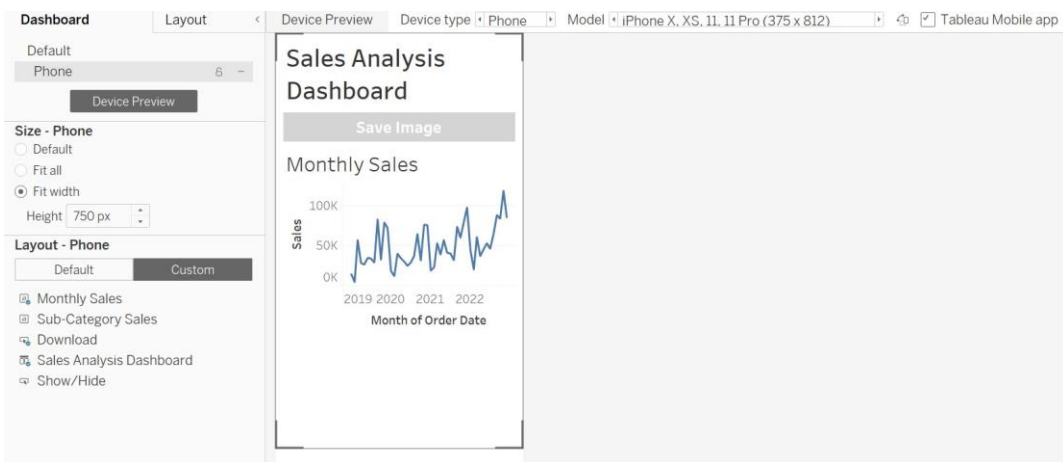


Figure 6.16: Previewing the dashboard experience of various iPhone model users on the Tableau mobile app

Figure 6.17: The Tiled and Floating selection with Floating selected

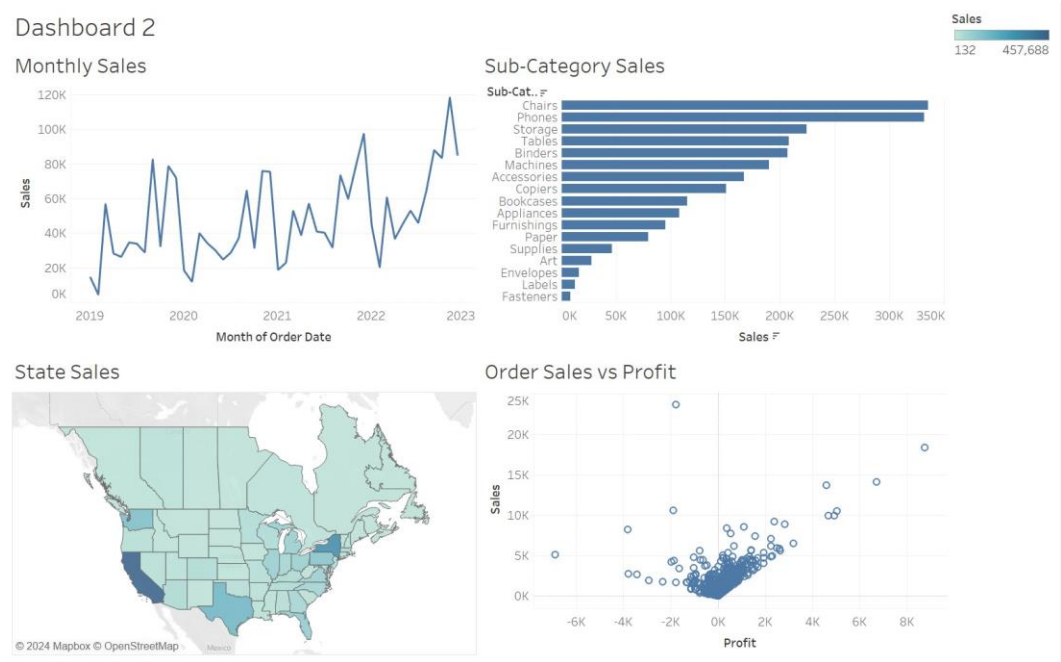


Figure 6.18: Tableau dashboard with a Tiled layout – objects are positioned in a grid-like fashion with no overlap

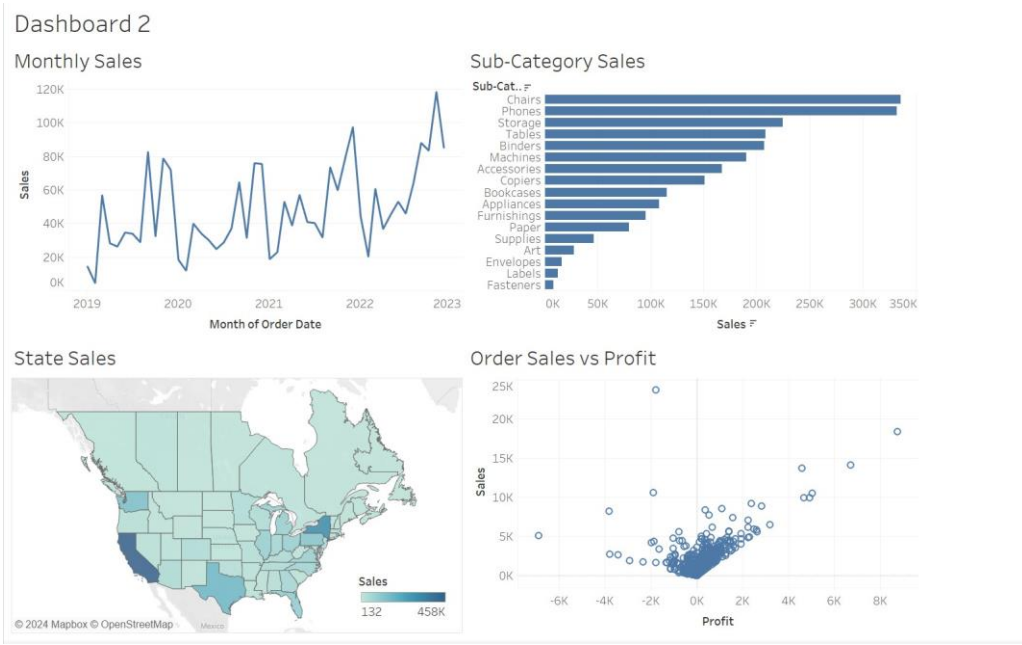


Figure 6.19: The Sales color legend is no longer a tiled object but rather floating on top of the State Sales chart

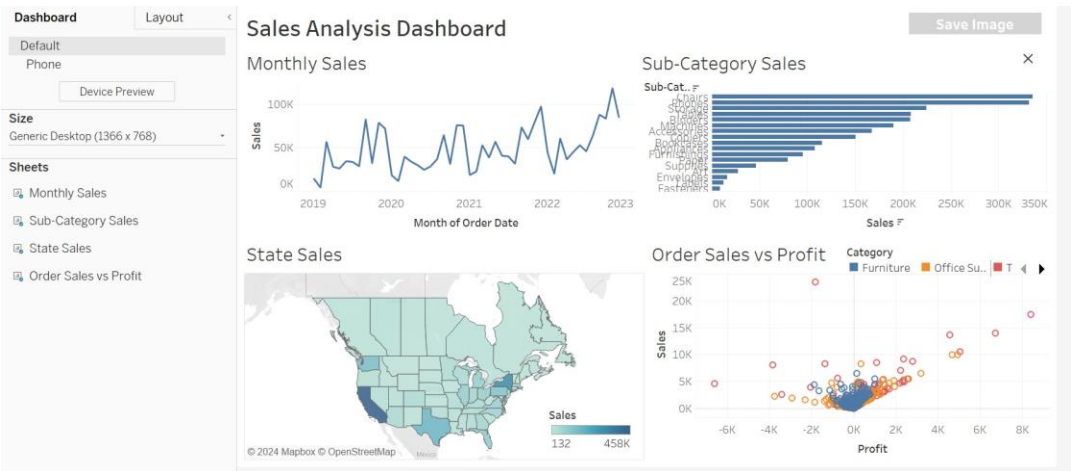


Figure 6.20: Tiled charts added to the dashboard and legends converted to floating and repositioned

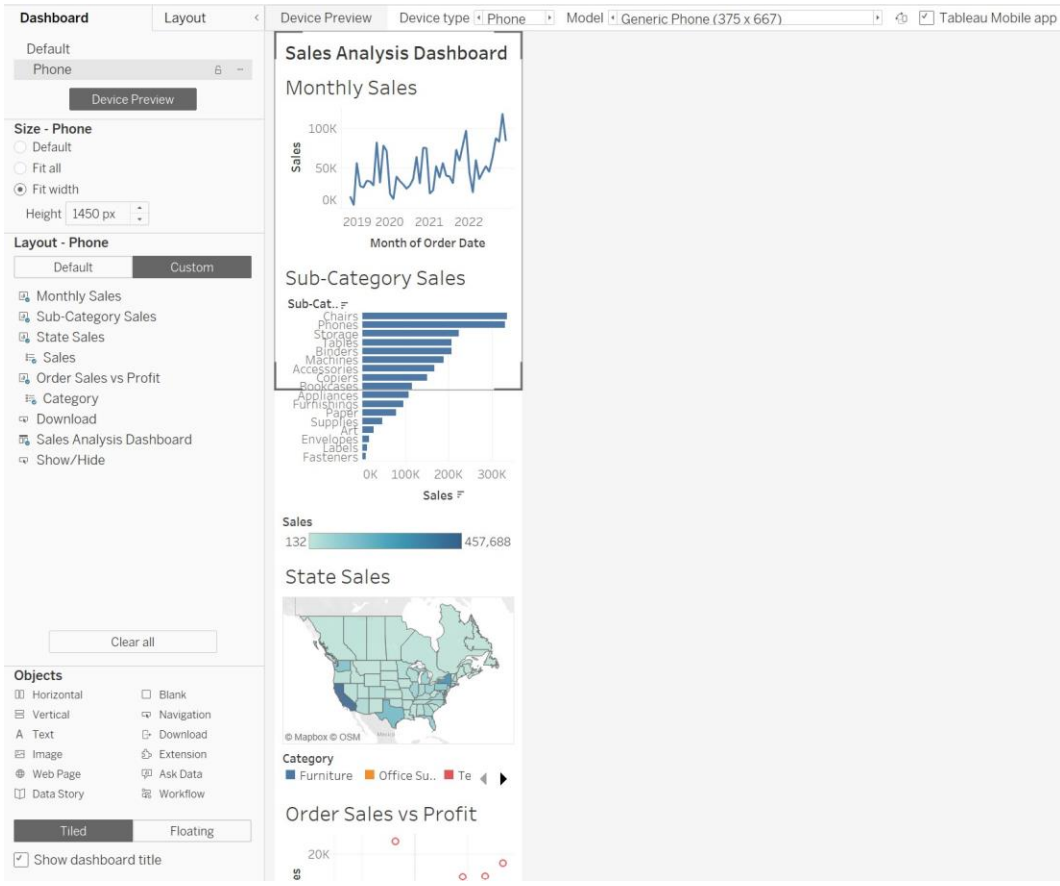


Figure 6.21: The Default and Phone layouts for the dashboard configured

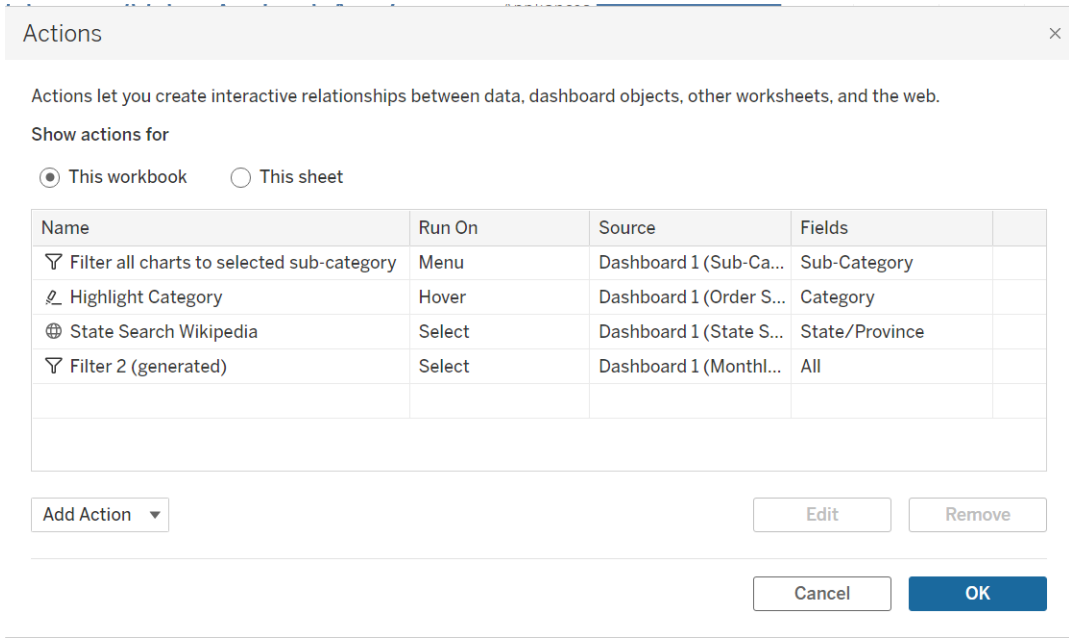


Figure 6.22: The Actions configuration showing all of the actions in the workbook, including two filters, a highlight, and a URL action

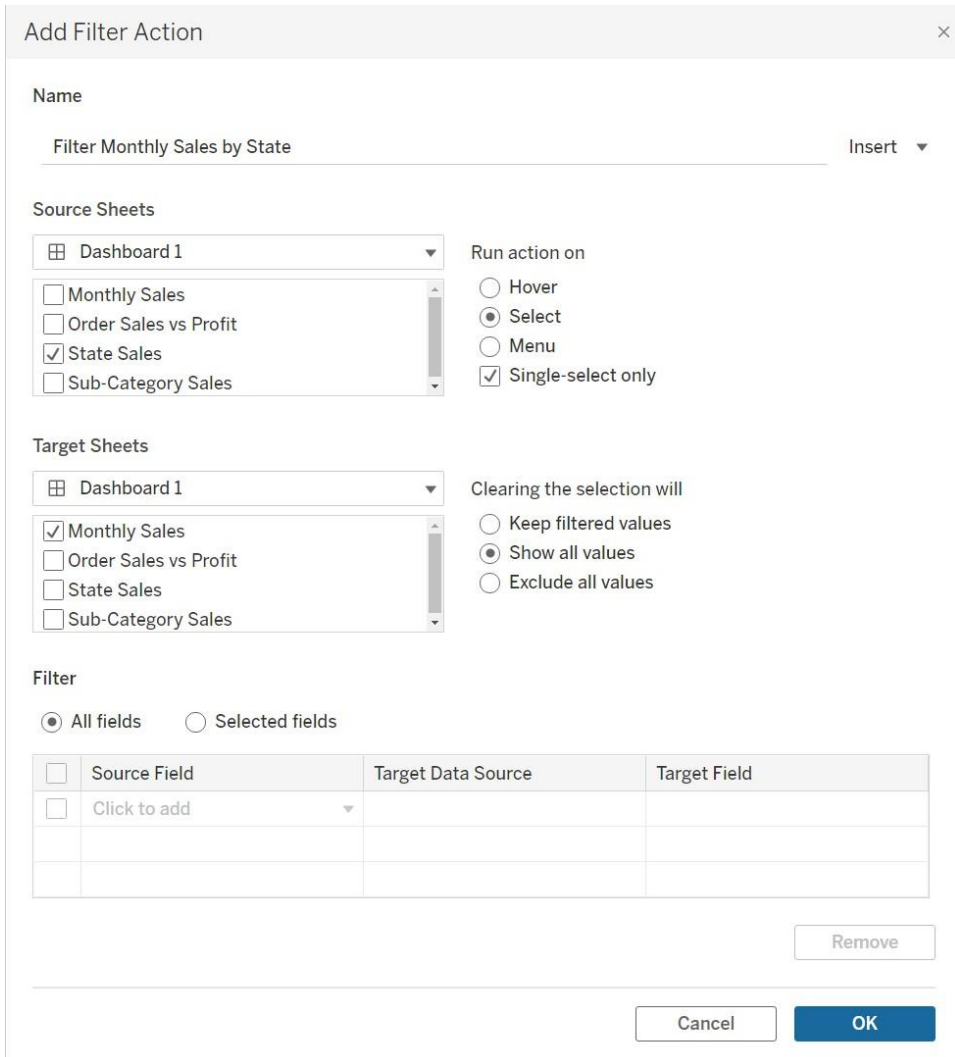


Figure 6.23: Filter action set up, which filters a Monthly Sales chart by selected States from the State Sales

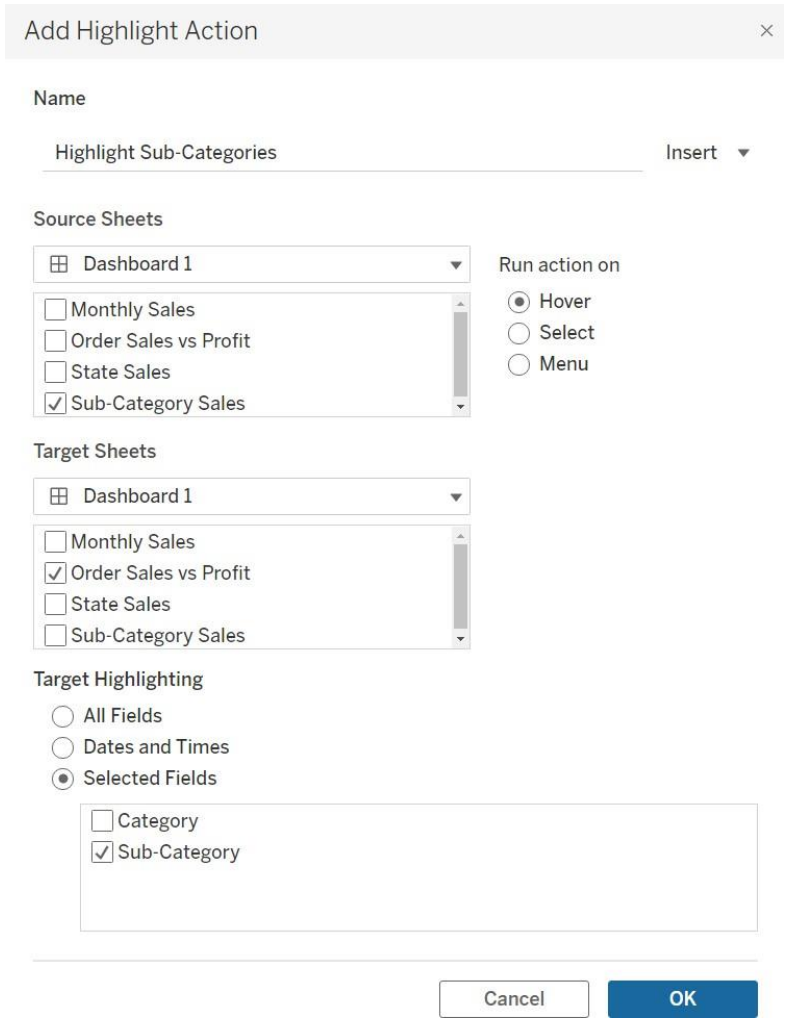


Figure 6.24: A highlight action that highlights subcategories on the Order Sales versus Profit sheet based on the users hovering over the Sub-Category Sales sheet

