

# Analytics on Sales Data mart Using **Tableau** **Part 4**

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# Tableau

- A commercial software, **flexible** enough to perform **visual analytics** on data from **numerous sources** and **format**
  - Our purpose: Visual analytics on the star schema stored at Postgres server.
- Unfortunately, this is not a Infoviz module
- We will only touch upon the basics of-
  - Connecting to postgres
  - Join tables in tableau
  - Visualize
    - Sales and # transactions by calendar day
    - Average Transaction Value (ATV) per Calendar day of month
    - ATV per Day of a week

# Resources

[https://www.tableau.com/learn/training/archive?version=10\\_5](https://www.tableau.com/learn/training/archive?version=10_5)

## Free Training Videos

Search	
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VERSION:

10.5



3 VIDEOS

Getting Started

34 MIN



11 VIDEOS

Connecting to Data

62 MIN

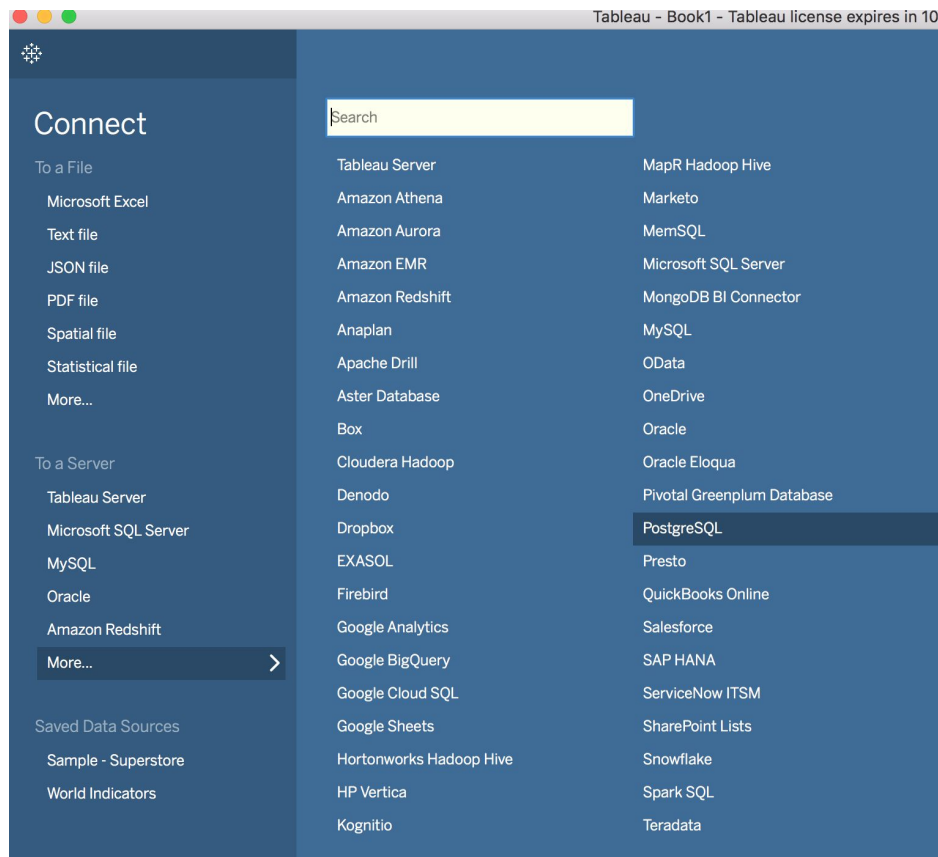


22 VIDEOS

Visual Analytics

122 MIN

# Connect to Postgres



# Connect to Postgres

PostgreSQL ×

Server:  Port:

Database:

Enter information to sign in to the database:

Authentication:

Username:

Password:

☐ Require SSL

[Initial SQL...](#)

# Join dim\_date and fact\_sales

Tableau - Book1 - Tableau license expires in 10 days

Connections [Add](#)

localhost  
PostgreSQL

Database  
postgres

Table [Search](#)

- dim\_date
- dim\_hour\_min
- dim\_product
- fact\_sales
- stage\_product
- stage\_sales
- New Custom SQL
- New Union

postgres

*Drag tables here*

Sort fields Data source order ▼

☐ Show aliases ☐ Show hidden fields  → rows

# Join dim\_date and fact\_sales

Tableau

dim\_date (postgres)

Connections [Add](#)

localhost  
PostgreSQL

Database  
postgres

Table

- dim\_date
- dim\_hour\_min
- dim\_product
- fact\_sales
- stage\_product
- stage\_sales

Sort fields Data source order

#	#	#
dim_date	dim_date	dim_date
<b>Dim Date Key</b>	<b>Version</b>	<b>Date F</b>

Tableau - Book1 - Tableau license expires in 10 days

dim\_date+ (postgres)

