

## Category v/s Measure

Measure dictates the granularity of the visualisation  
If time is measure and set to month, it will more granular if set to year.

## Analysis --> Aggregate Data

### Fitler

1. Drag the data to the filter tab on the left
2. Right Click on the filter and show quick Filter
3. [optional] Right Click on Filter -> Apply to WorkSheets -> All Using This Data Source

## Sync charts on Dashboard

Right click on chart -> use as filter (creates quick action)  
**DASBOARD -> ACTIONS**

# Highlighting and Filtering

Filtering. —> Reconstructs Data

Highlighting —> might be conflicted (same user from France and England, and you are selecting France. Then should it or shouldn't it highlight?)

SOLUTION —> Make the data more granular

# Blending and Joining

Blending happens on the fly when two datasets are of different granularity (one has item while other has category of those items)

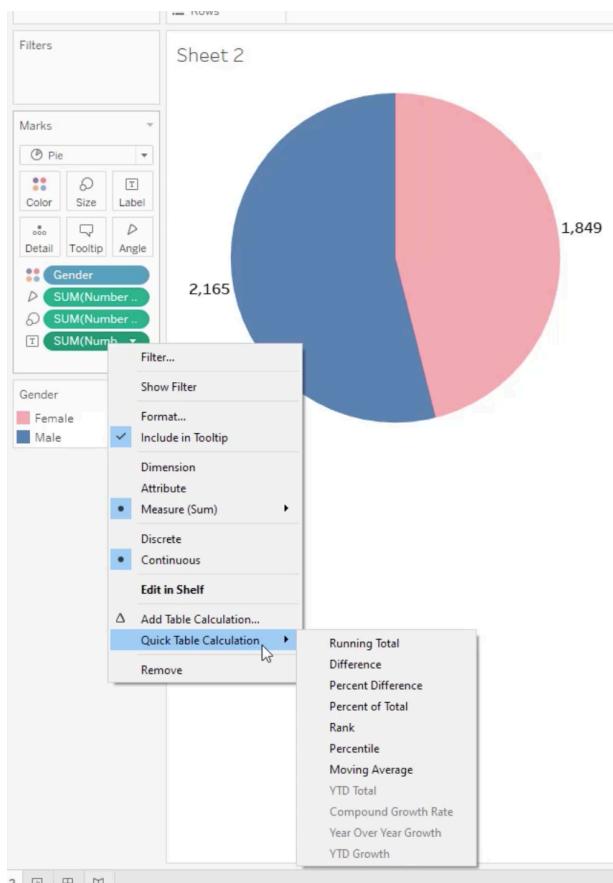
Join is not allowed when datasets are of two different types. In this case, you will be forced to use blending

**DATA —> Edit Relationships**

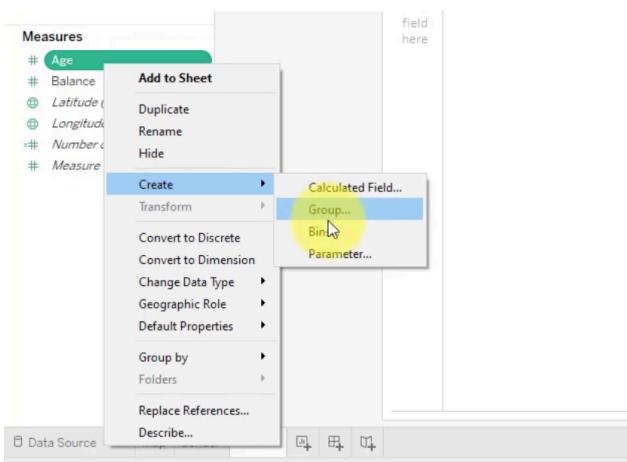
**Important to make sure relationships follow the desired granularity.**

**Note:** Always make sure your desired column is included in the DETAILS

# Quick Table Calculation



# Bins



This new AgeBins becomes a Dimension (Categorical Data)

# Parameters

Now to link the bins and the newly created parameters:

Right Click on Bins —> Edit

Select the size of bins as the parameter

# Pivot

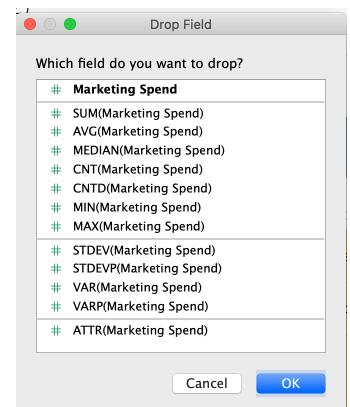
ABC	DEF	GHI	JKL	MNO	PQR	SUV	WXY	Z			
REGION	COUNTRY	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
EUROPE	AUSTRIA	307,9			293,697	319,40	345,563	356,145	336,010	319,035	303,318
EUROPE	BELGIUM	480,0			535,947	476,19	547,340	572,211	486,737	486,065	482,939
EUROPE	DENMARK	148,8			150,199	112,454	153,858	170,036	170,763	182,086	189,051
EUROPE	FINLAND	148,1			139,669	90,574	111,968	126,123	111,251	103,455	106,236
EUROPE	FRANCE	2,118,042	2,046,745	2,109,672	2,091,369	2,302,398	2,251,669	2,204,229	1,898,760	1,790,456	1,795,885
EUROPE	GERMANY	3,319,259	3,467,961	3,148,163	3,090,040	3,807,175	2,916,259	3,173,634	3,082,504	2,952,431	3,036,773
EUROPE	GREECE	269,728	267,669	279,745	267,295	219,730	141,501	97,680	58,482	58,694	71,218
EUROPE	ICELAND	18,060	17,129	15,942	9,033	2,113	3,106	5,038	7,902	7,274	9,536
EUROPE	IRELAND	171,742	178,484	186,325	151,607	57,453	88,446	89,911	79,498	74,367	96,344
EUROPE	ITALY	2,244,108	2,355,462	2,494,115	2,161,359	2,159,465	1,961,580	1,749,740	1,403,010	1,304,648	1,360,293
EUROPE	LUXEMBOURG	48,517	50,837	51,332	52,359	47,265	49,726	49,881	50,398	46,624	49,793

It's important to pivot data when applicable

# Group

1. Hold command and select the regions
2. Right Click and select the Pin icon  
or
3. Right click and select Group —> All Dimension

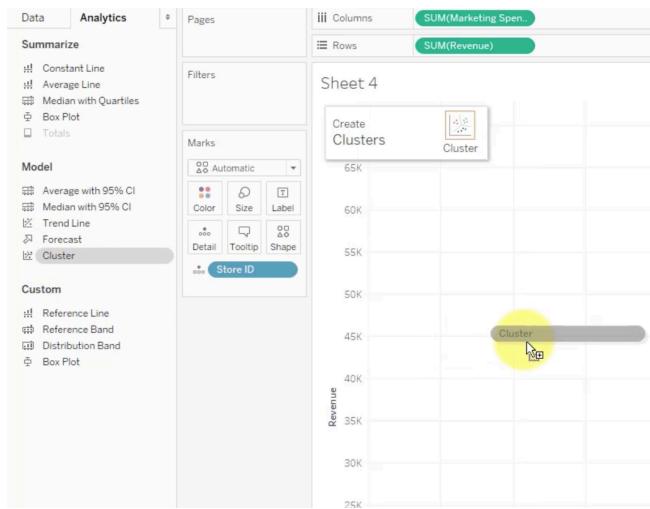
**Quick Tip:** Hold Alt and drag the data into Label to get options of Avg/ Median/Sum