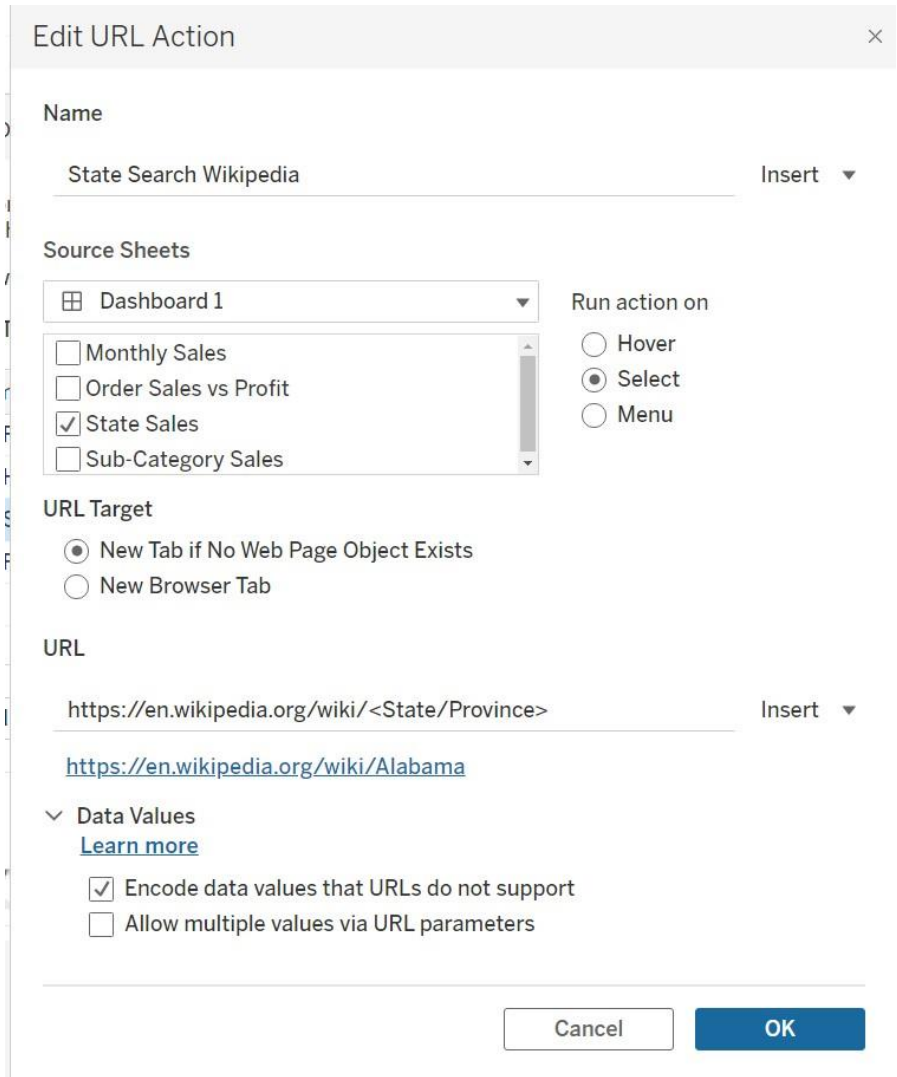


Figure 6.25: A URL action that opens up Wikipedia articles on the selected state from the State Sales sheet in the web page object on the dashboard or in a new browser tab if one does not exist

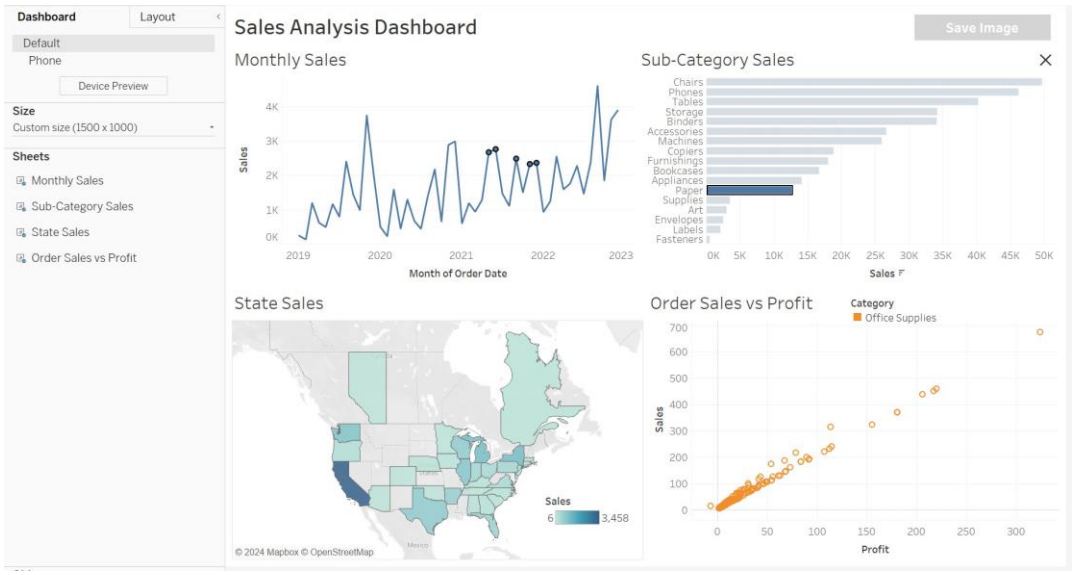


Figure 6.26: A filter action created on Sub-Category Sales as well as Monthly Sales

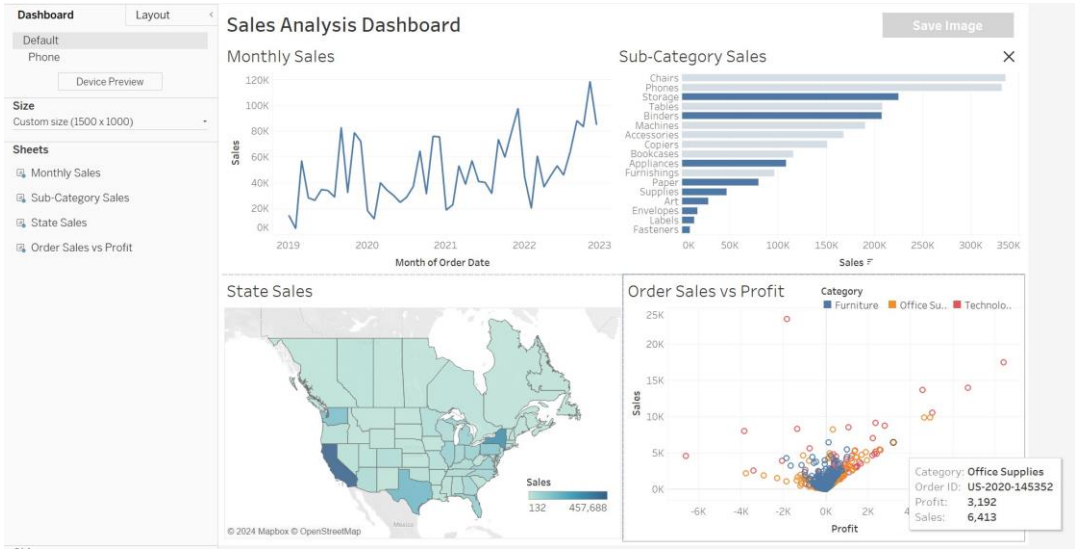


Figure 6.27: Highlight action added – hovering over a scatterplot mark highlights the corresponding category in Sub-Category Sales

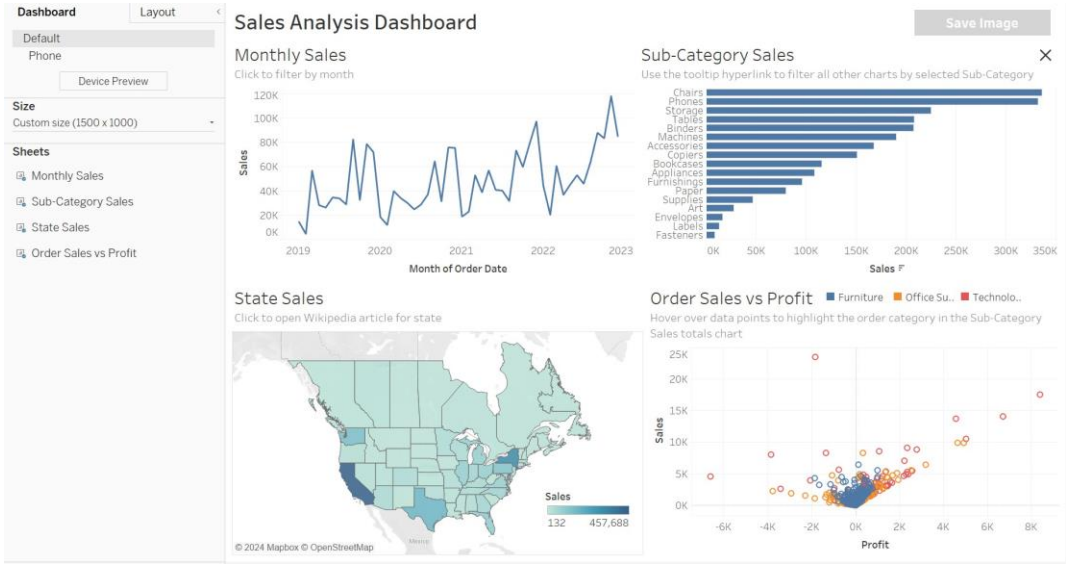


Figure 6.28: Guiding sentences added to inform end users how to interact with the dashboard

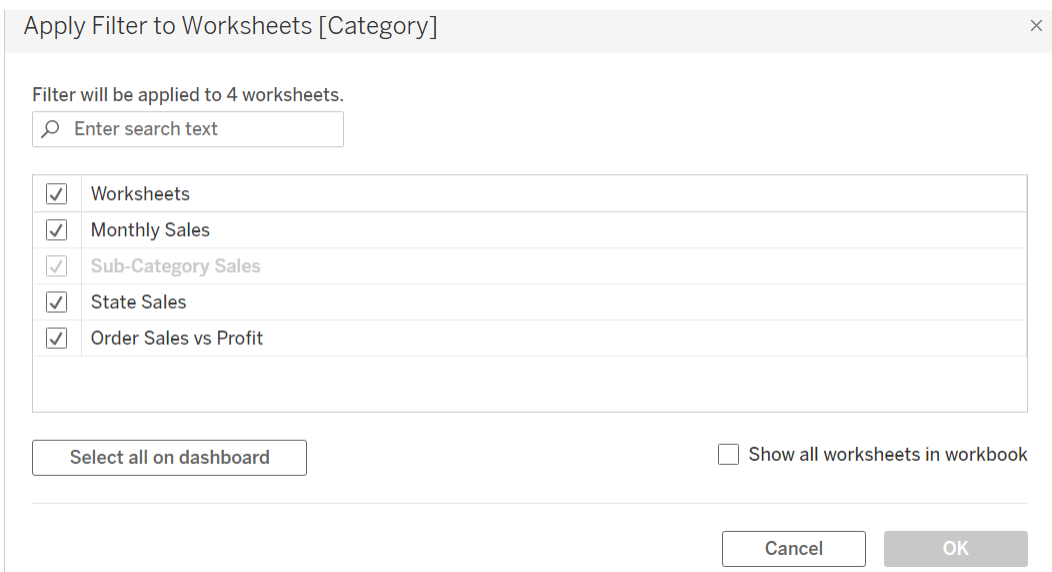


Figure 6.29: Apply filter to selected worksheets configuration

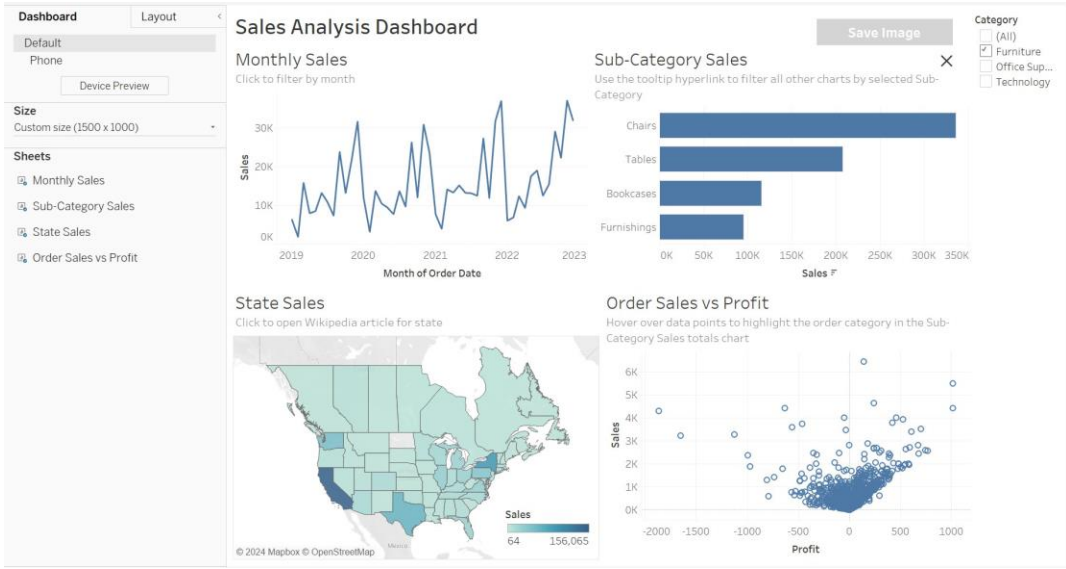


Figure 6.30: Filter added to the dashboard and applied to all sheets on the dashboard

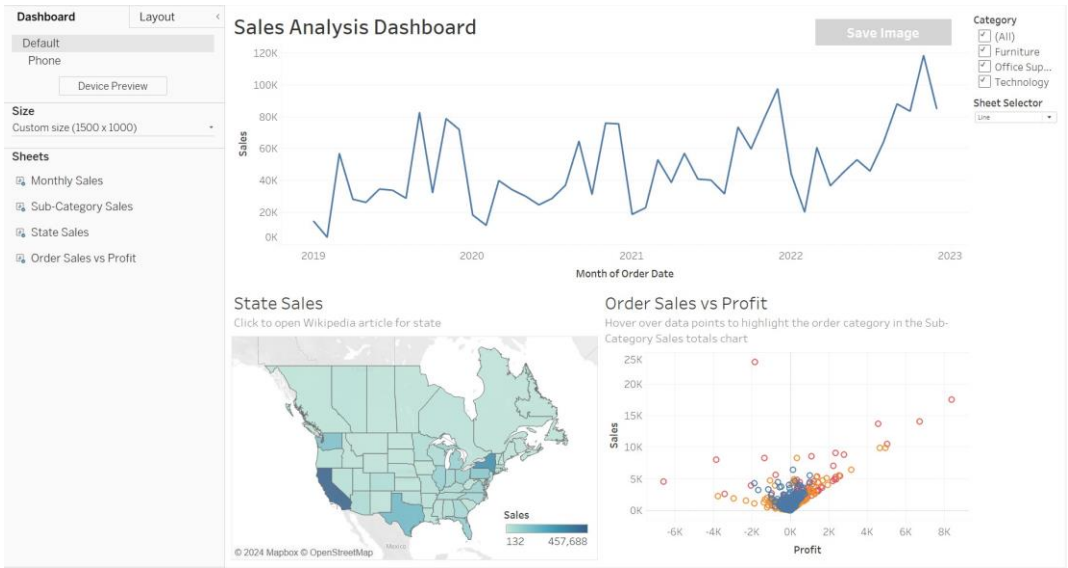


Figure 6.31: Sheet selector/swapper created and applied to the dashboard

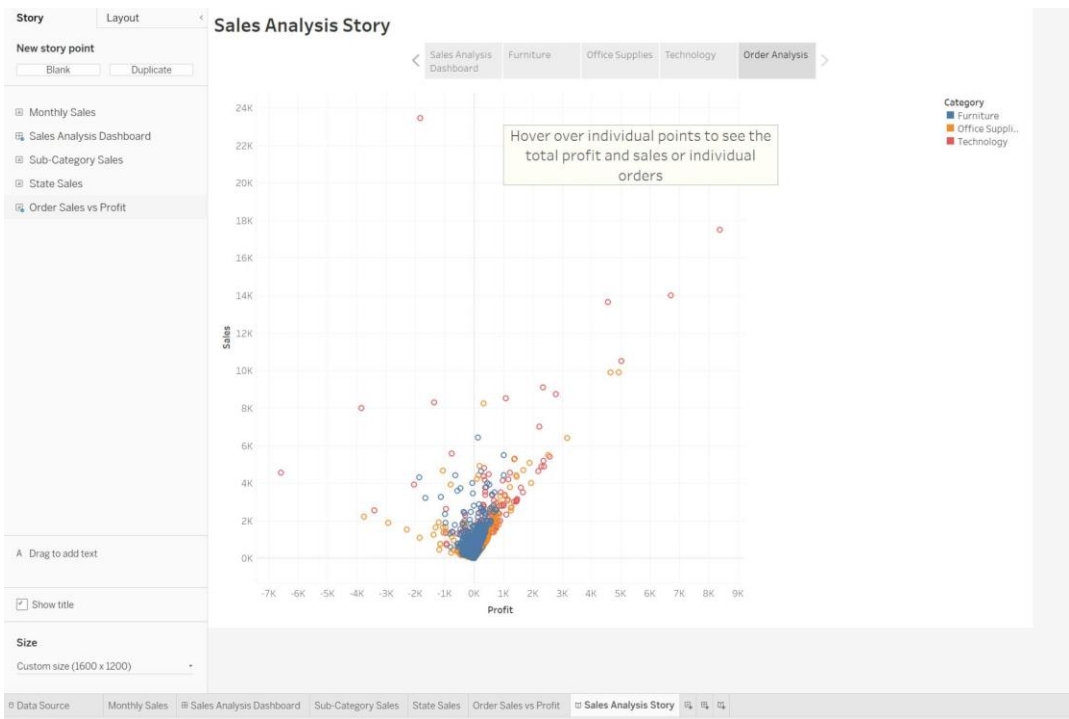


Figure 6.32: The Tableau story created that takes the user from a high-level overview through a more detailed analysis and ends with a low-level piece of analysis and some user instruction