Connections [Add](#)

localhost  
PostgreSQL

Database  
postgres

Table

- dim\_date
- dim\_hour\_min
- dim\_product
- fact\_sales

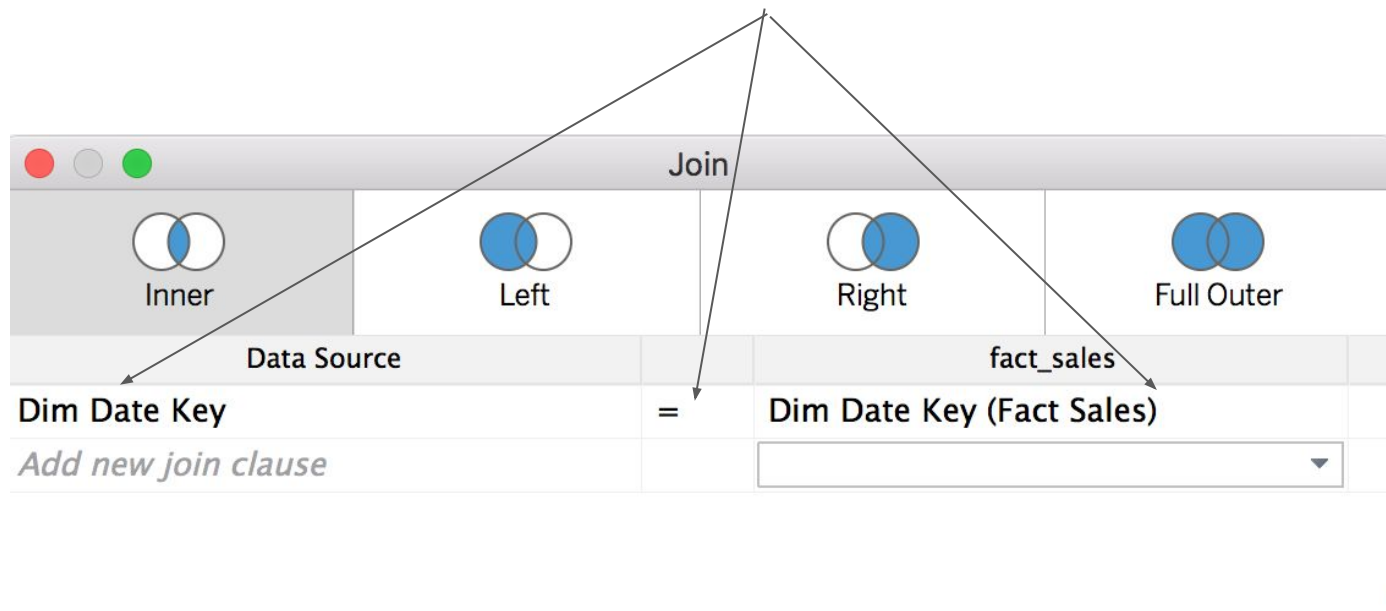
Sort fields Data source order

dim\_date

fact\_sales

# Join dim\_date and fact\_sales

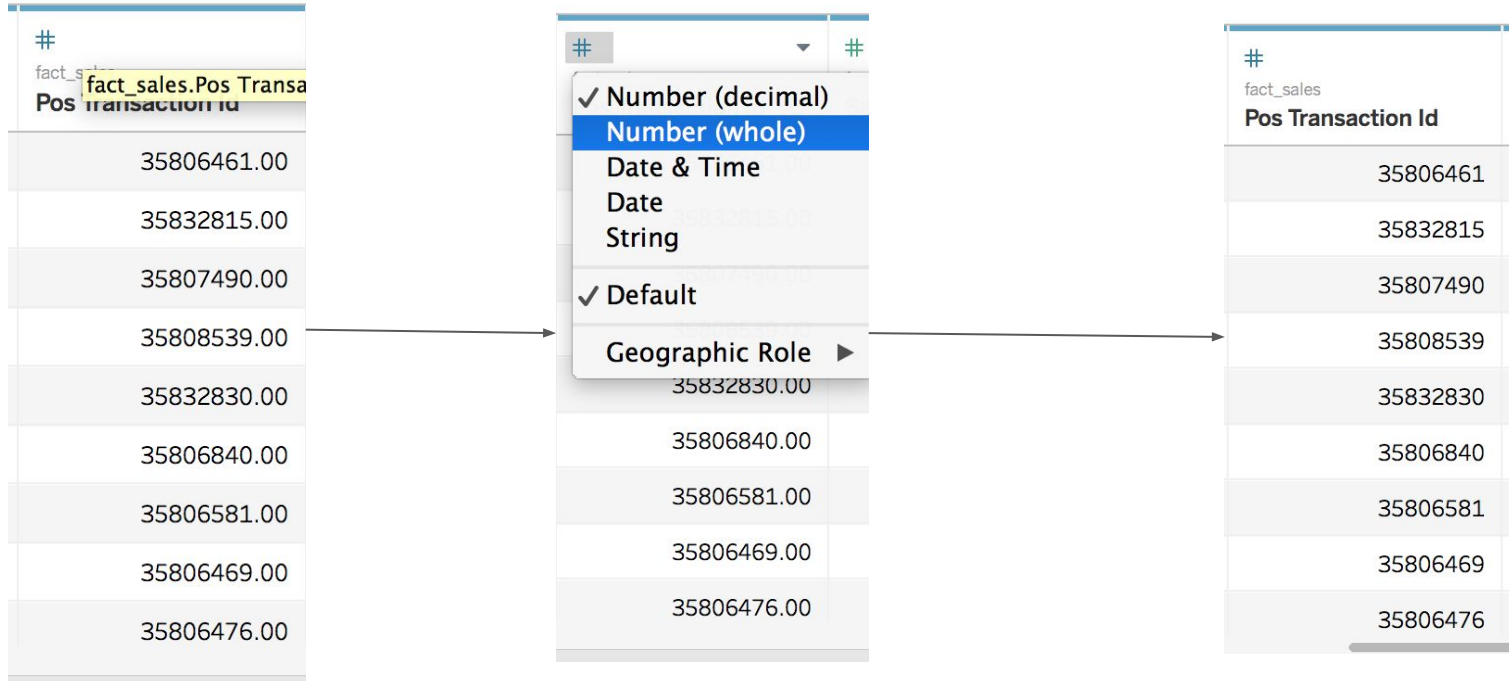
Tableau figures out the join key by itself. Join on dim\_date\_key