# Highlighter

Similar to filter but you know, it HIGHLIGHTS

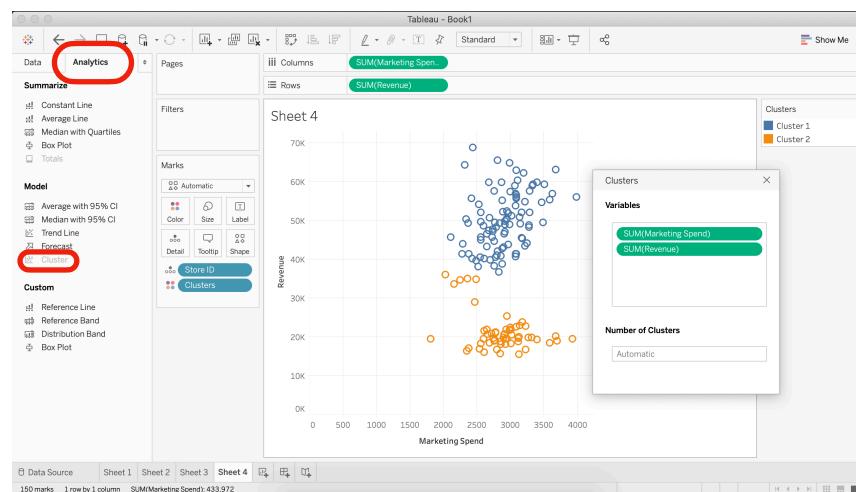
# Clustering



Go to Analytics and Drag Cluster to the screen

Similarly, use trend-lines.

Drag the clusters into dimensions to save.



**Trick: Go to filter -> select the column -> select a certain value -> Exclude**

The place where colours, labels etc are present, there is ToolTip. You can add Sheet as well in your ToolTip

# Groups and Sets

The screenshot illustrates the process of creating a Group and a Set in Tableau.

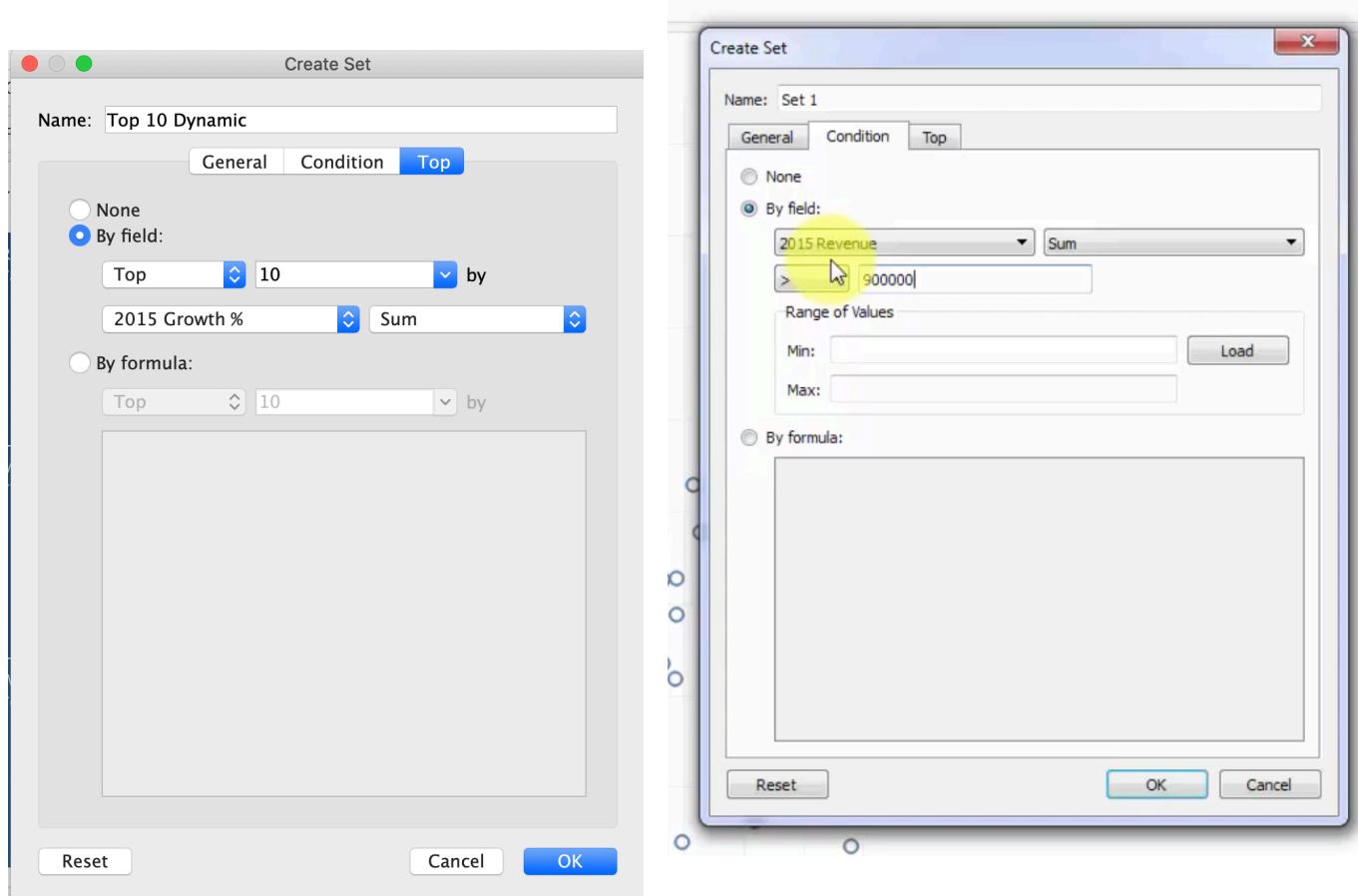
**Top Left:** A context menu is open over a dimension named "Industry". The "Create" option is highlighted. Other options visible include "Calculated Field...", "Group...", "Set...", and "Parameter...".