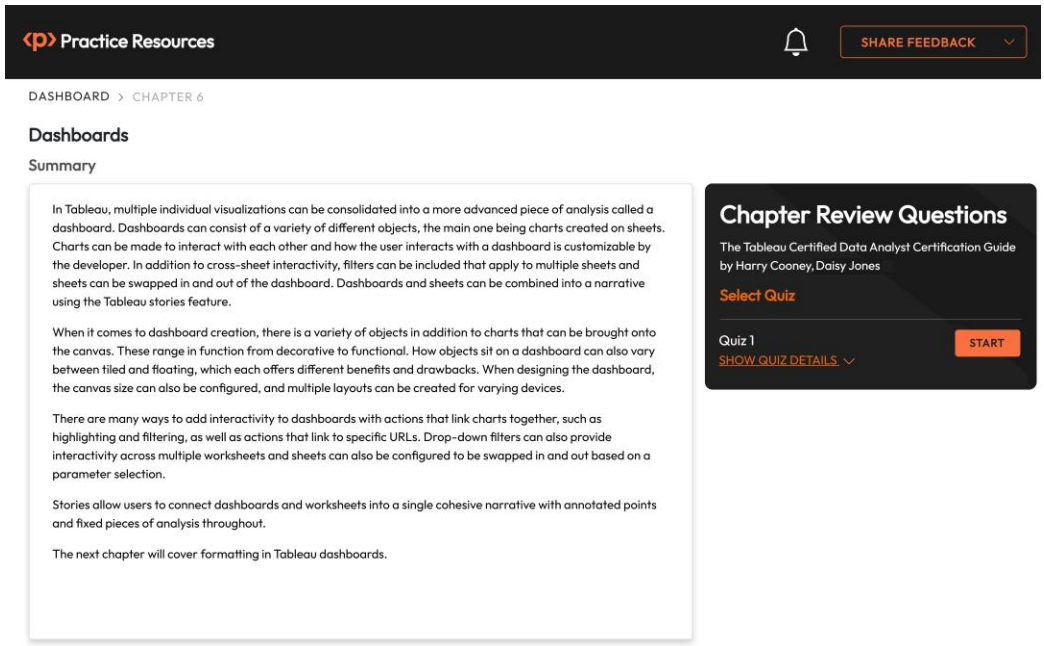


Figure 6.34 – Chapter Review Questions for Chapter 6

7
Formatting

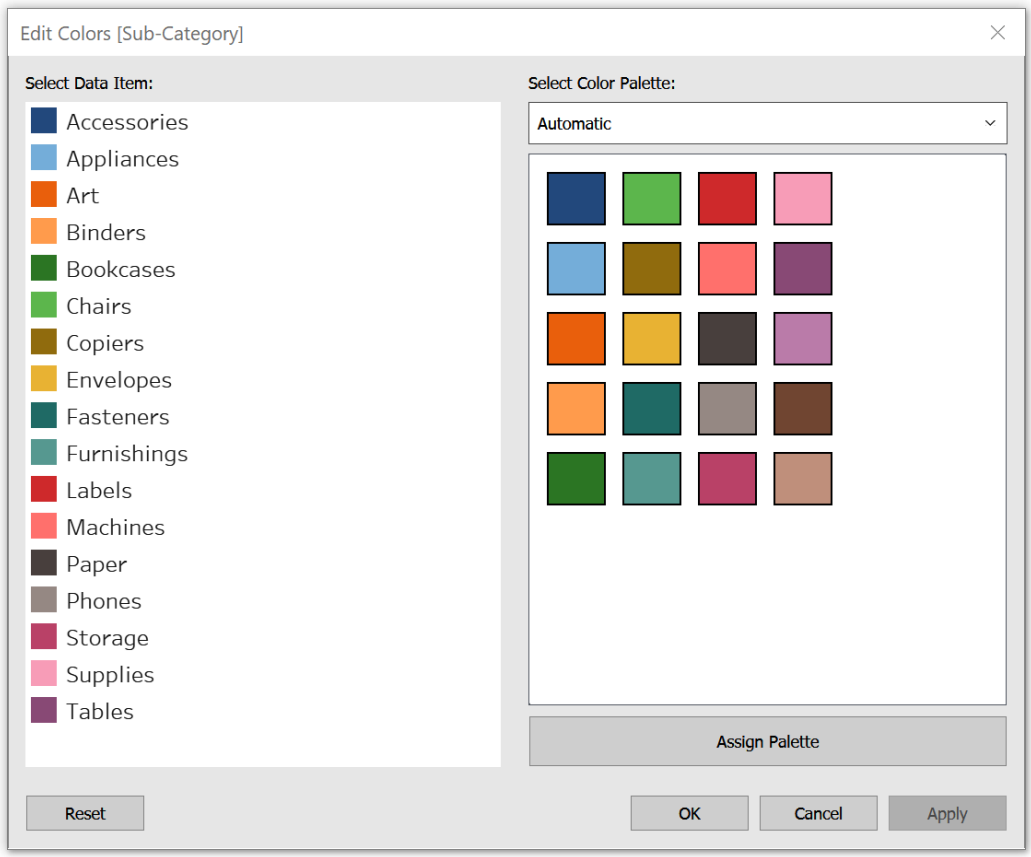


Figure 7.1: An example of a categorical palette

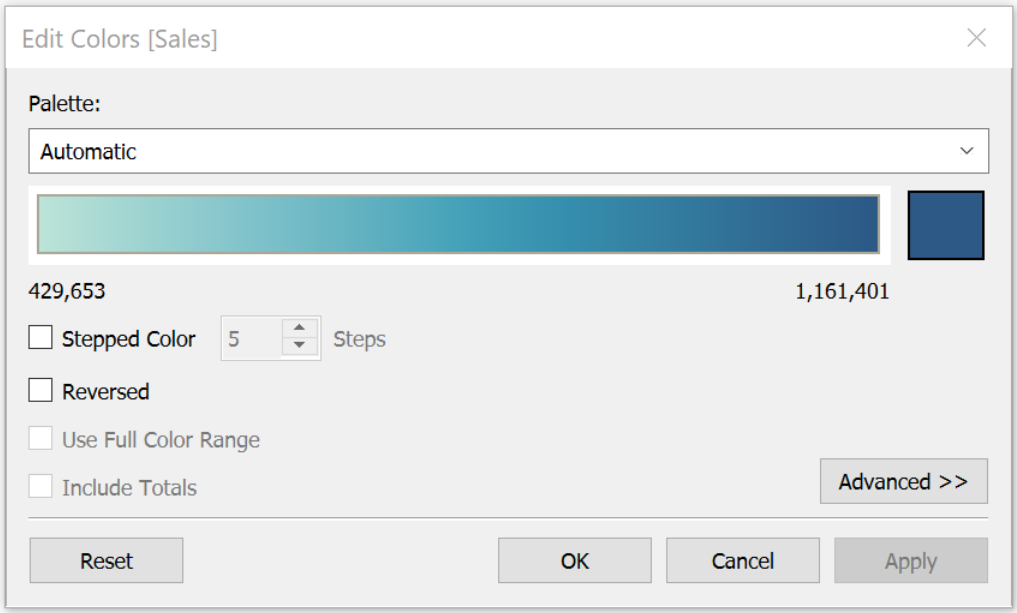


Figure 7.2: An example of a quantitative palette

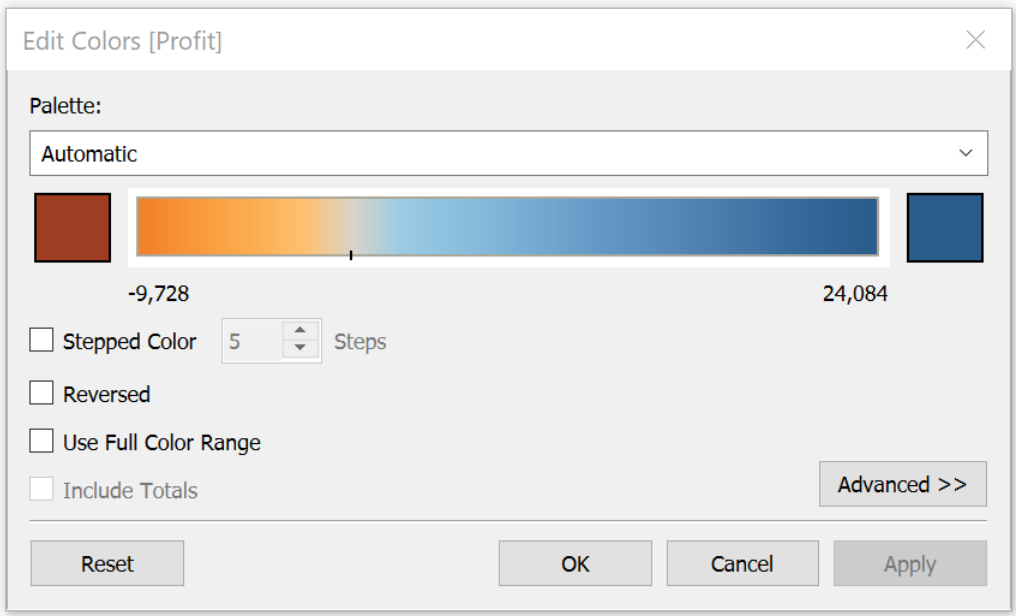


Figure 7.3: A quantitative palette with negative values

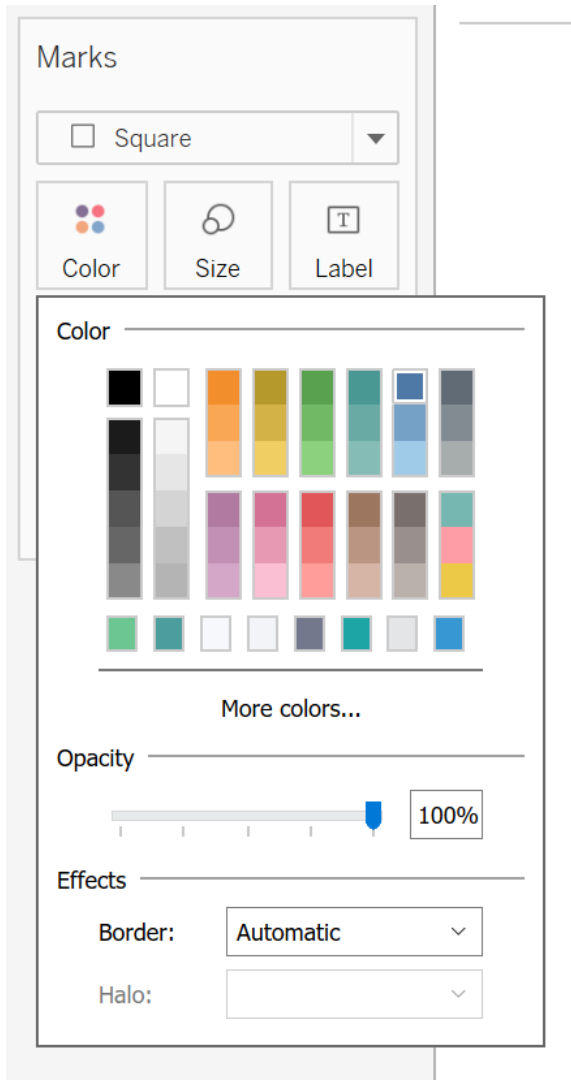


Figure 7.4: Color options on the Marks card

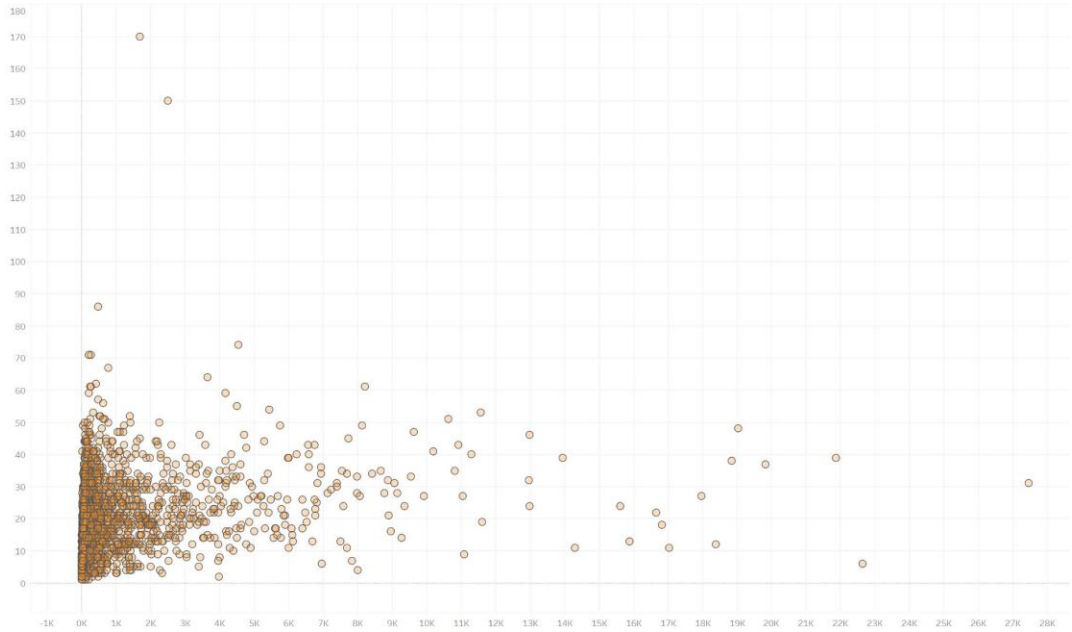


Figure 7.5: A chart with a border

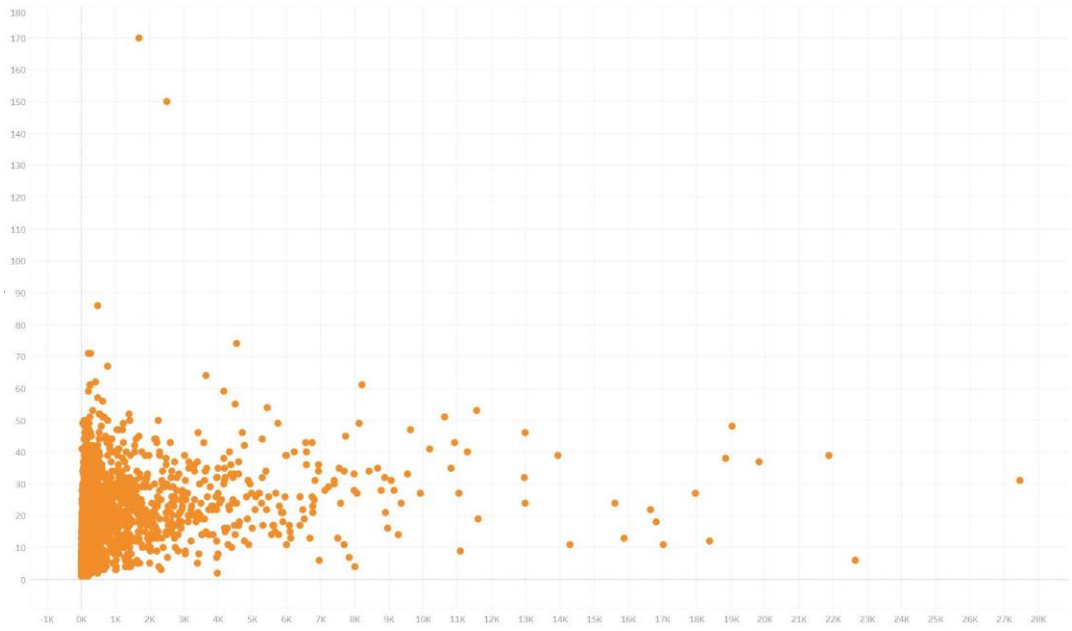


Figure 7.6: A chart without borders on the data points

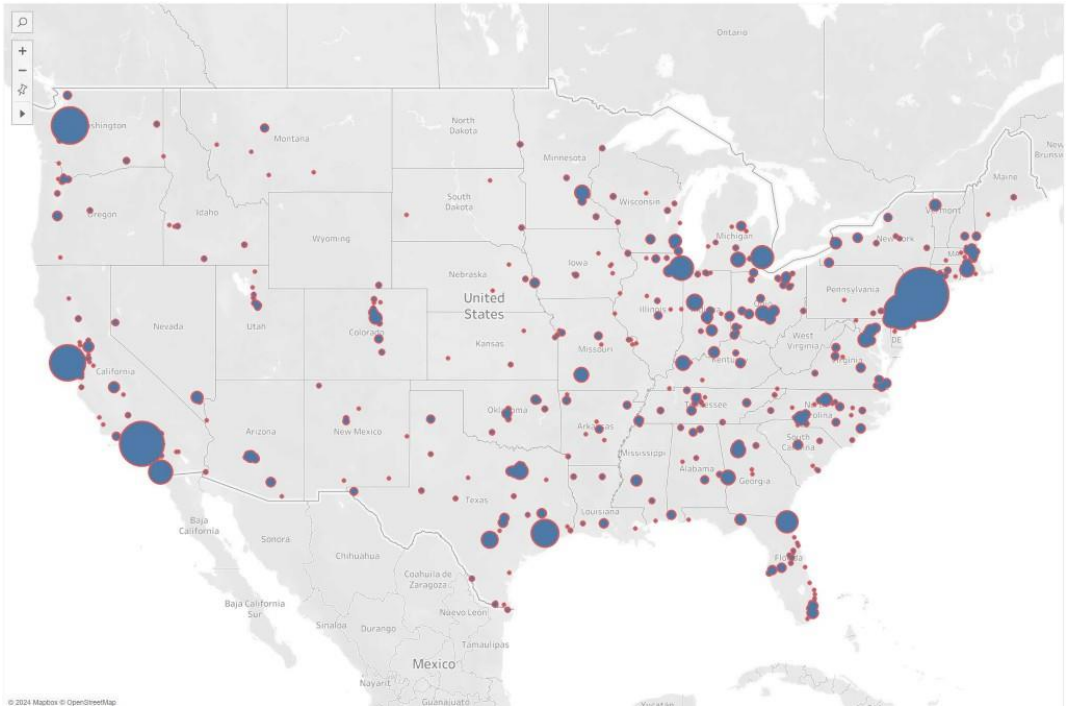


Figure 7.7: A map with halos

Figure 7.8: The pane showing areas where fonts are used

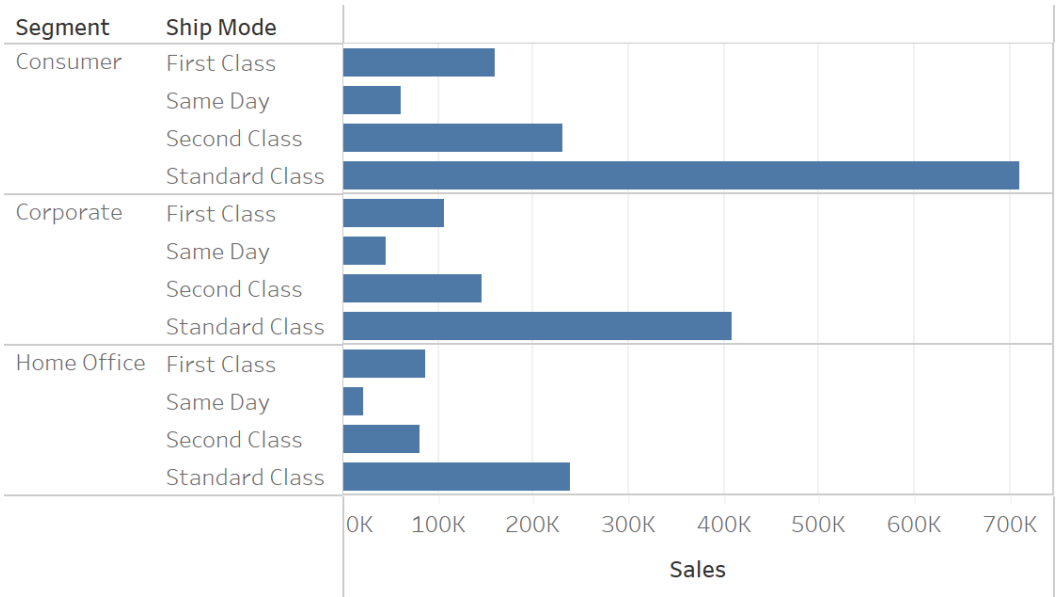


Figure 7.9: A chart with no text formatting

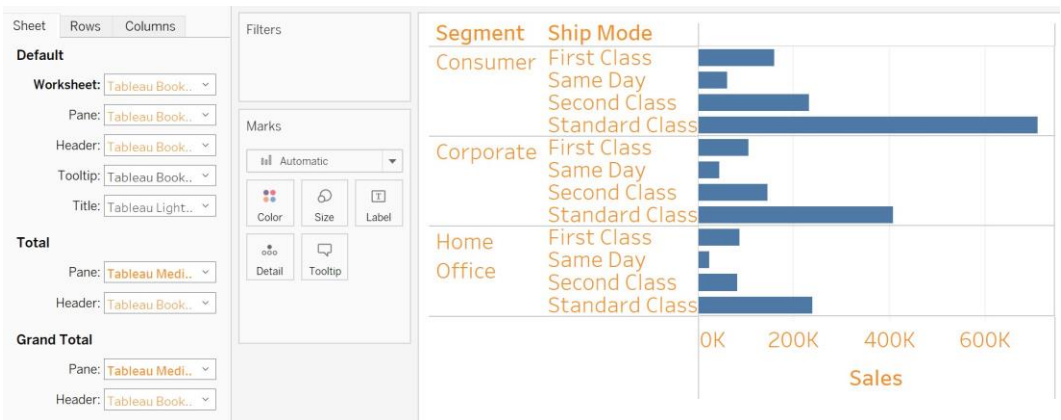


Figure 7.10: A chart with orange text and a larger font size

Figure 7.11: Take a look at the Pane option

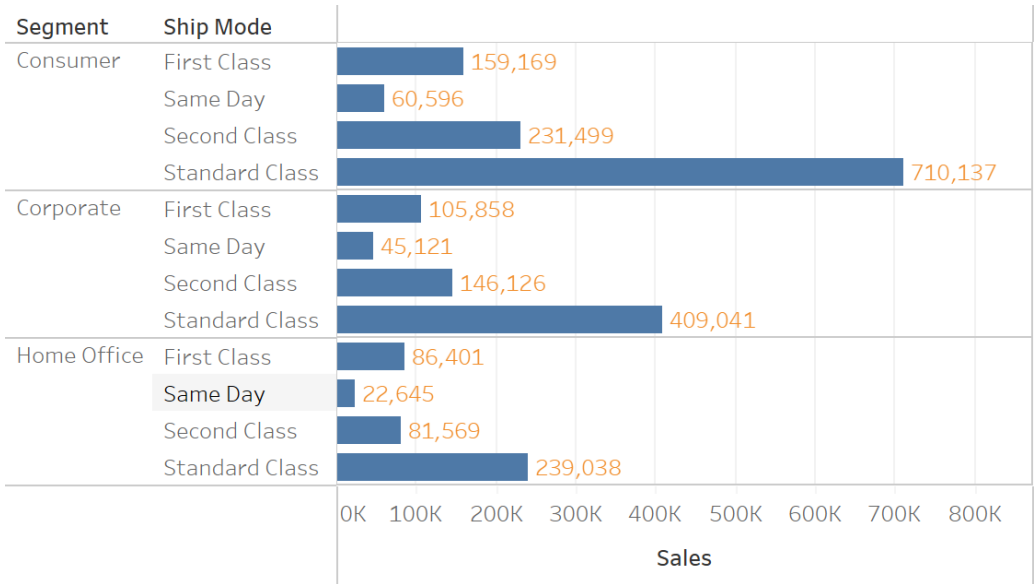


Figure 7.12: A color and size change to the text in the chart

Figure 7.13: Selecting the header

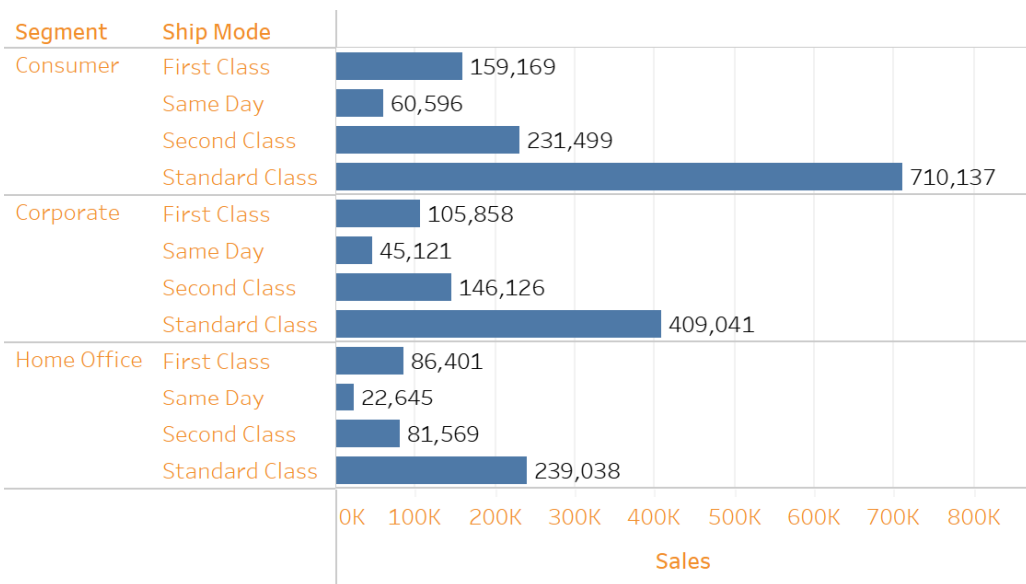


Figure 7.14: Color changes in the headers

Figure 7.15: Changing the tooltips

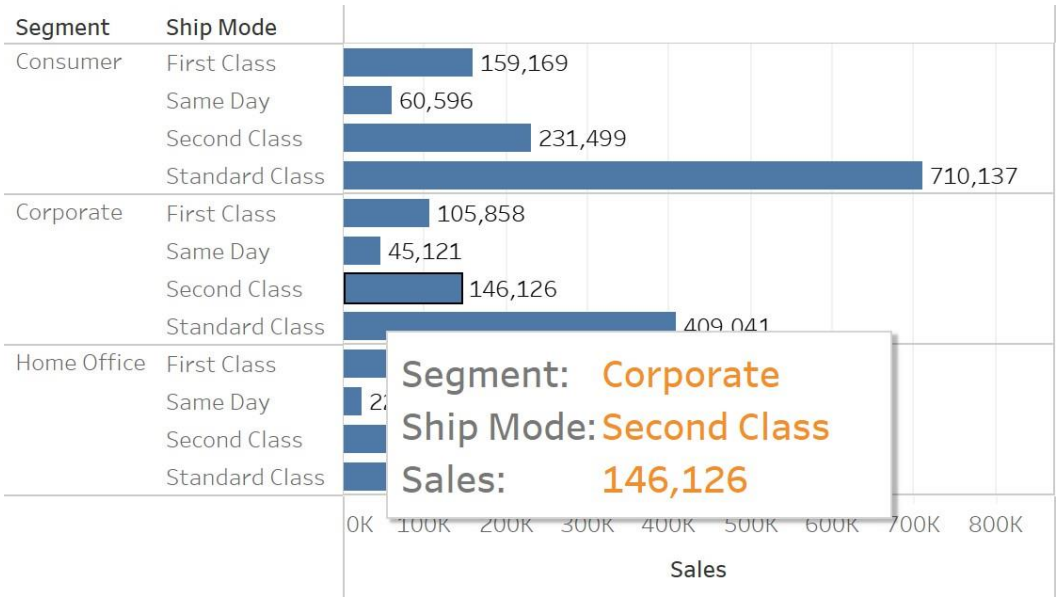


Figure 7.16: A tooltip color change