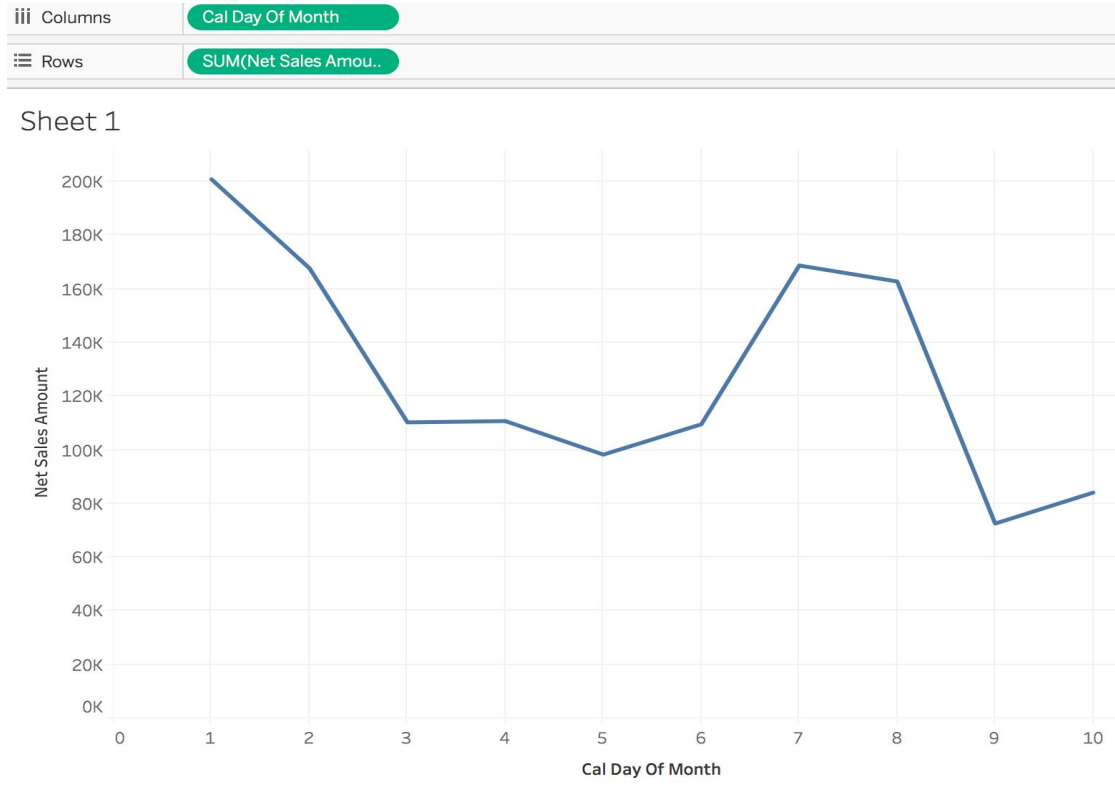
# Fix some data types (If required)