**Top Right:** A bar chart titled "Industrial Groups (2)" is displayed. The chart shows the average number of employees across various industries. The "Software" industry has the highest average at 119.2. A tooltip for the "Software" bar indicates "4 items selected - SUM of AVG(Employees)". A "Create Set..." button is visible in the bottom right corner of the chart area.

**Bottom Left:** Another context menu is open over the same "Industry" dimension. The "Set..." option is highlighted. Other options visible include "Calculated Field...", "Group...", "Bins...", and "Parameter...".

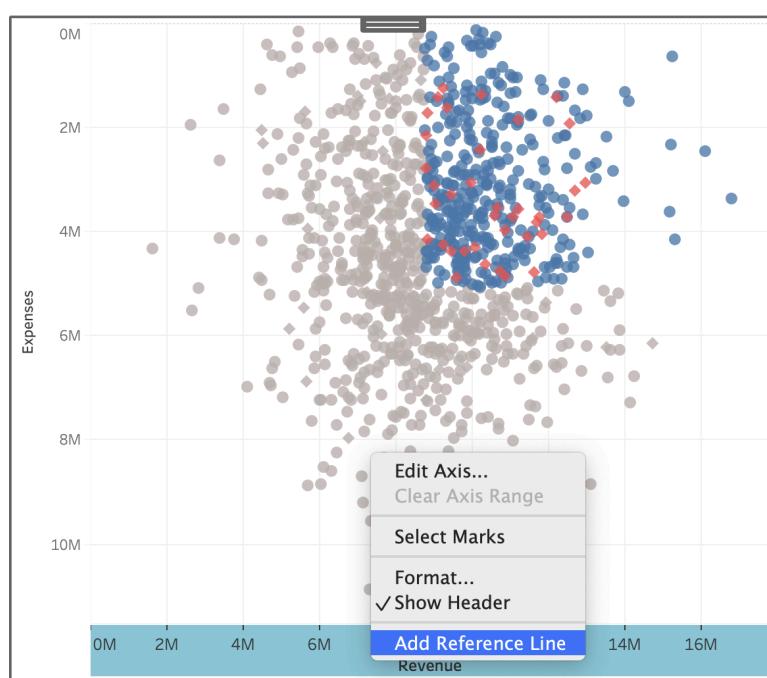