Figure 7.17: Updating the title of a worksheet

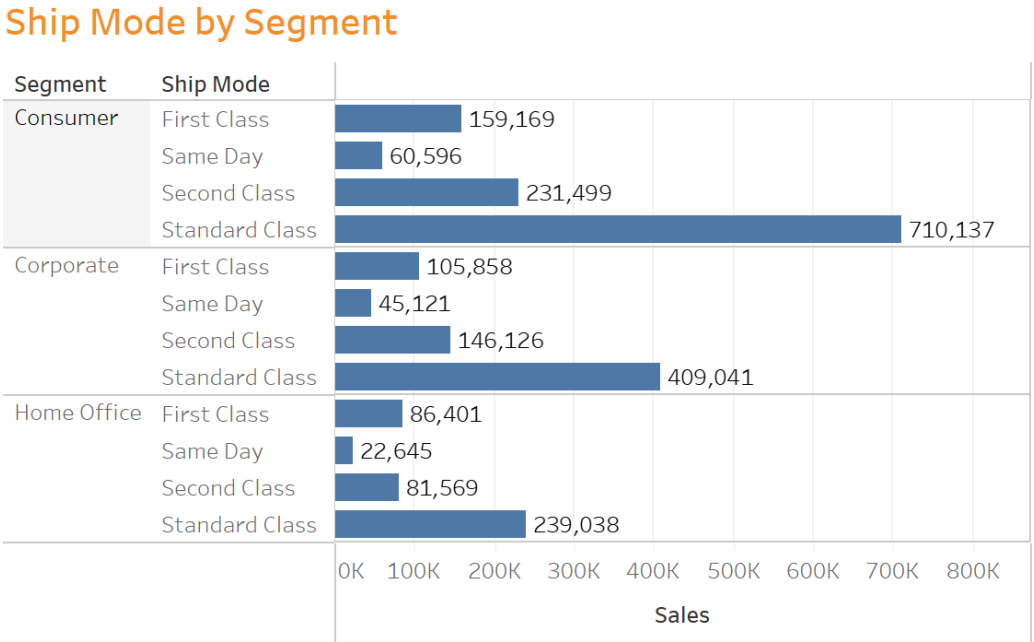


Figure 7.18: A title change

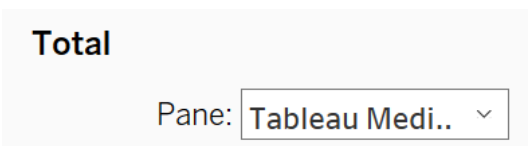


Figure 7.19: The Total pane

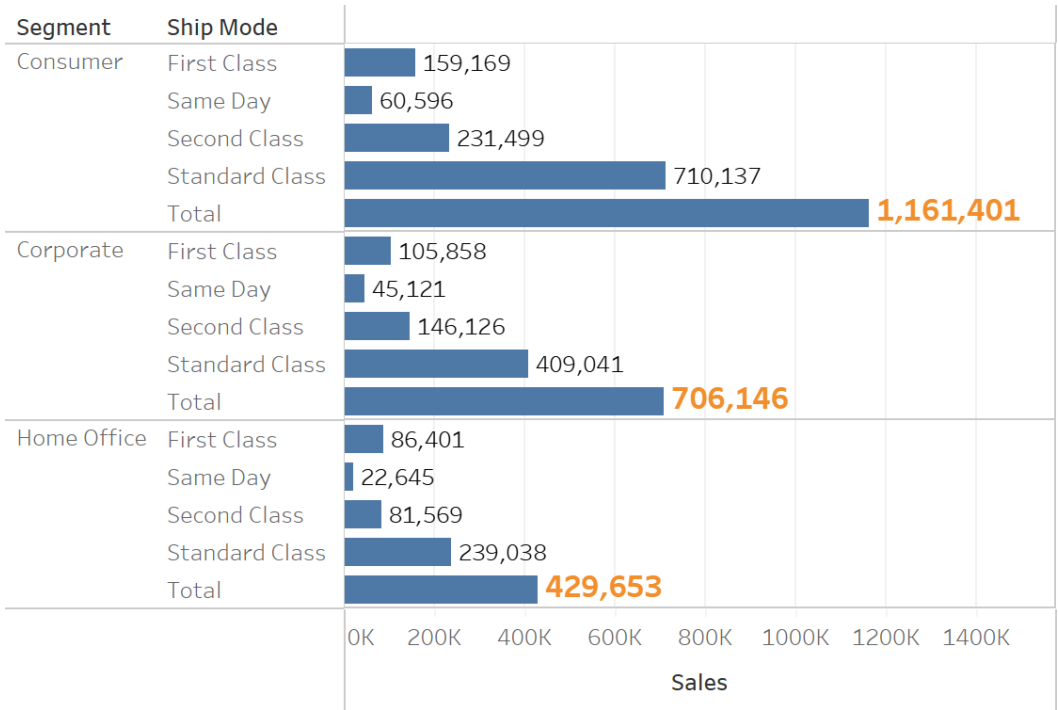


Figure 7.20: Total changes

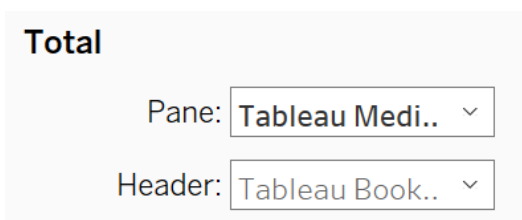


Figure 7.21: Making changes to Pane and Header

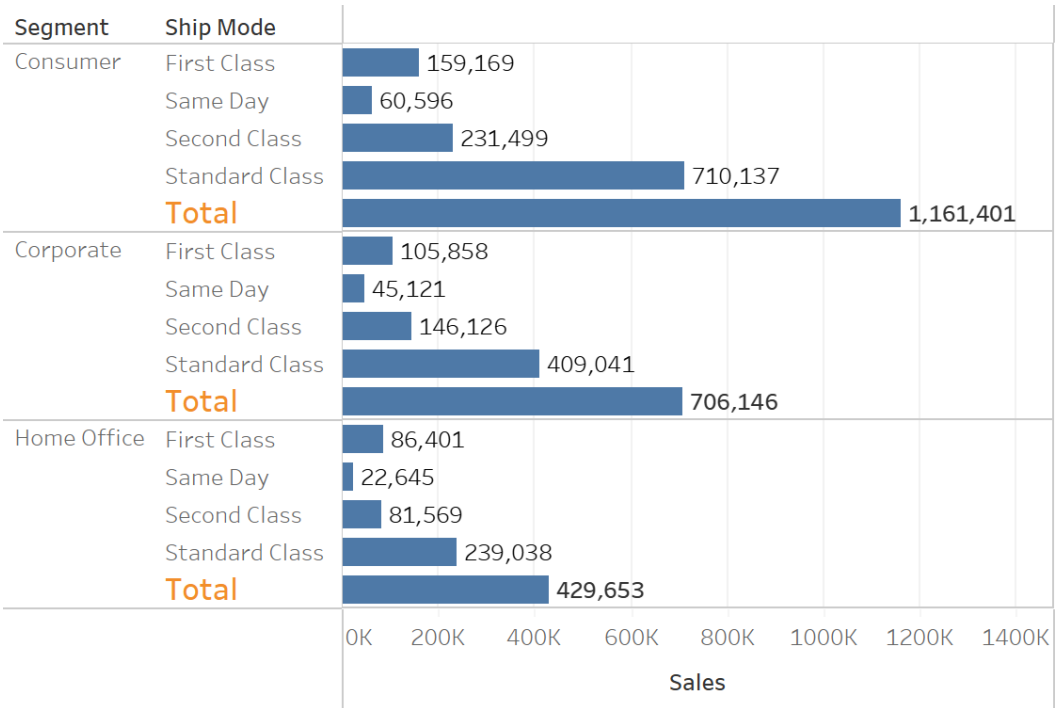


Figure 7.22: Total header updates

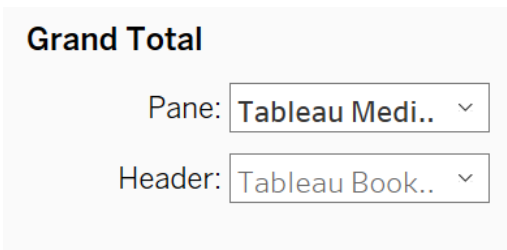


Figure 7.23: Using Grand Total

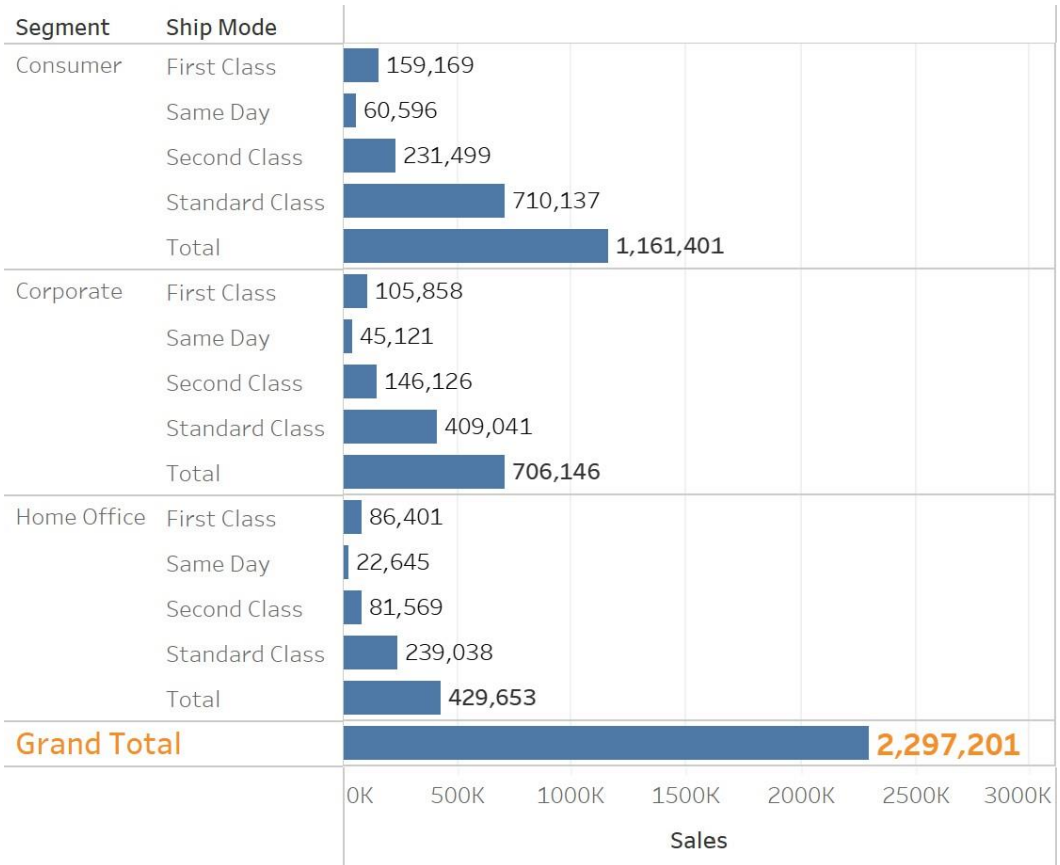


Figure 7.24: A Grand Total update

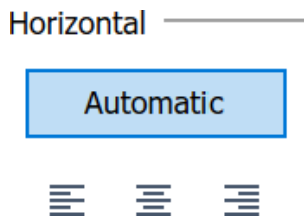


Figure 7.25: Changing alignment using Horizontal

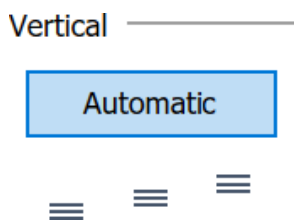


Figure 7.26: Changing alignment using Vertical

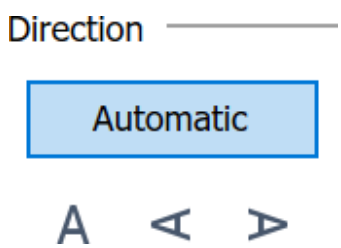


Figure 7.27: Changing alignment using Direction

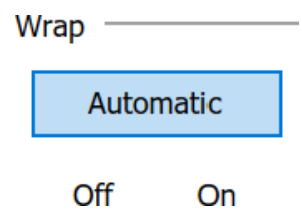


Figure 7.28: Changing alignment using Wrap

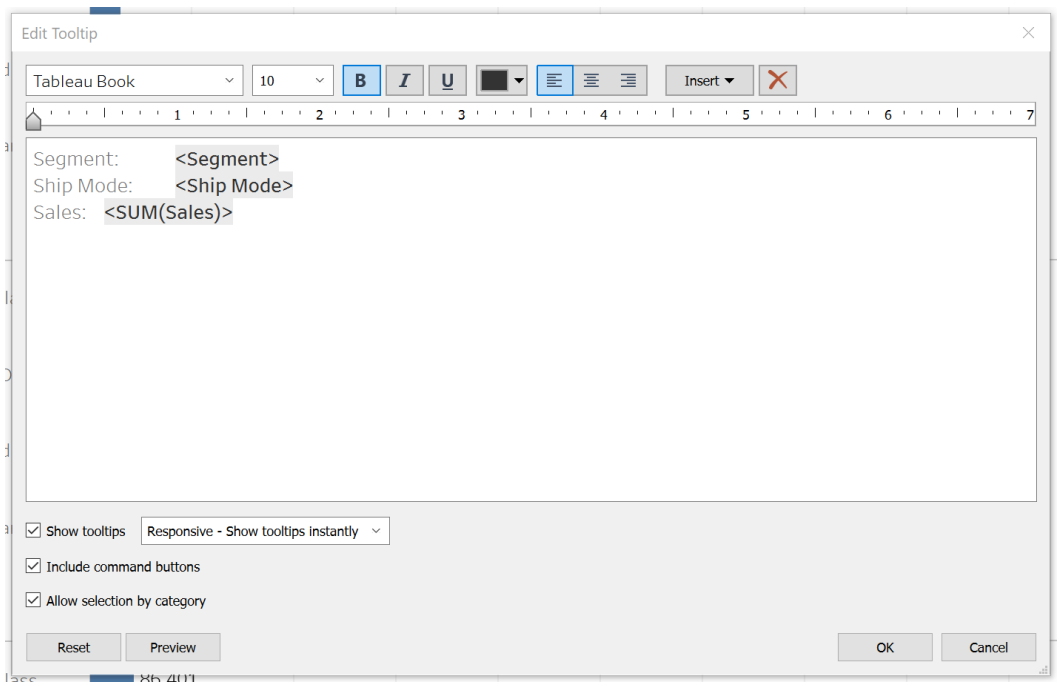


Figure 7.29: The tooltip editor

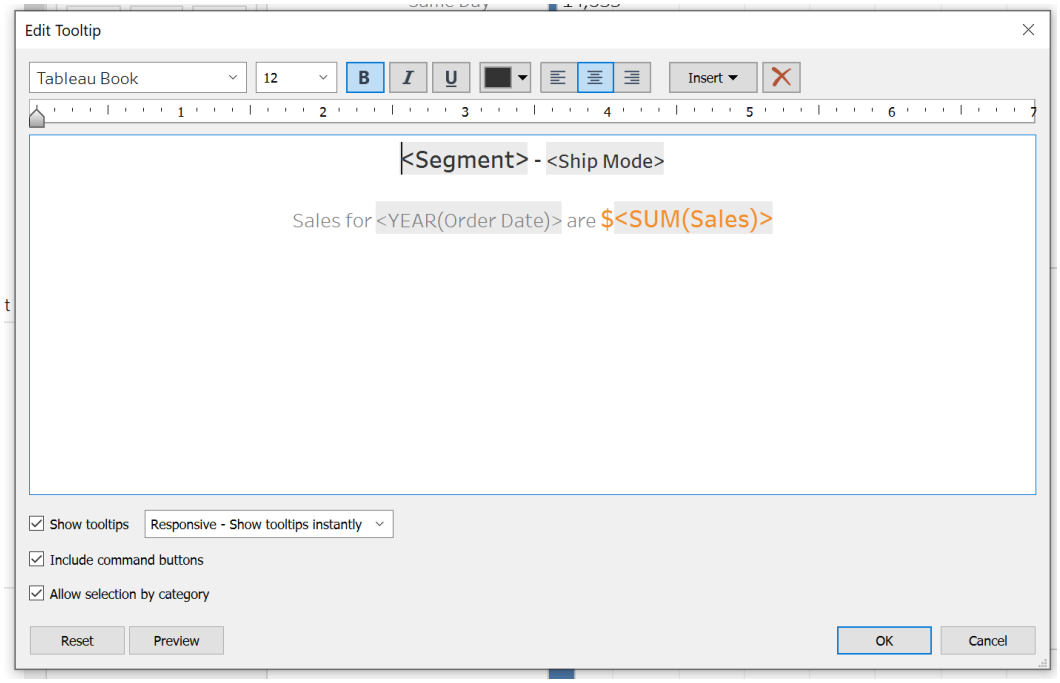


Figure 7.30: A tooltip example

Figure 7.31: The tooltip example result

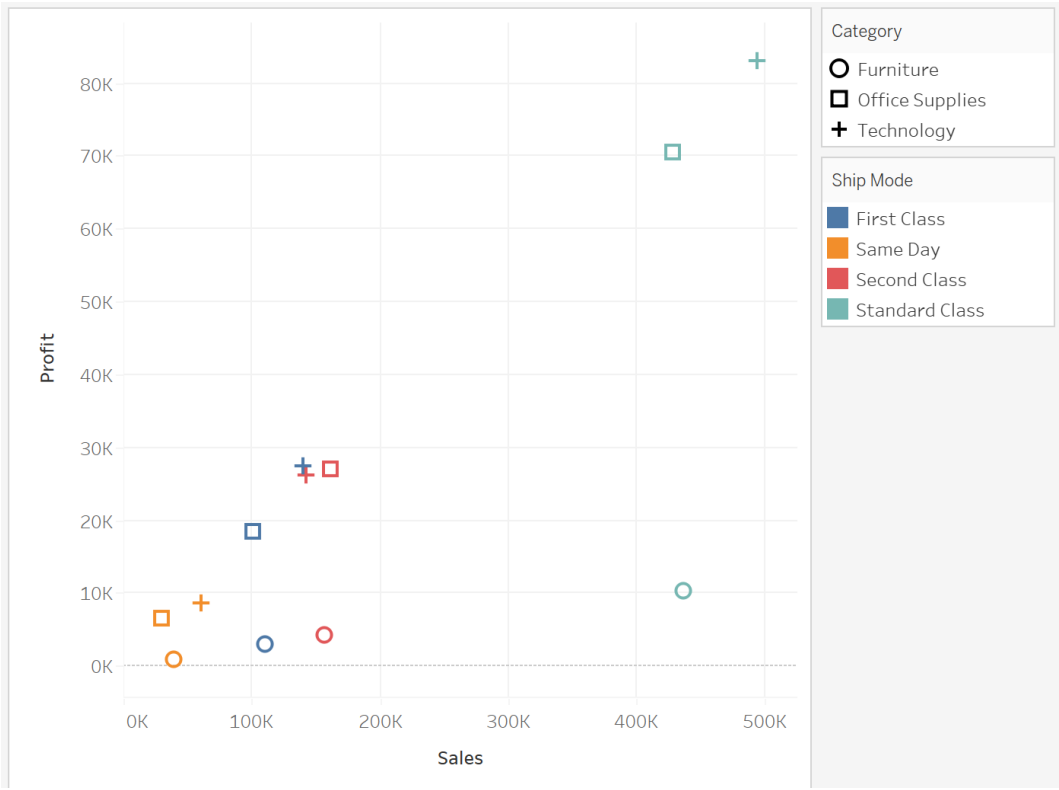


Figure 7.32: Shapes applied to a scatter graph

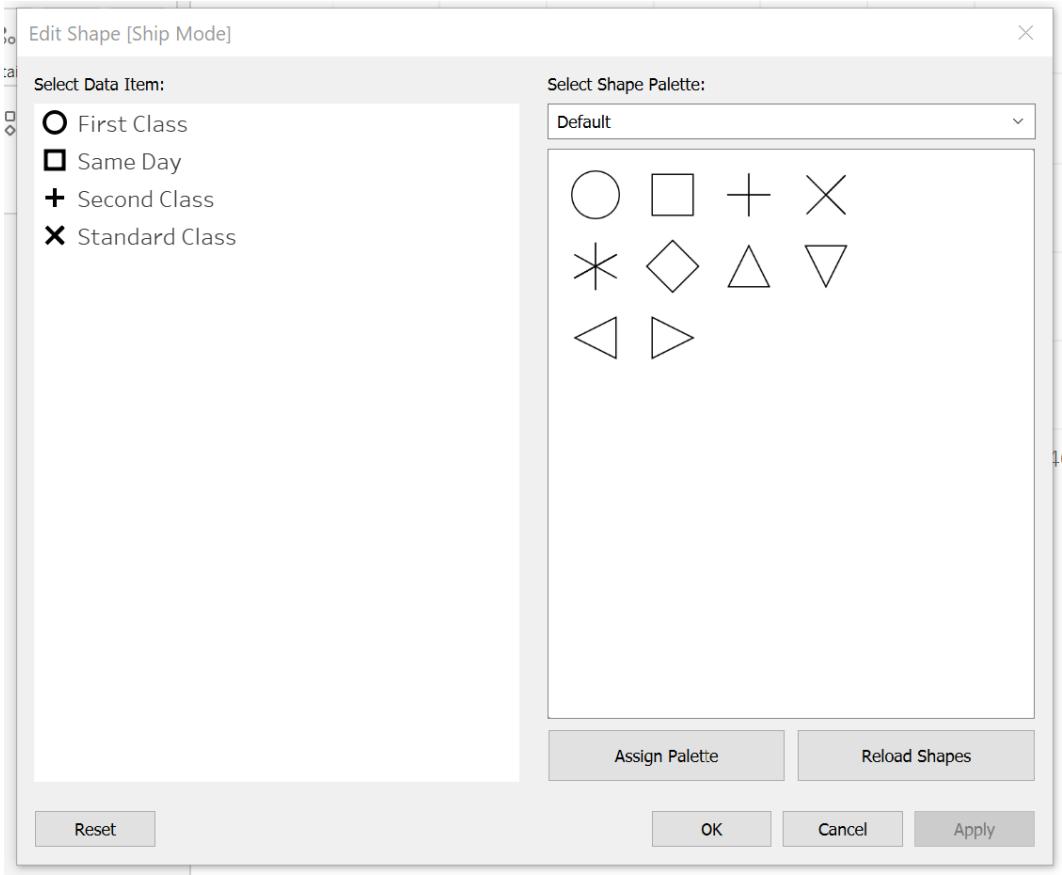


Figure 7.33: The shape editor in Tableau

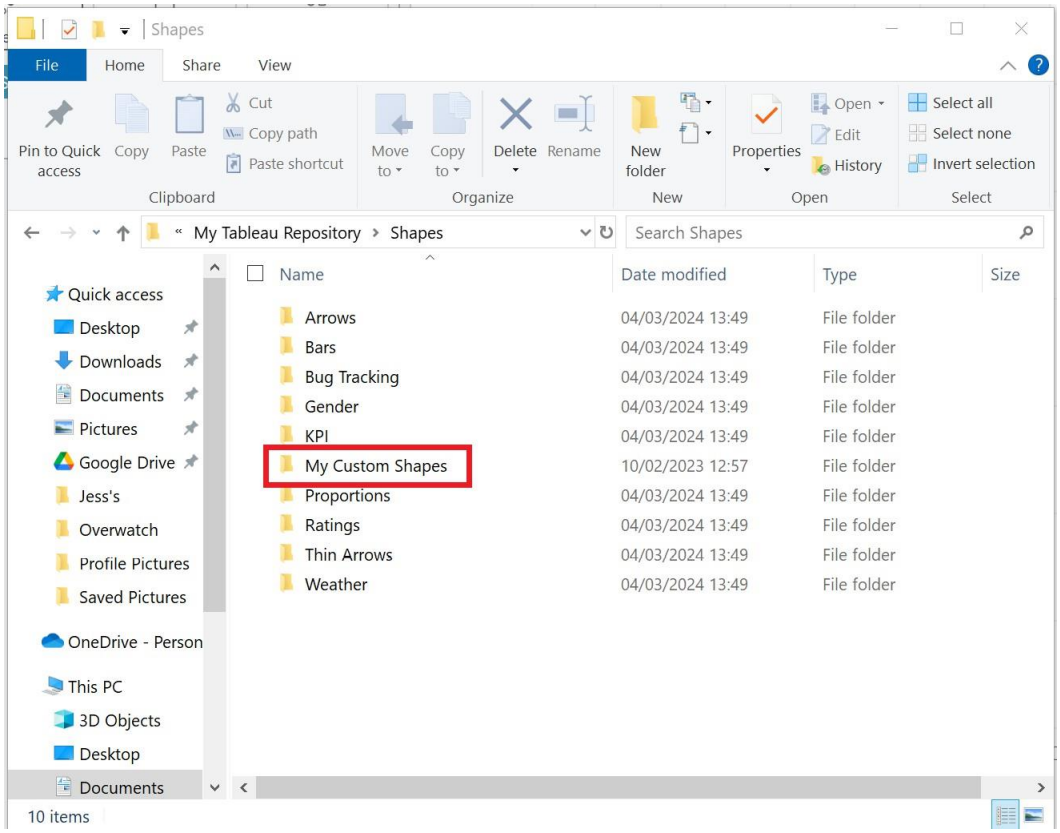


Figure 7.34: The file directory of the custom shapes folder