Net Sales by Calendar day

Sheet 1

# Net sales \$ by calander day



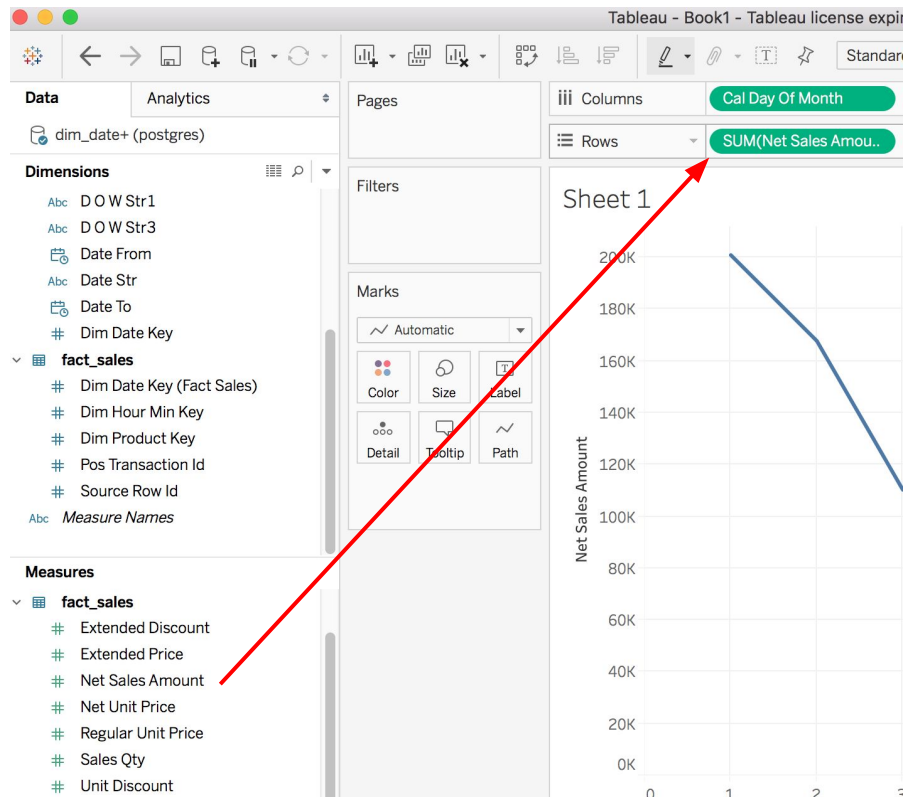
# Drag Cal day of month to columns

The screenshot shows the Tableau interface with the following components:

- Top Bar:** Includes window controls (red, yellow, green buttons) and the title "Tableau - Book1 - Tableau license expires".
- Toolbar:** Contains various icons for navigation, data source management, and visualization types.
- Data Source:** Labeled "Data", showing "Analytics" and "dim\_date+ (postgres)".
- Dimensions Panel:** Labeled "Dimensions", showing a list of fields under "dim\_date":
  - Cal Day Of Month
  - Cal Day Of Week
  - Cal Day Of Year
  - Cal Month
- Columns Shelf:** Labeled "Columns", showing the field "Cal Day Of Month" being dragged from the Dimensions panel.
- Rows Shelf:** Labeled "Rows", currently empty.
- Filters Panel:** Labeled "Filters", currently empty.
- Marks Panel:** Labeled "Marks", currently empty.
- Sheet 1:** The main visualization area, showing a horizontal axis with tick marks at 0, 1, 2, and 3.

A red arrow indicates the drag action from the "Cal Day Of Month" field in the Dimensions panel to the "Cal Day Of Month" field in the Columns shelf.

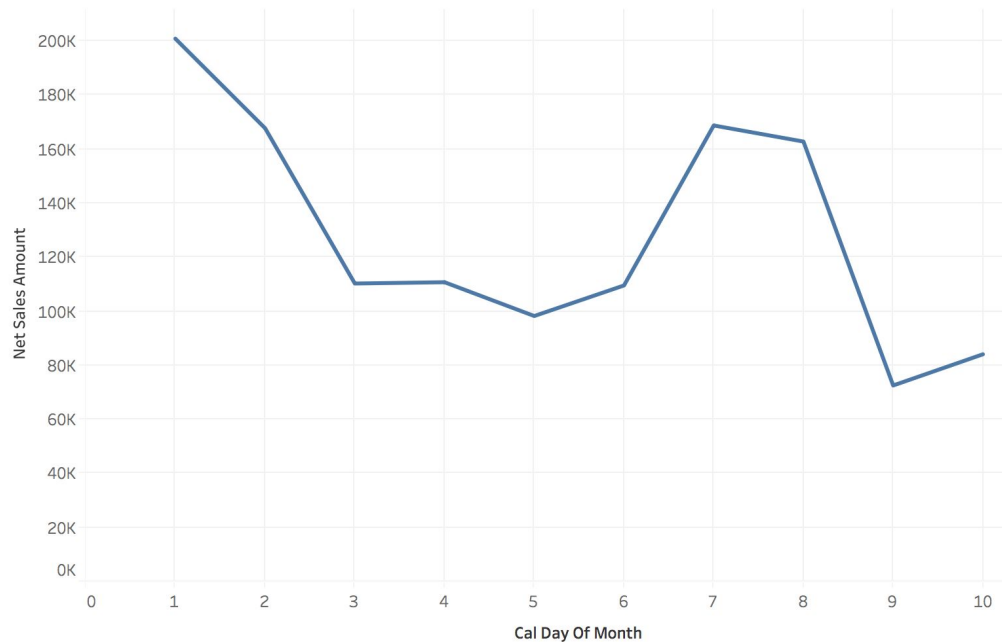
# Drag Net Sales Amount to Rows



# Thats it!

Columns	Cal Day Of Month
Rows	SUM(Net Sales Amou..