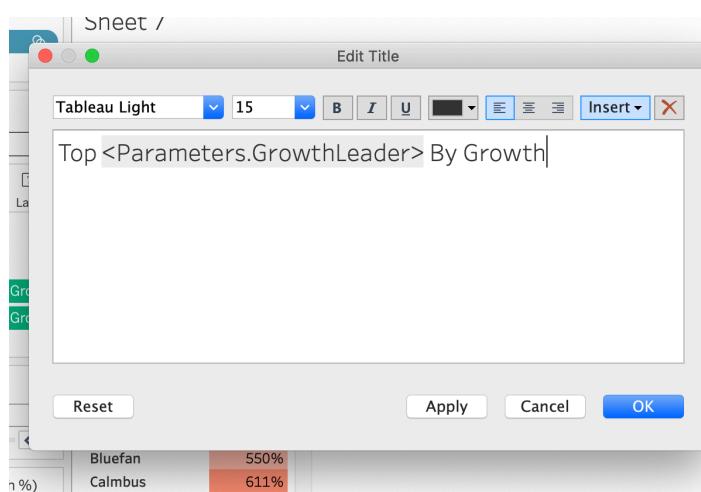
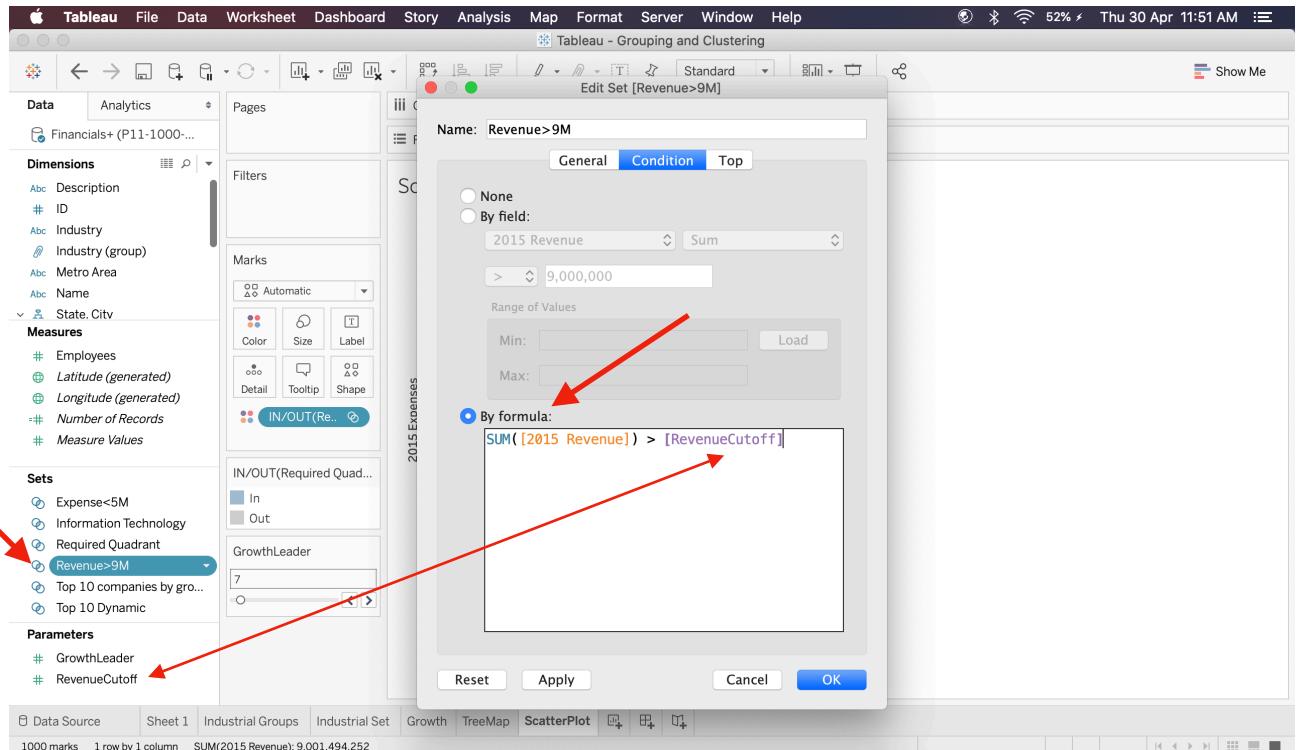
**Bottom Right:** A "Create Set" dialog box is open. The "Name:" field contains "Top 10 Dynamic". The "General" tab is selected. Under "Select from list", the "Use all" radio button is selected. The "Summary" section shows the following settings: Field: [ID], Selection: All, Wildcard: All, Condition: None, and Limit: None. Buttons for "Reset", "Cancel", and "OK" are at the bottom.