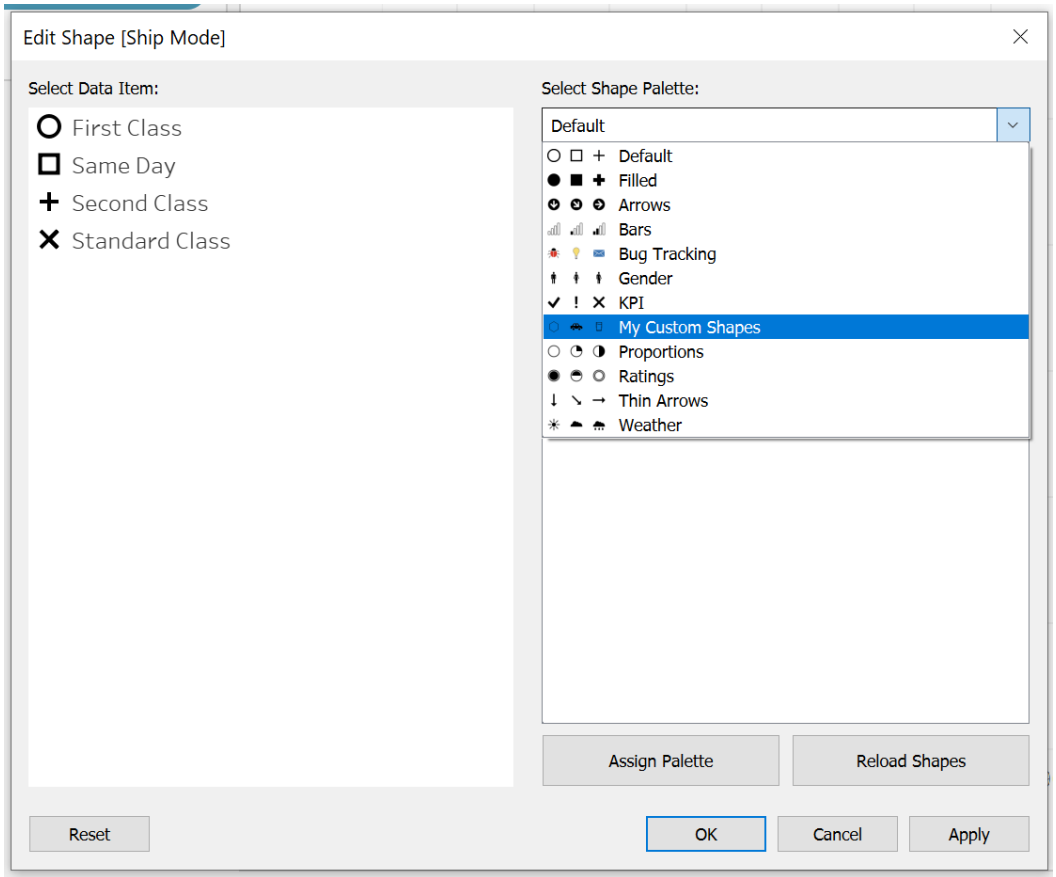


Figure 7.35: The result of the new custom shapes

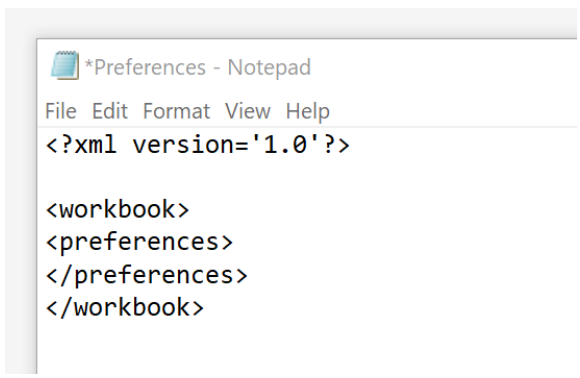


Figure 7.36: The preferences notepad

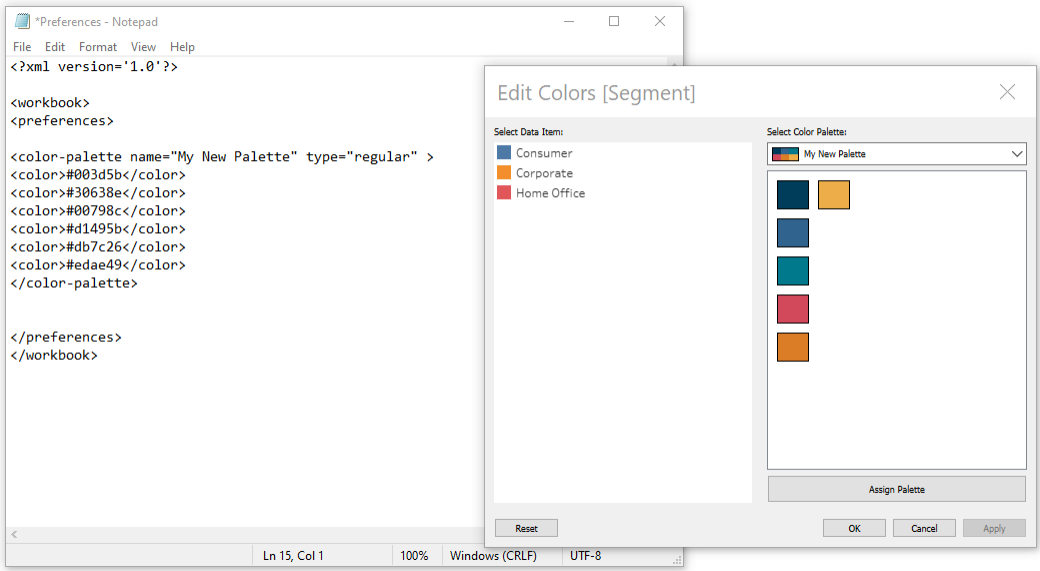


Figure 7.37: An example of a quantitative color palette and the Preferences text

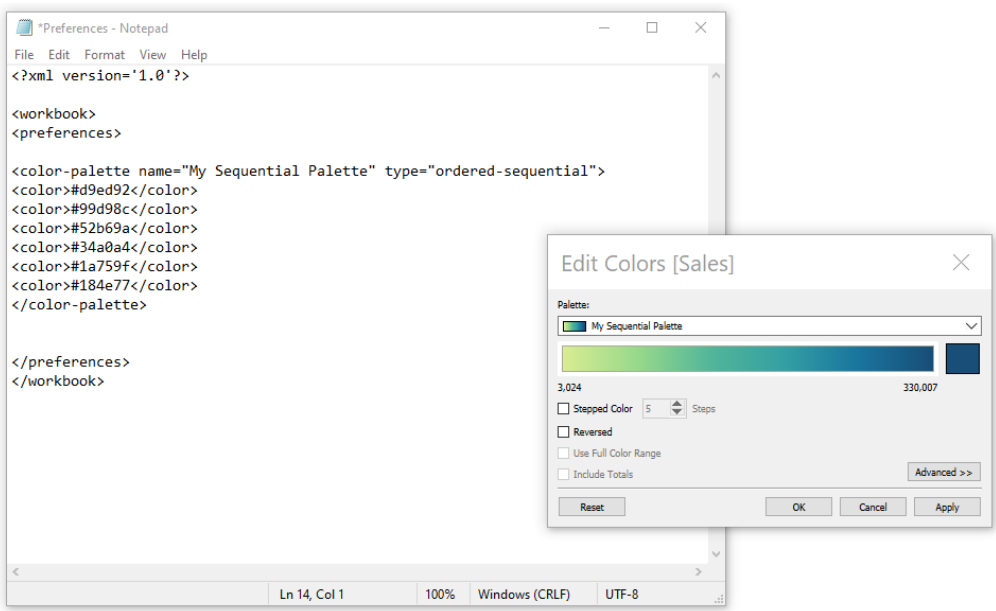


Figure 7.38: An example of a sequential color palette and the Preferences text

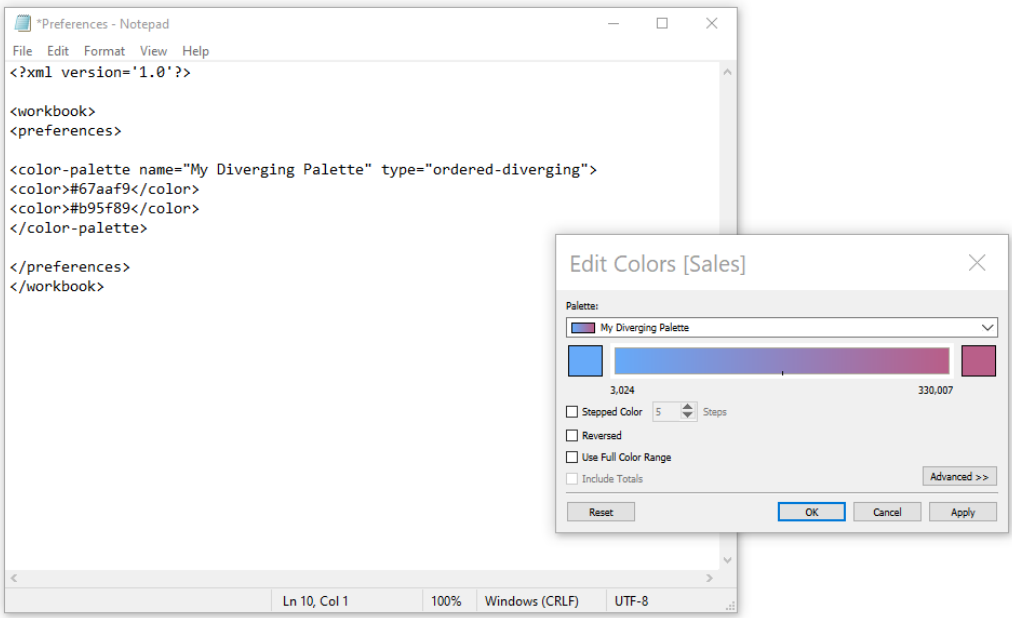


Figure 7.39: An example of a diverging color palette and the Preferences text

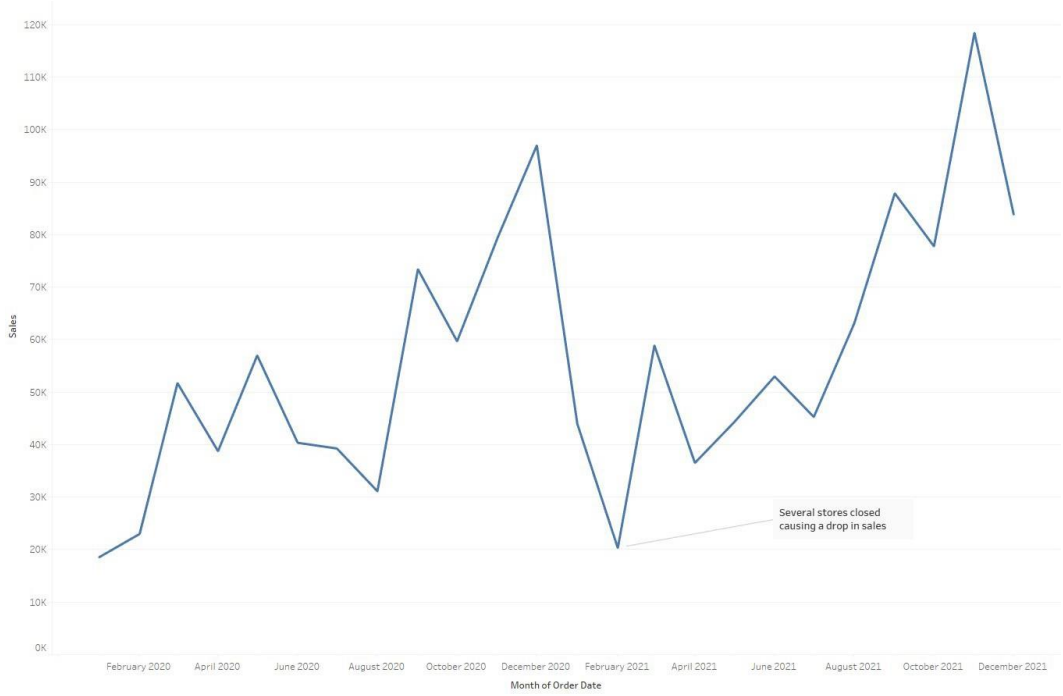


Figure 7.40: An example of an annotation in a chart

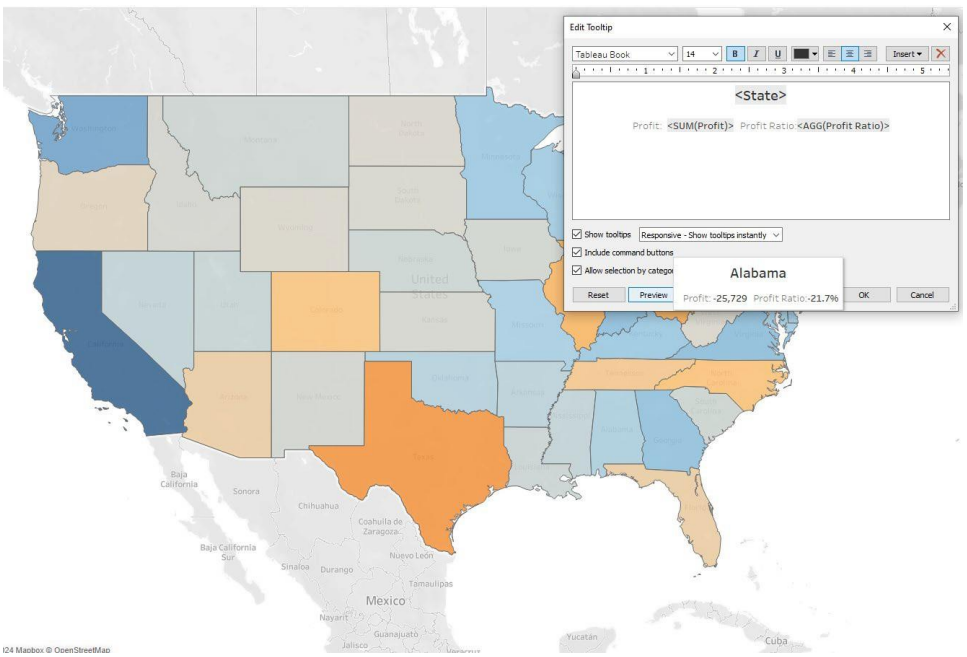


Figure 7.41: The tooltip editor and preview

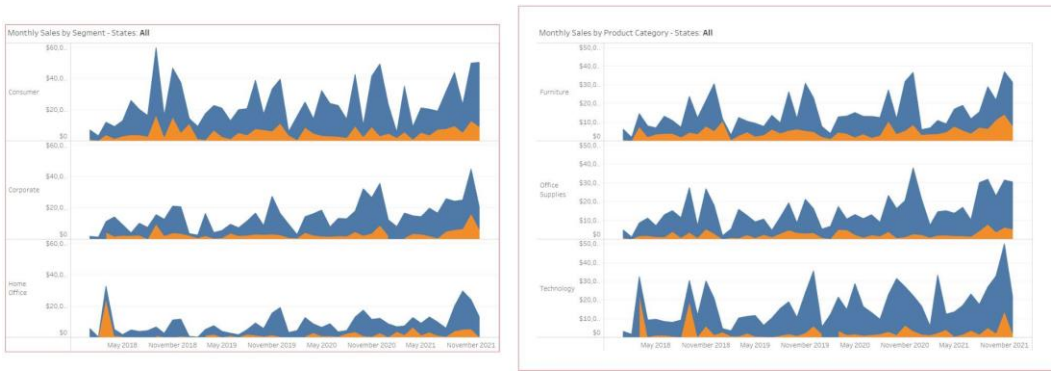


Figure 7.42: Examples of outer and inner padding

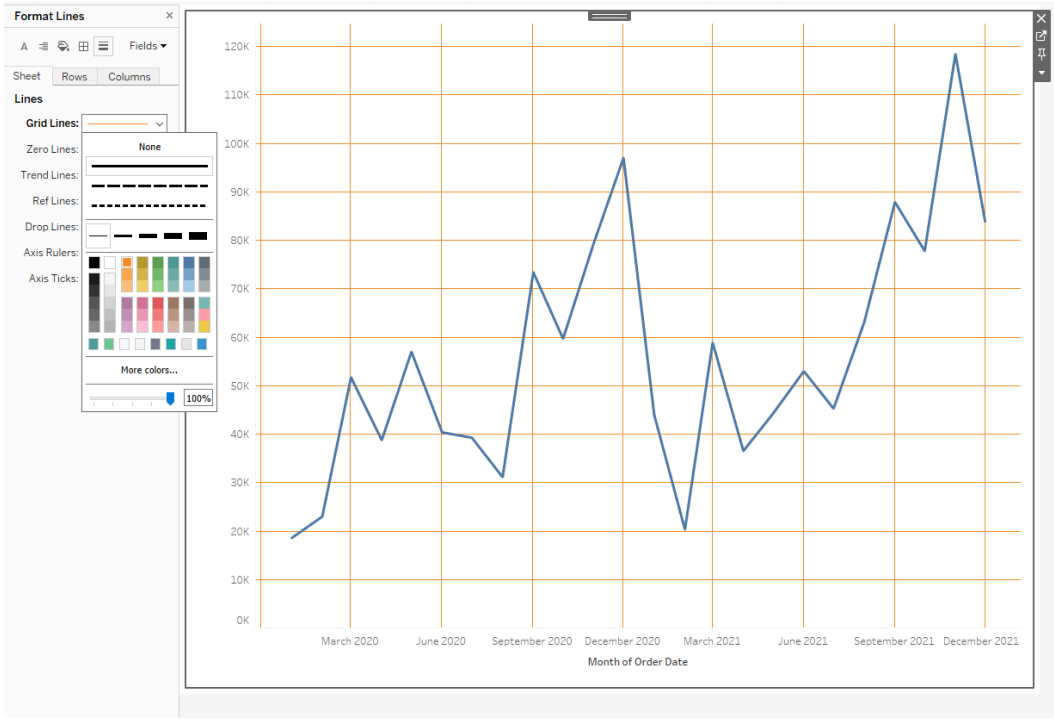


Figure 7.43: The gridlines changed to orange

State	Profit	Sales
Connecticut	3,511	13,384
Delaware	9,977	27,451
District of Colu..	1,060	2,865
Illinois	-12,608	80,166
Indiana	18,383	53,555
Iowa	1,184	4,580
Kansas	836	2,914
Maine	454	1,271
Maryland	7,031	23,706
Massachusetts	6,786	28,634
Michigan	24,463	76,270
Minnesota	10,823	29,863
Missouri	6,436	22,205
Nebraska	2,037	7,465
New Hampshire	1,707	7,293
New Jersey	9,773	35,764
New York	74,039	310,876
North Dakota	230	920
Ohio	-16,971	78,258
Oklahoma	4,854	19,683