Sheet 1

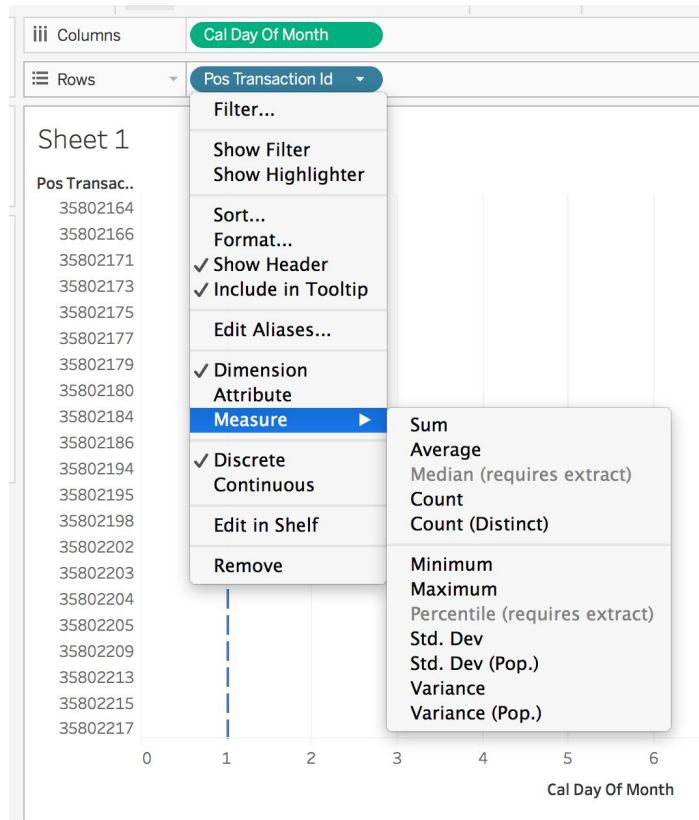


# Transaction by calendar day

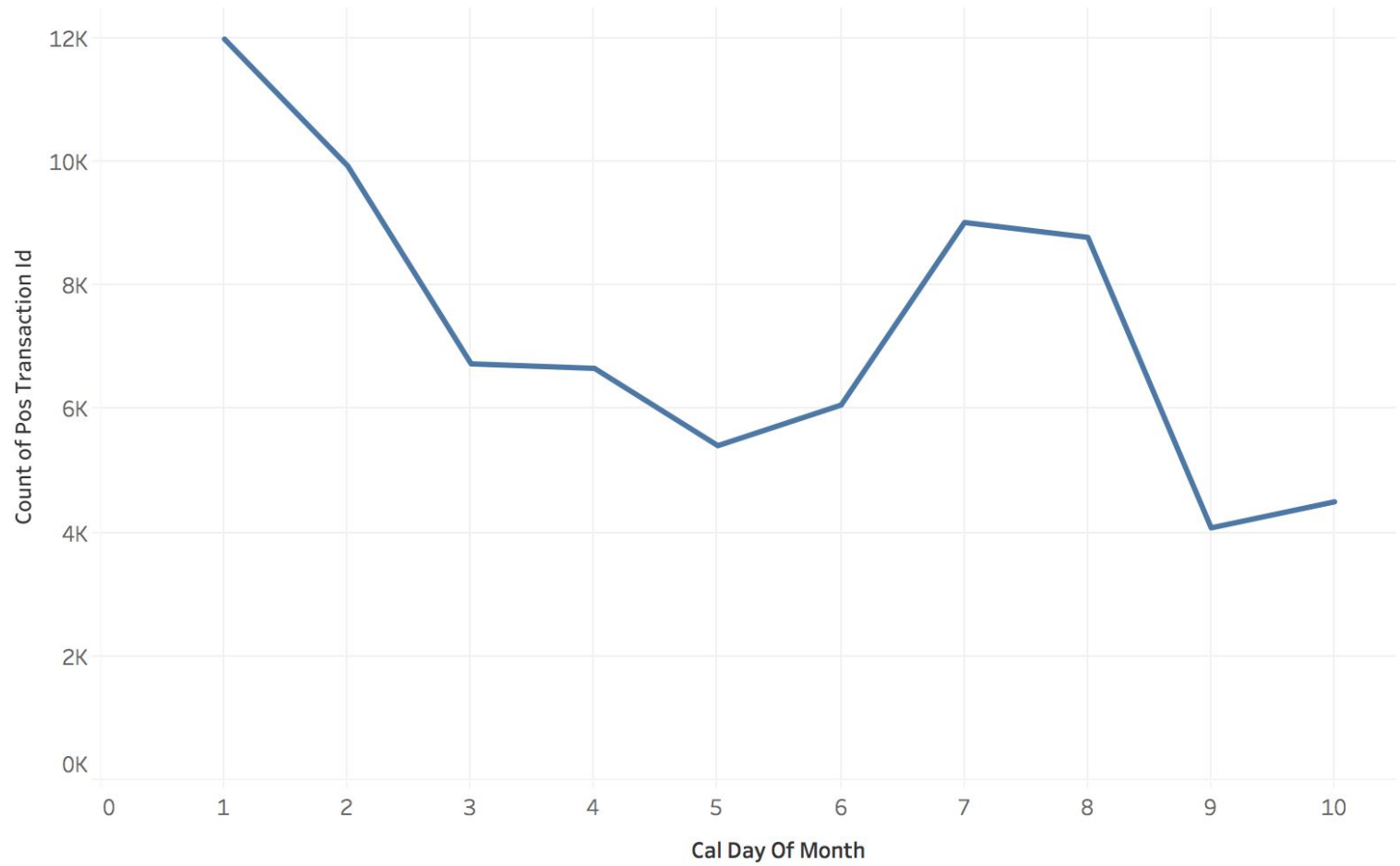
Sheet 2



# # Transaction by calendar day - Similar



Change the Measure to  
Count



How is the ATV by calendar day of January

Sheet 3

# Compute ATV

Needs to create  
**Calculated Field.**

The screenshot shows a data tool interface with two main panels: **Dimensions** and **Measures**. The **Dimensions** panel lists various fields, including **fact\_sales**, which is selected. A context menu is open for **fact\_sales**, showing options like **Add to Sheet**, **Show Filter**, **Duplicate**, **Rename**, **Hide**, **Create**, **Convert to Discrete**, **Convert to Dimension**, **Change Data Type**, **Geographic Role**, **Default Properties**, **Group by**, **Folders**, **Replace References...**, and **Describe...**. The **Create** option is highlighted, and a sub-menu is open showing **Calculated Field...**, **Group...**, **Bins...**, and **Parameter...**. A red arrow points from the text "Needs to create Calculated Field." to the **Calculated Field...** option. The **Measures** panel lists fields like **Version**, **fact\_sales**, **Extended Discount**, **Extended Price**, **Net Sales Amount** (highlighted), **Net Unit Price**, **Regular Unit Price**, **Sales Qty**, and **Unit Discount**. The background shows a chart area with a y-axis labeled "Sheet 3" and values ranging from 0 to 18.

**Dimensions**

- Abc D O W Str1
- Abc D O W Str3
- 📅 Date From
- Abc Date Str
- 📅 Date To
- # Dim Date Key
- ✓ # **fact\_sales**
- # Dim Date Key (Fact Sales)
- # Dim Hour Min Key
- # Dim Product Key
- # Pos Transaction Id
- # Source Row Id
- Abc Measure Names

**Measures**

- # Version
- ✓ # **fact\_sales**
- # Extended Discount
- # Extended Price
- # **Net Sales Amount**
- # Net Unit Price
- # Regular Unit Price
- # Sales Qty
- # Unit Discount

**Filters**

**Sheet 3**

18

16

14

8

6

4

2

0

0 1

# Write the equation

ATV

×

SUM([Net Sales Amount])/COUNT([Pos Transaction Id])

◀

The calculation is valid.