Pennsylvania	-15,560	116,512
Rhode Island	7,286	22,628
South Dakota	395	1,316
Texas	-25,729	170,188
Vermont	2,245	8,929
West Virginia	186	1,210
Wisconsin	8,402	32,115

State	Profit	Sales
Connecticut	3,511	13,384
Delaware	9,977	27,451
District of Columbia	1,060	2,865
Illinois	-12,608	80,166
Indiana	18,383	53,555
Iowa	1,184	4,580
Kansas	836	2,914
Maine	454	1,271
Maryland	7,031	23,706
Massachusetts	6,786	28,634
Michigan	24,463	76,270
Minnesota	10,823	29,863
Missouri	6,436	22,205
Nebraska	2,037	7,465
New Hampshire	1,707	7,293
New Jersey	9,773	35,764
New York	74,039	310,876
North Dakota	230	920
Ohio	-16,971	78,258
Oklahoma	4,854	19,683
Pennsylvania	-15,560	116,512
Rhode Island	7,286	22,628
South Dakota	395	1,316
Texas	-25,729	170,188
Vermont	2,245	8,929
West Virginia	186	1,210
Wisconsin	8,402	32,115

Figure 7.44: Before and after row banding

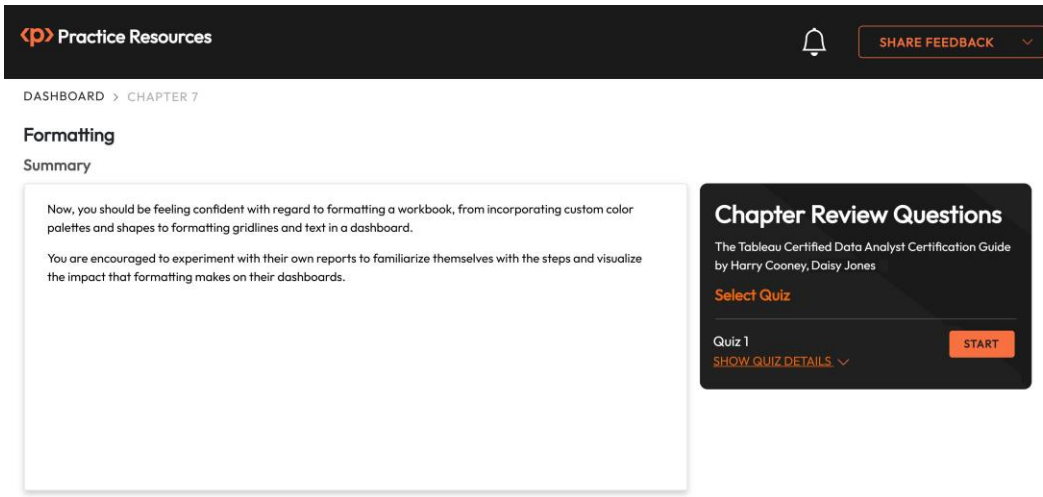


Figure 7.46 – Chapter Review Questions for Chapter 7

8

Publishing and Managing Content

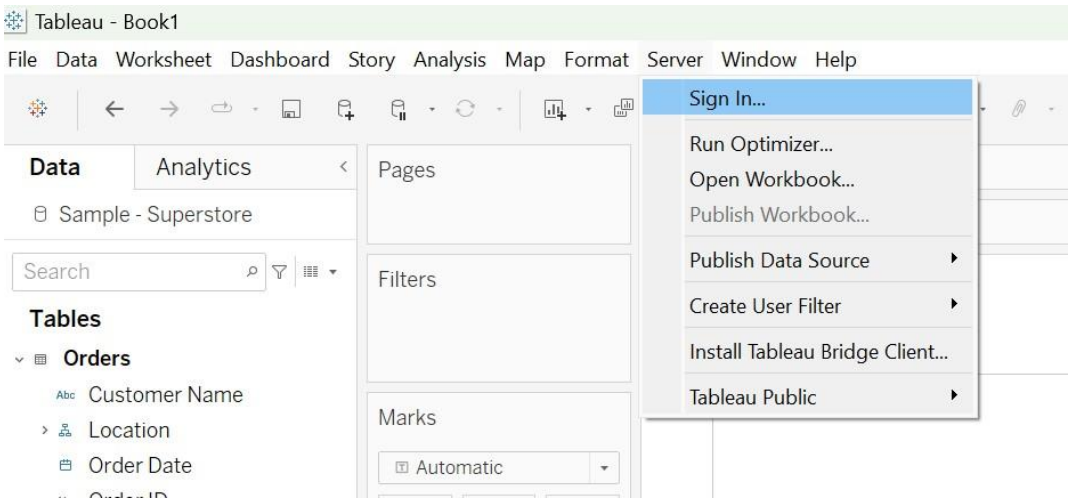


Figure 8.1: The Tableau Desktop Server Sign In... location

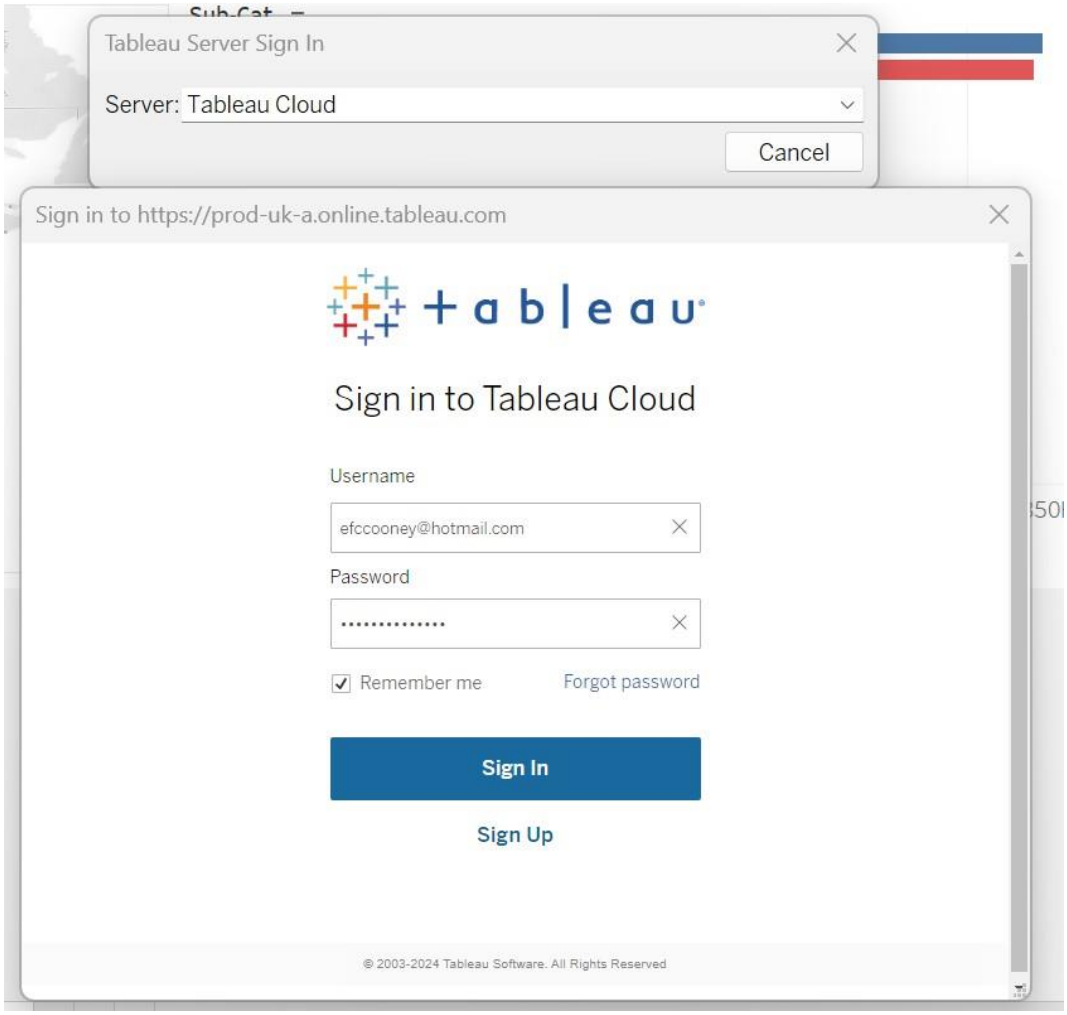


Figure 8.2: The Tableau Server Sign In pop-up box and the subsequent Sign in to Tableau Cloud popup

Figure 8.3: A workbook called Superstore already exists in the Samples project - publishing the workbook will overwrite the existing Superstore workbook on the Tableau site