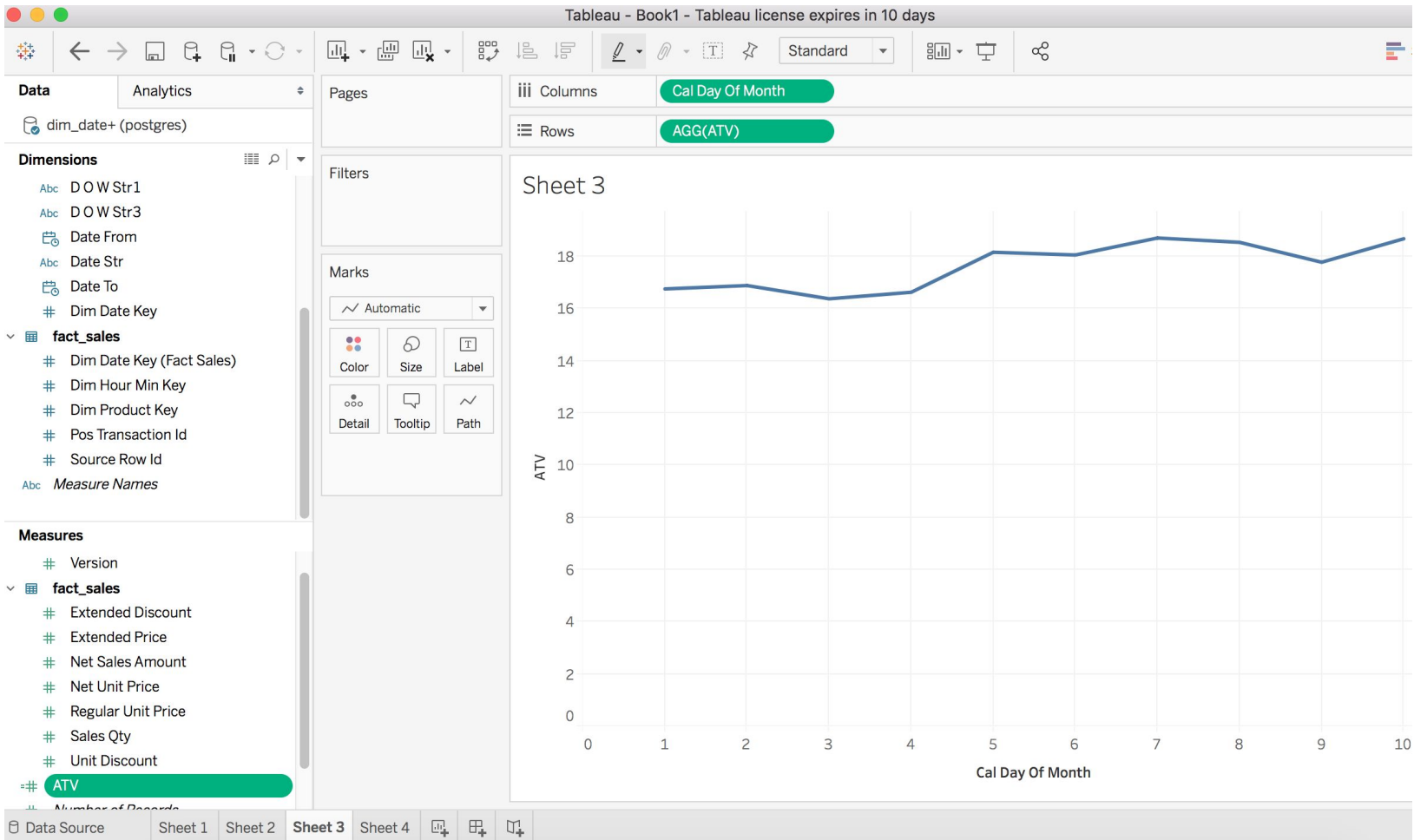
Sheets Affected ▼

Apply

OK

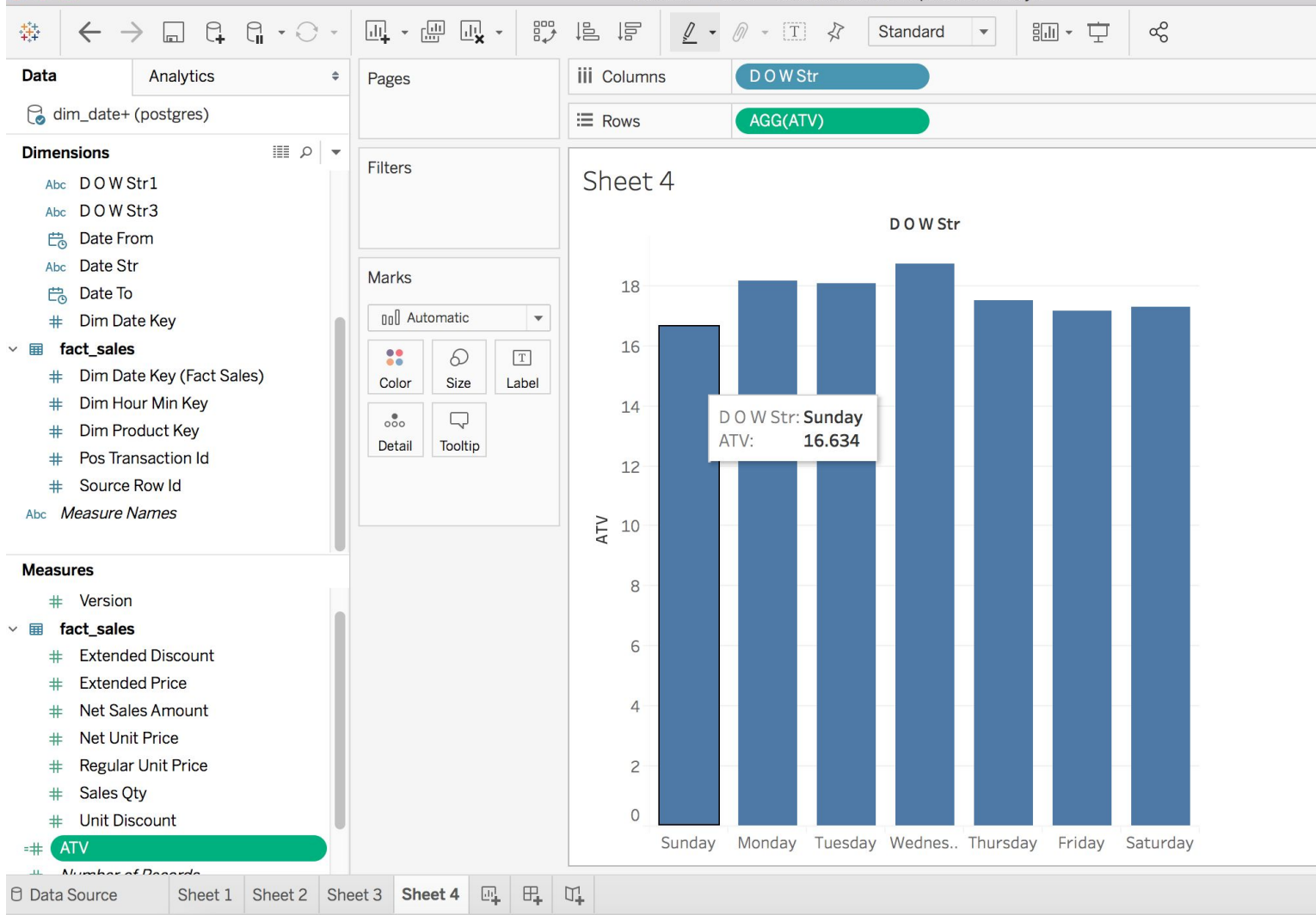
There is no need to specify time period.