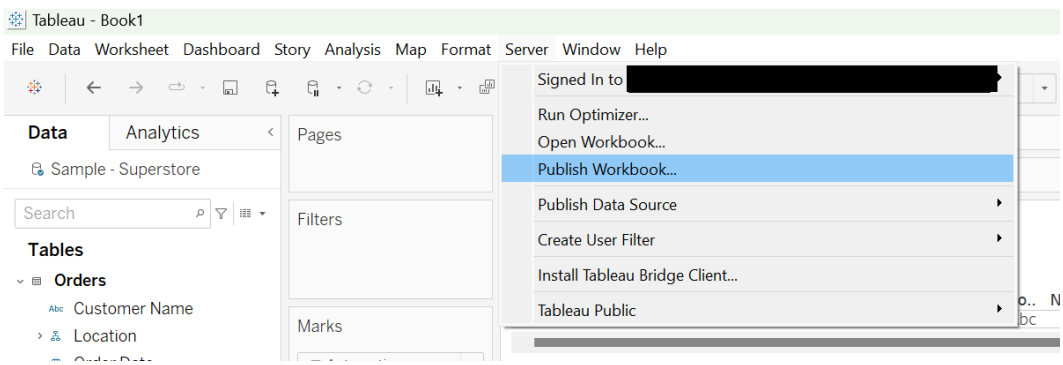


Figure 8.4: The Publish Workbook... menu option

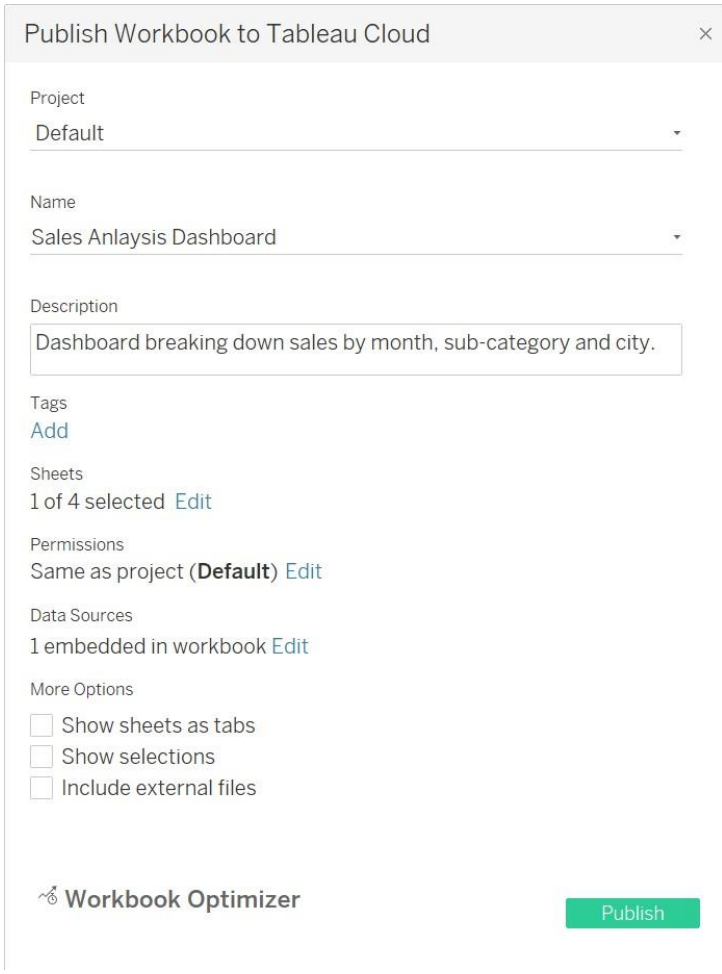


Figure 8.5: The Publish Workbook to Tableau Cloud configuration

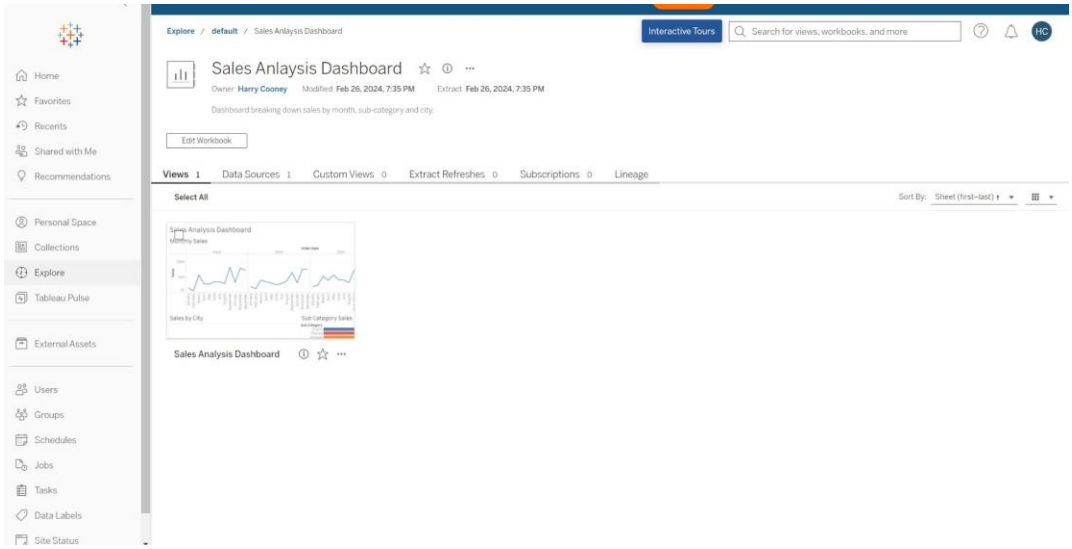


Figure 8.6: A Tableau workbook published to Tableau Cloud

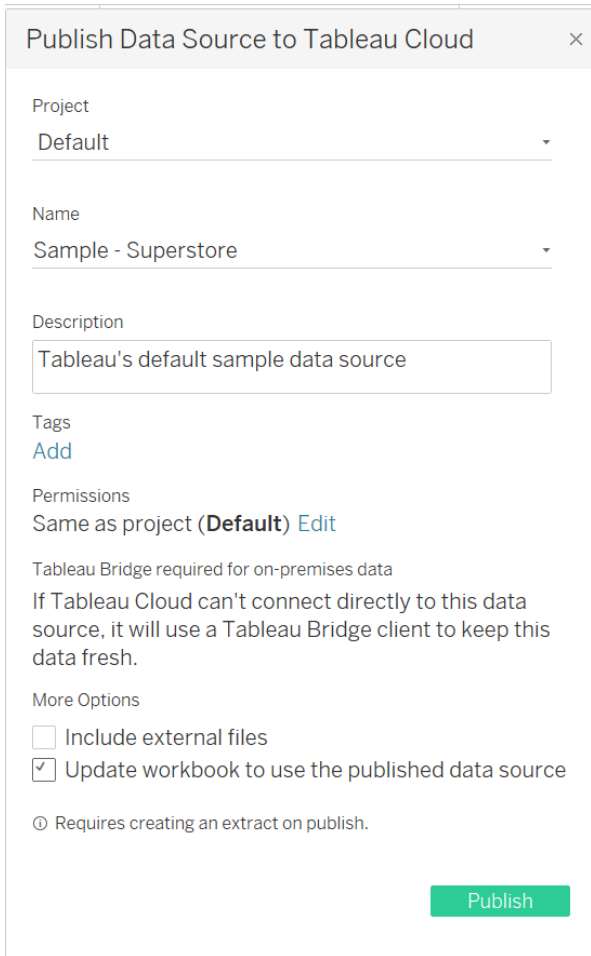


Figure 8.7: Publish data source configuration

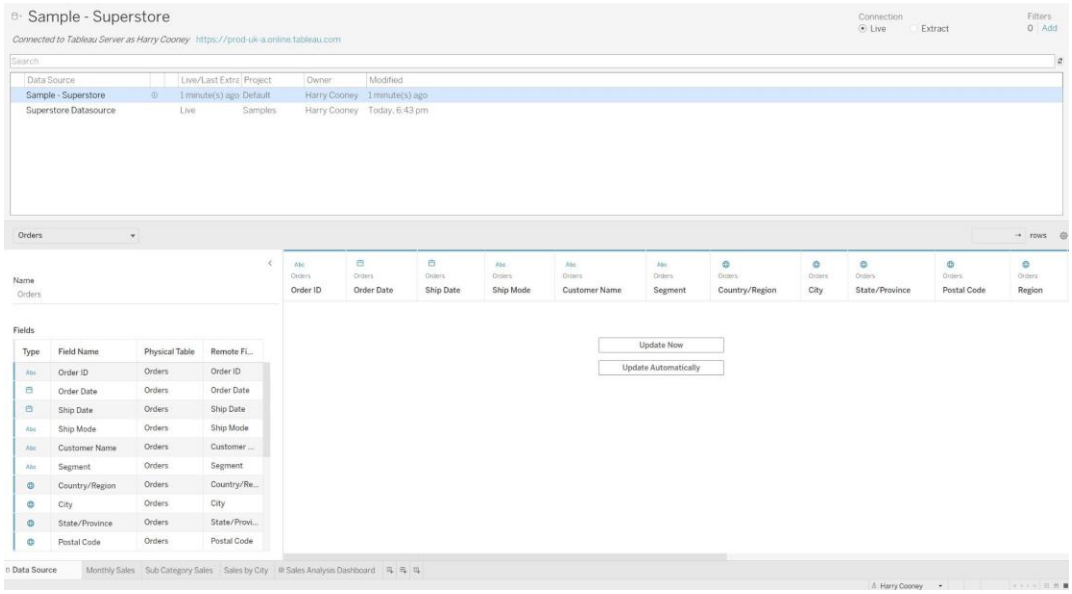


Figure 8.8: The Tableau data source has been published to the cloud site and the workbook data source has been updated to a connection to the published data source

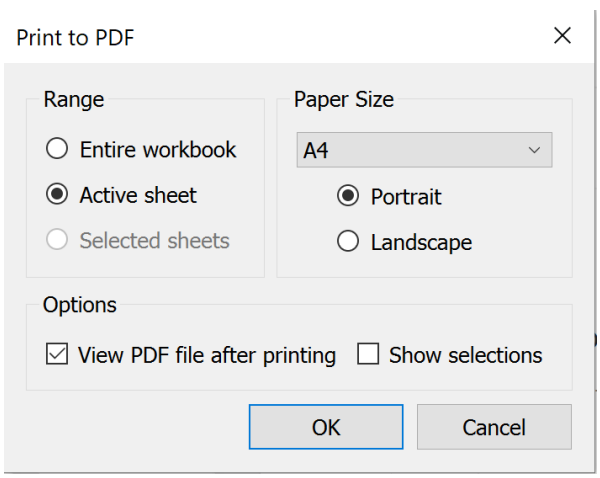


Figure 8.9: The Print to PDF configuration

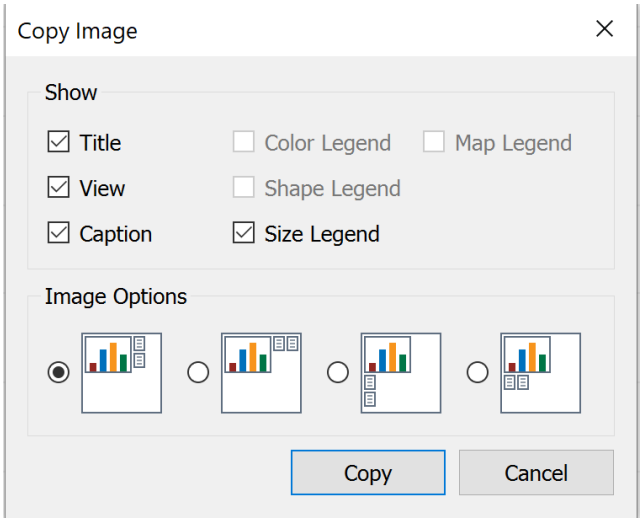


Figure 8.10: Copy image to clipboard configuration options

	A	B	C	D
1		Category		
2	Sub-Category	Furniture	Office Supplies	Technology
3	Chairs	335,768		
4	Phones			331,843
5	Storage		224,645	
6	Tables	208,020		
7	Binders		207,355	
8	Machines			189,925
9	Accessories			167,380
10	Copiers			150,745
11	Bookcases	115,361		
12	Appliances		108,213	
13	Furnishings	95,598		
14	Paper		79,541	
15	Supplies		46,725	
16	Art		27,659	
17	Envelopes		16,528	
18	Labels		12,695	
19	Fasteners		8,532	

Figure 8.11: Category and Sub-Category Sales cross-tabbed to Excel

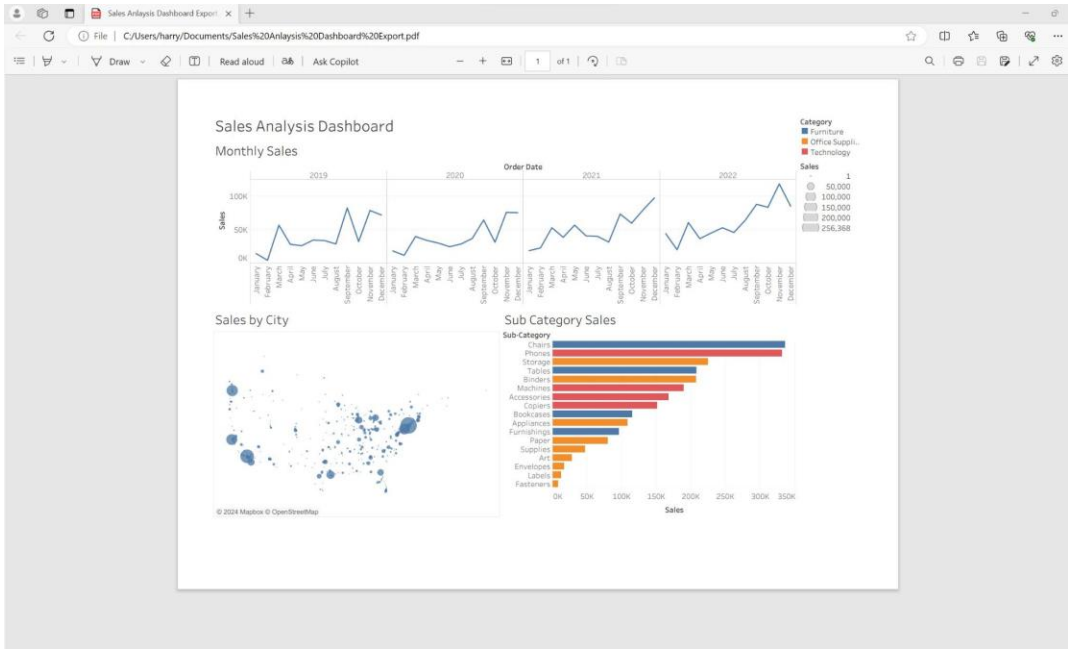


Figure 8.12: Tableau dashboard exported to PDF

	A	B	C	D
1		Category		
2	Sub-Category	Furniture	Office Supplies	Technology
3	Chairs	335,768		
4	Phones			331,843
5	Storage		224,645	
6	Tables	208,020		
7	Binders		207,355	
8	Machines			189,925
9	Accessories			167,380
10	Copiers			150,745
11	Bookcases	115,361		
12	Appliances		108,213	
13	Furnishings	95,598		
14	Paper		79,541	
15	Supplies		46,725	
16	Art		27,659	
17	Envelopes		16,528	
18	Labels		12,695	
19	Fasteners		8,532	

Figure 8.13: Sub-Category, Category, and Sales data crosstabbed to Excel

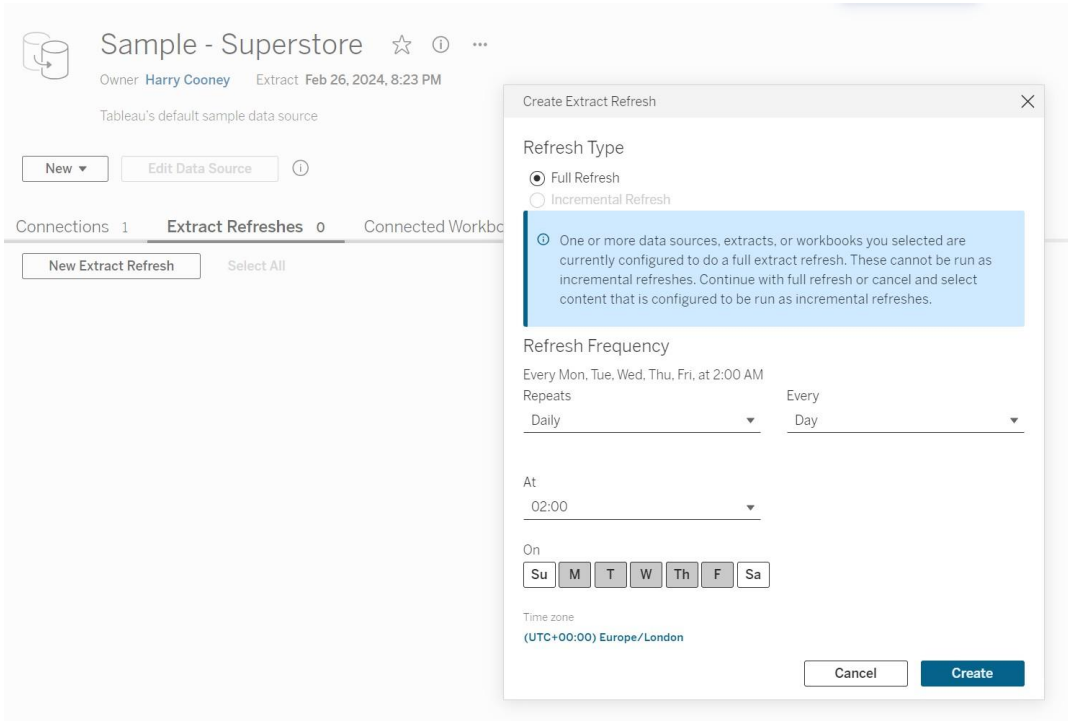


Figure 8.14: Extract refresh configured to update the data on weekdays at 2 a.m.

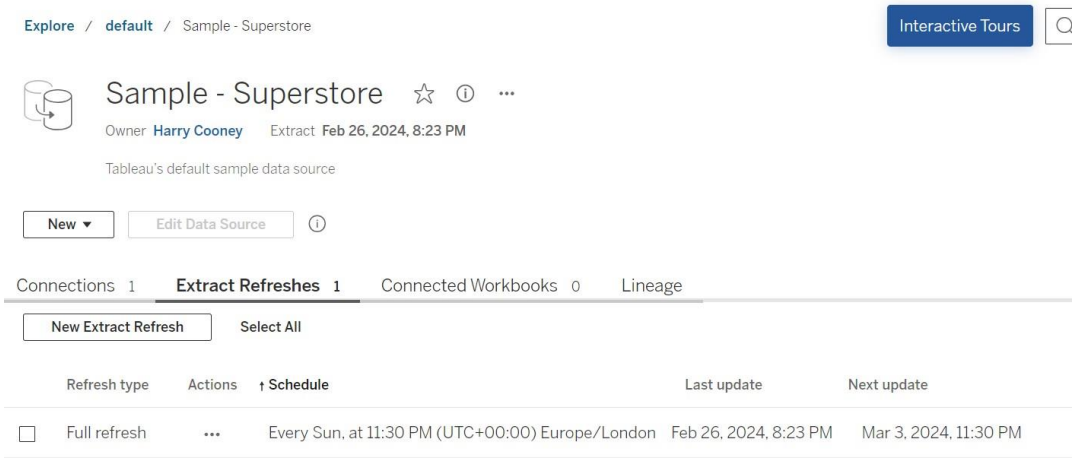


Figure 8.15: Extract refresh schedule created and configured in Tableau Cloud

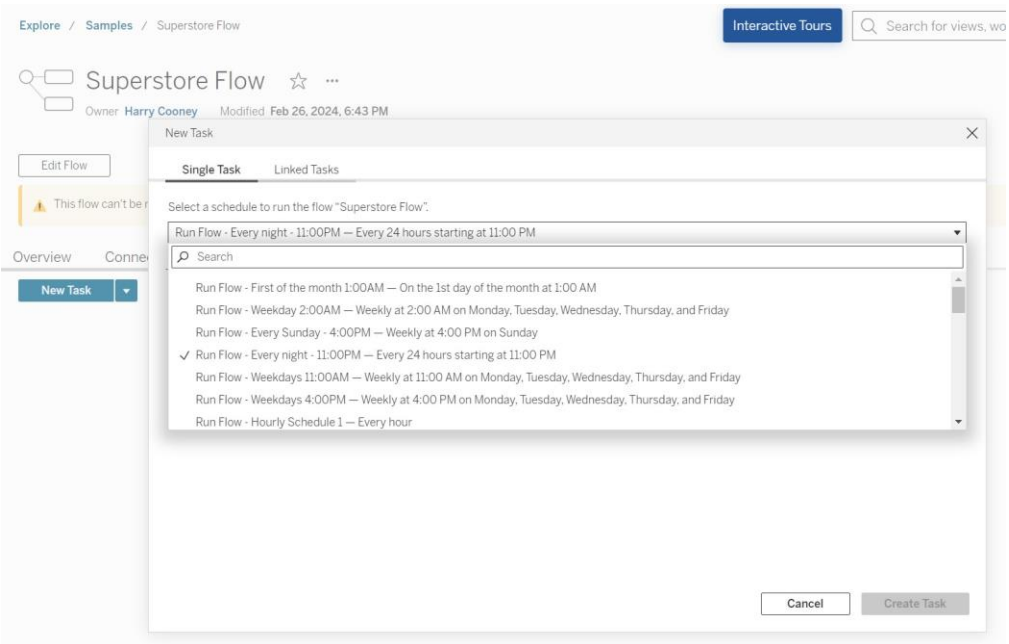


Figure 8.16: Adding a Tableau Prep flow scheduled task to run every night at 11 p.m.

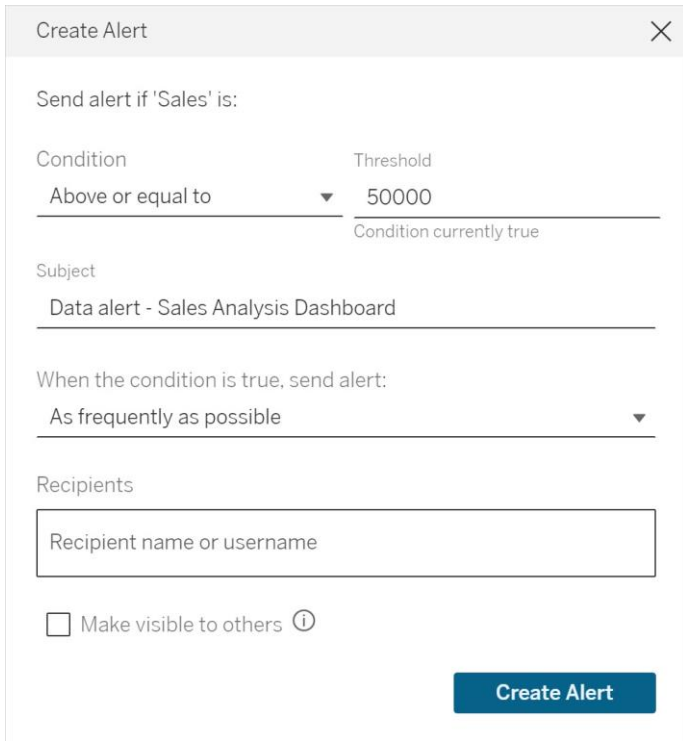


Figure 8.17: Alert configured to trigger as frequently as possible whenever monthly sales are over 50k

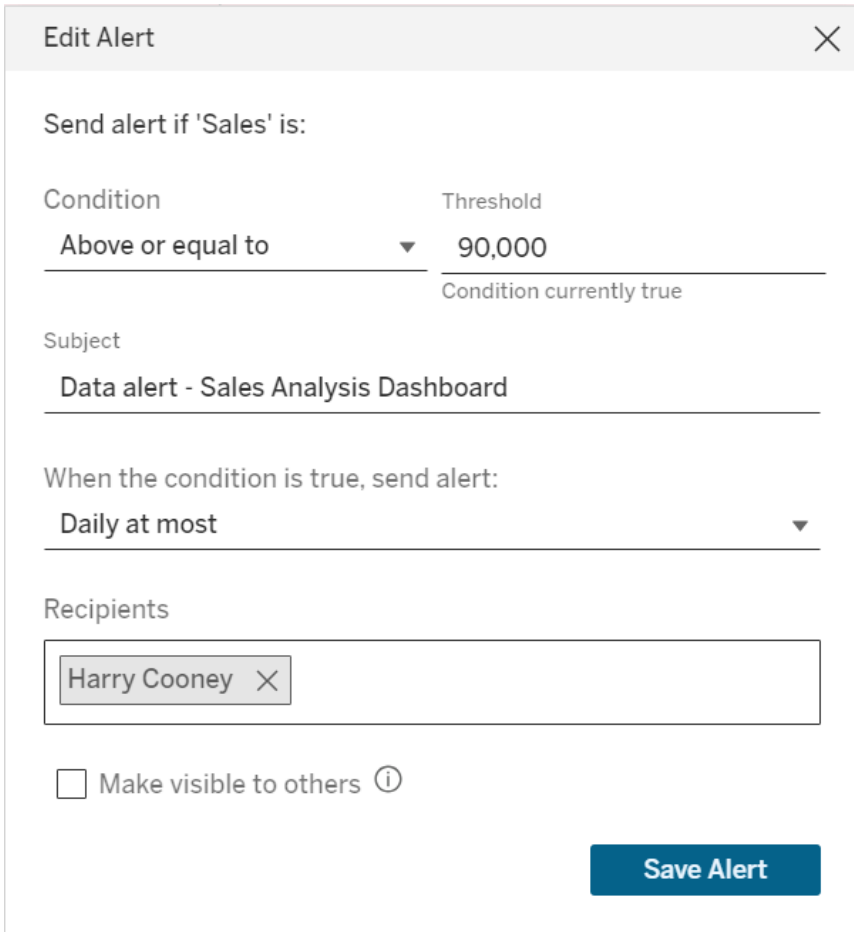


Figure 8.18: Alert configuration

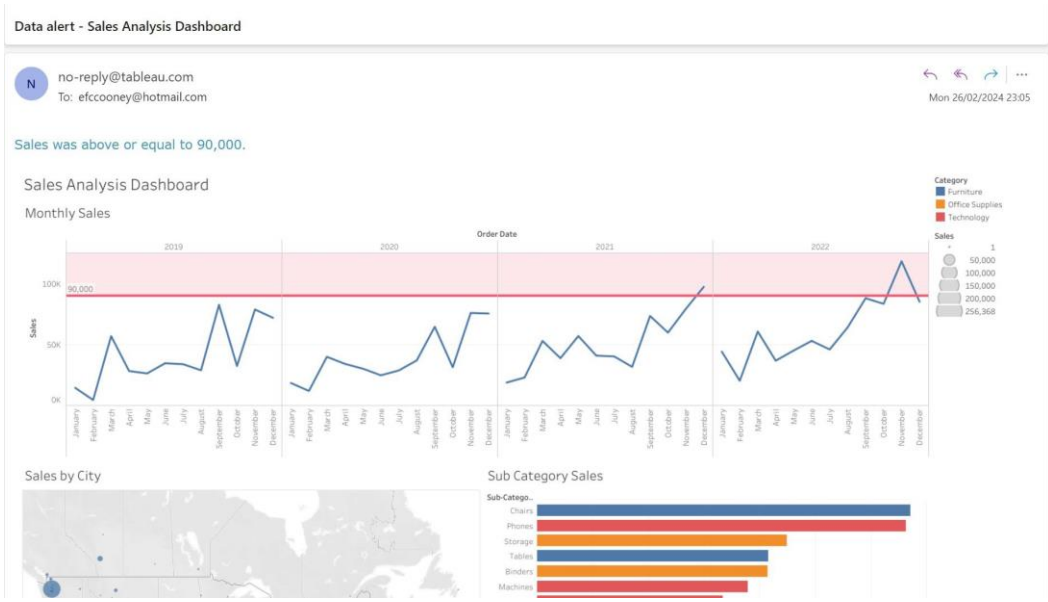


Figure 8.19: Data-driven alert created and email received

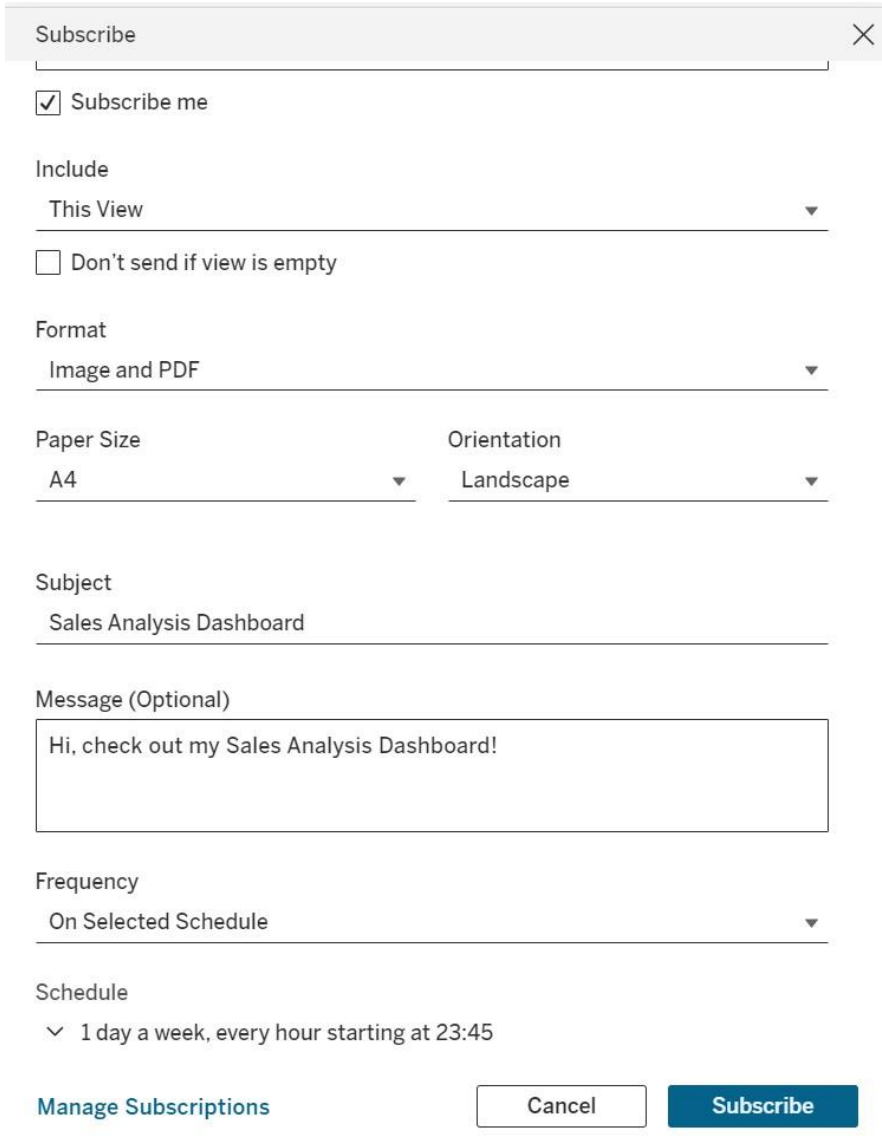


Figure 8.20: Subscription configuration

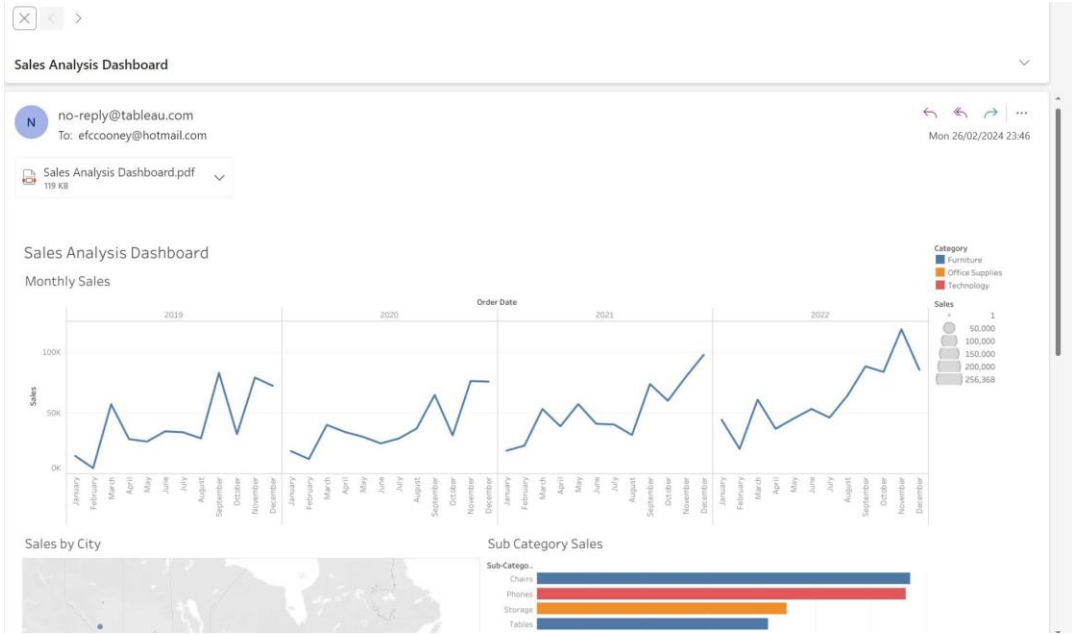


Figure 8.21: Subscription created and email received, containing both an image and PDF export

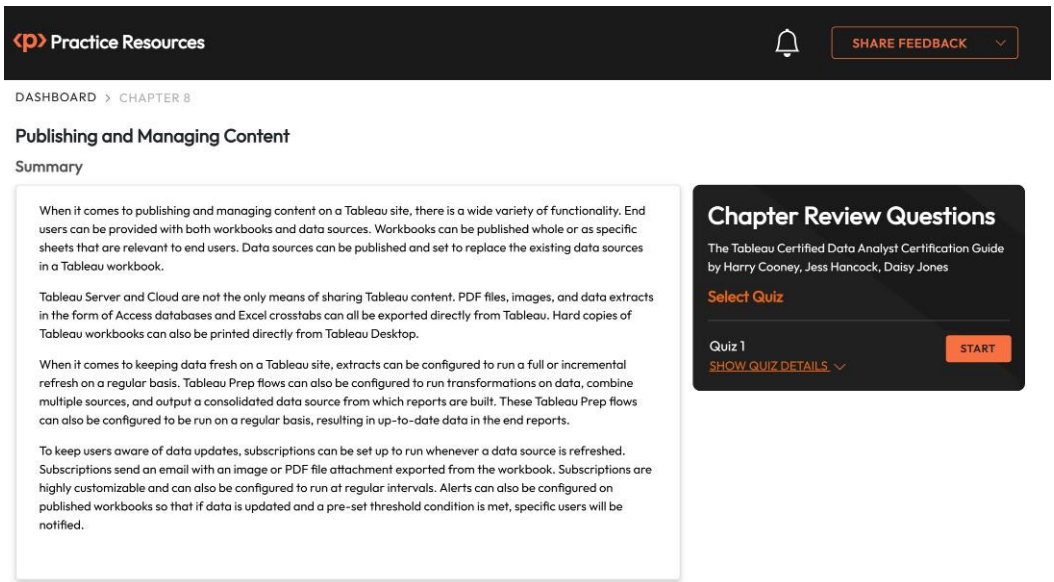


Figure 8.23 – Chapter Review Questions for Chapter 8

9

Accessing the Online Practice Resources

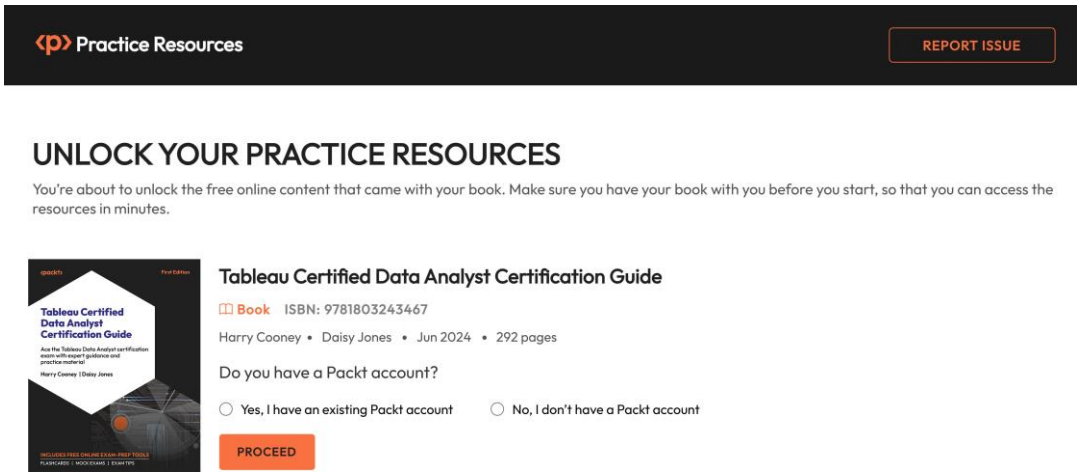


Figure 9.2 – Unlock page for the online practice resources

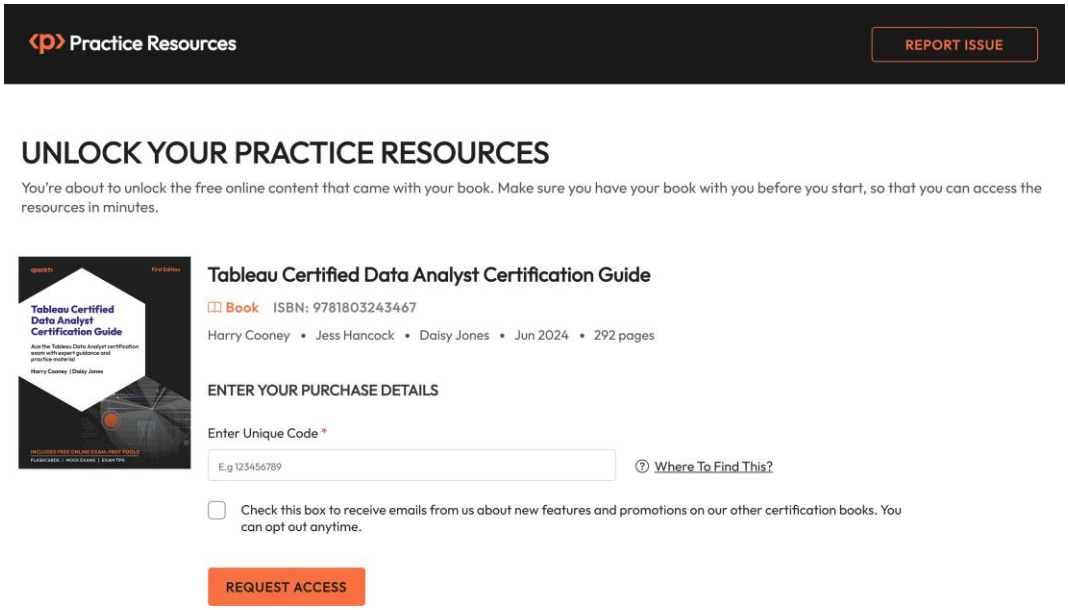


Figure 9.3 – Enter your unique sign-up code to unlock the resources

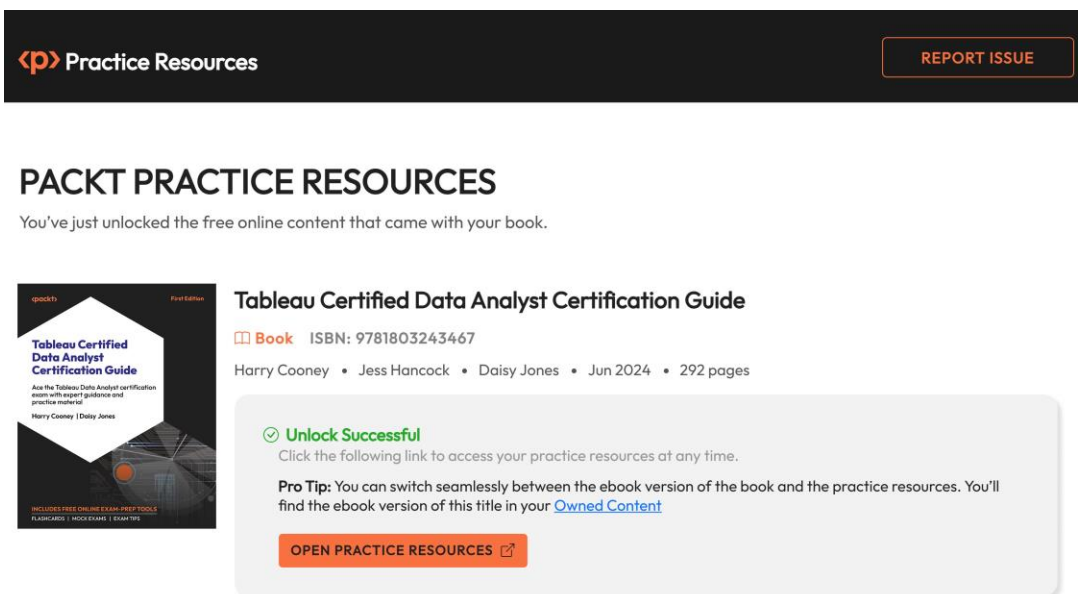


Figure 9.4 – Page that shows up after a successful unlock

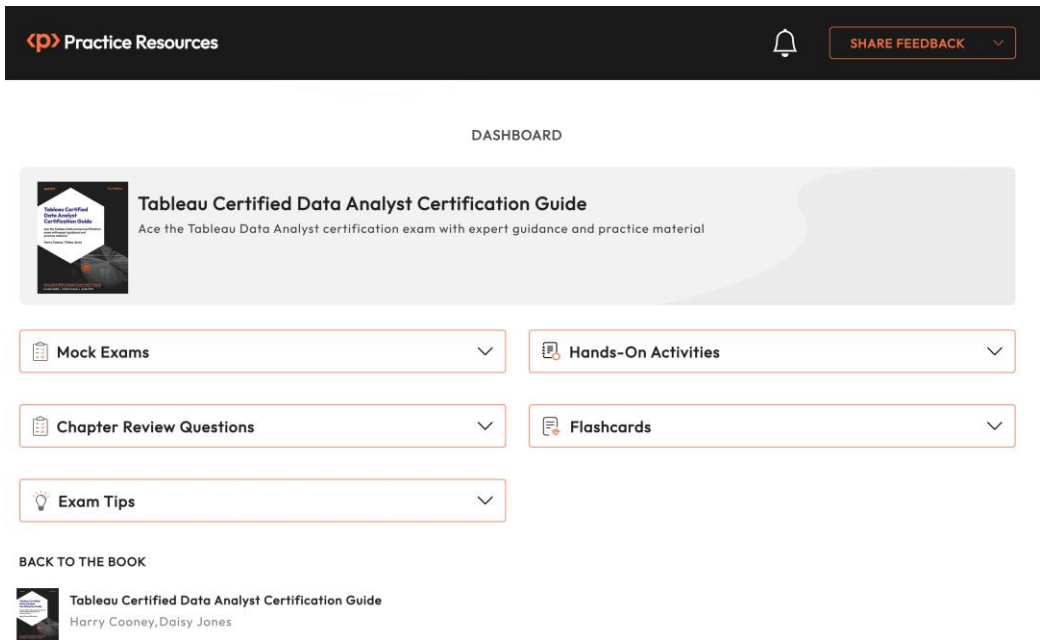


Figure 9.5 – Dashboard page for Tableau Certified Data Analyst practice resources

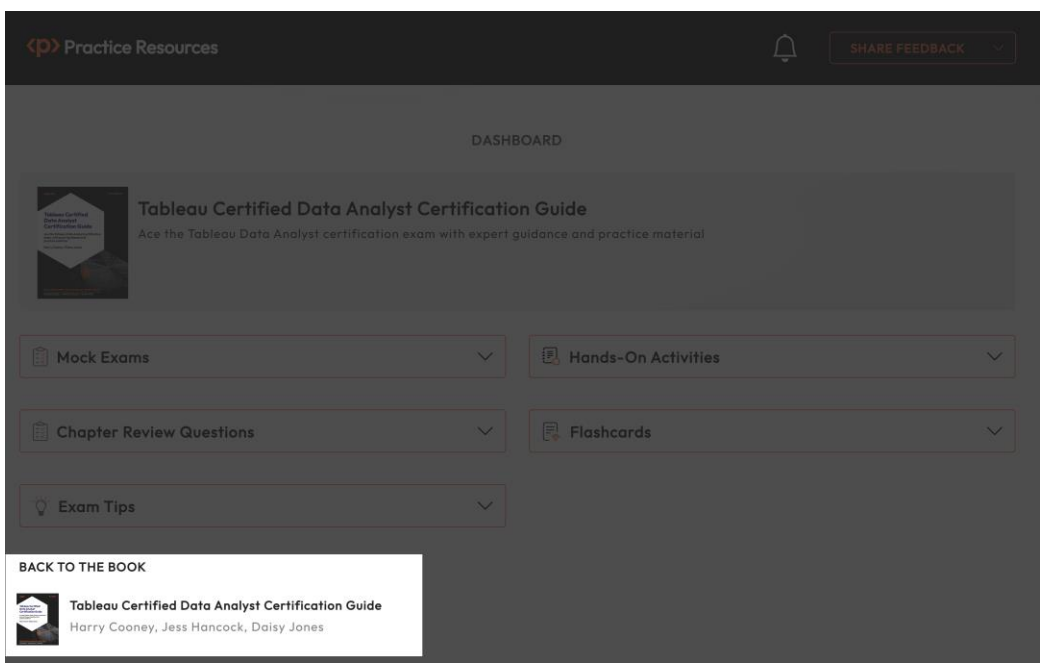


Figure 9.7 – Dashboard page for Tableau Certified Data Analyst practice resources