When used as a row, Tableau automatically aggregates based on the period in the column



How is the ATV by day of Week

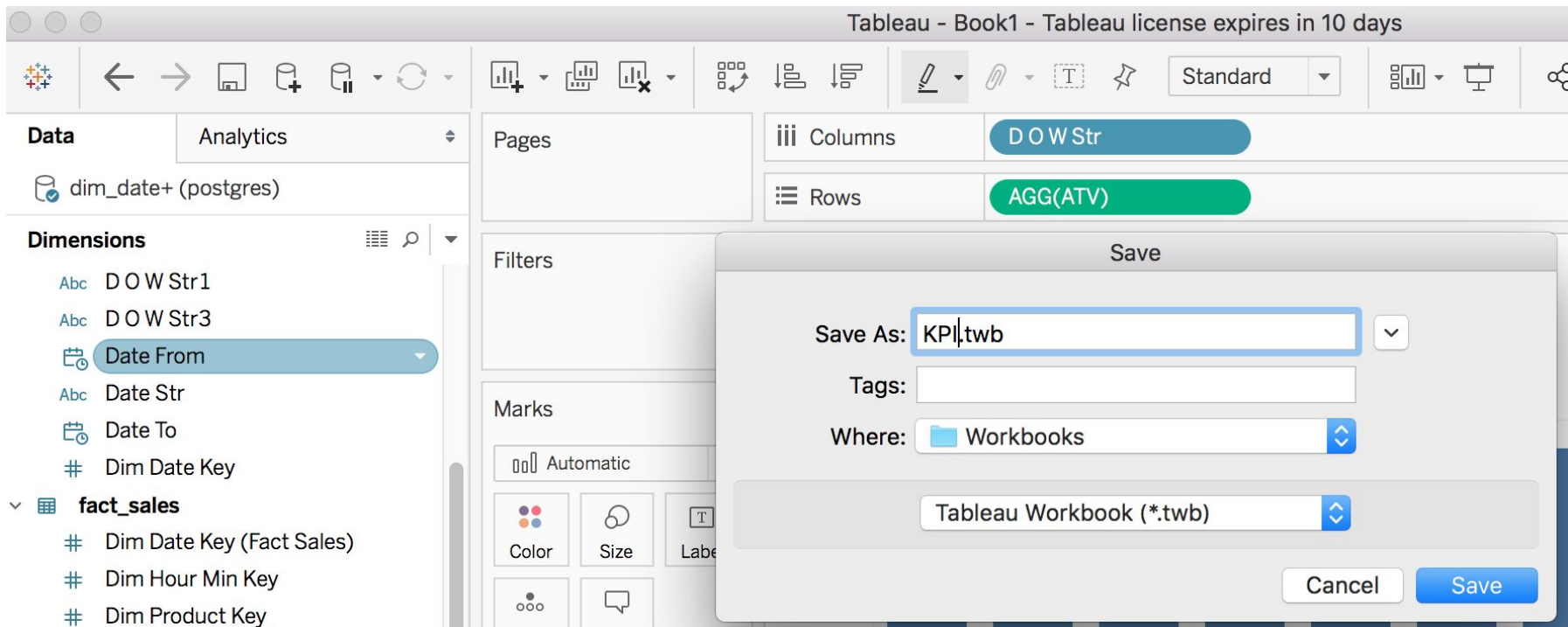
Sheet 4





# Finally

Save your work as a tableau workbook from File>Save as menu.



END