In groups, data merge. In sets, data does not merge but just develop a similar class of their own.



To reverse Axis, right click on the axis pane —> Reversed Axis

Go the set and select the parameter you created inside the value to link both of them



To make multiple data as coloured, command select them and drag them into color.

Search

**Folders**

- # ID
- Abc Industry
- Abc Industry (group)
- Abc Metro Area
- Abc Name
- Top 10 Dynamic
- Revenue>9M
- State, City
  - State
  - City
- Top 10 Dynamic
- Year Founded
- Year Founded (group)
- Measure Names

**Parameters**

- # ExpenseCutoff
- # GrowthLeader
- # RevenueCutoff

**Filters**

**Top 10 Dynamic**

**Marks**

- Square
- Color
- Size
- Label
- Detail
- Tooltip

**SUM(2015 Gro..)**

**SUM(2015 Gro..)**

**GrowthLeader**

21

**SUM(2015 Growth %)**

595% 784%

**Top 21 By Growth**

Name	
Rankfind	784%
Matelectronics	776%
Wimpledrift	769%
Bailycrowd	721%
Salttrans	708%
Voleworry	691%
Recognisedwimp	672%
Indigoit	656%
Goblaces	647%
Overstridden	643%
Allowuntidy	629%
Appaloosasmiling	598%
Calmbus	611%
Factsworldcup	626%
Glaciertolerant	640%
Goldenware	617%
Hot-Electrics	595%
Messrs	628%
Oilyrhylite	641%
Quadice	620%
Zun-Ex	622%

1. Create a Parameter - GrowthLeader

2. Create a set "Top 10 Dynamic" and let its value be dictated by GrowthLeader parameter value.

3. Make this set as the filter.

## Reference Line

To Add Reference Line, right click on the axis and select "Add Reference Line"

**Note:** To remove ToolTip, go to worksheet on the menu bar —> tooltip —> Deselect "Show Tooltip"

**Note:** You can only add those things in the ToolTip which are present in your details.

Idle Capacity Movi...

Filter...

Show Filter

Format...

Show Header

Include in Tooltip

Discrete

Continuous

Edit in Shelf

**Compute Using**

Table (across)

Table (down)

Table (across then down)

Table (down then across)

Pane (down)

Pane (across then down)

Pane (down then across)

Cell

Datetime

Machine

To calculate the difference across the tables below/above. Go to - Compute Using option

Idle Capacity Movi.. ▾

Filter...

Show Filter

Format...

✓ Show Header

✓ Include in Tooltip

Discrete

✓ Continuous

Edit in Shelf

Compute Using ➔

Edit Table Calculation...

Remove

Or you can go to "Edit Table Calculation" for a detailed view

## Moving Average

My First Table Calculation

-2 —> From two rows to the left  
0 —> upto the current row

Results are computed along Table (across).

```
WINDOW_AVG(SUM([Tonnes]), -2, 0)  
WINDOW_AVG(expression, [start, end])
```

Idle Capacity Moving Average

Results are computed along Datetime.

```
IF(WINDOW_COUNT([Idle Capacity Percent Pos], -7, 0) = 8)  
THEN WINDOW_AVG([Idle Capacity Percent Pos], -7, 0)  
ELSE NULL  
END
```

Condition to check if the window size is actually 8 or it is simply taking null values.

Select All

View Data...

Explain Data...

Copy ➔

Format...

Clear Manual Sizing

Annotate ➔

Trend Lines ➔

Forecast ➔

Drop Lines ➔

Show View Toolbar

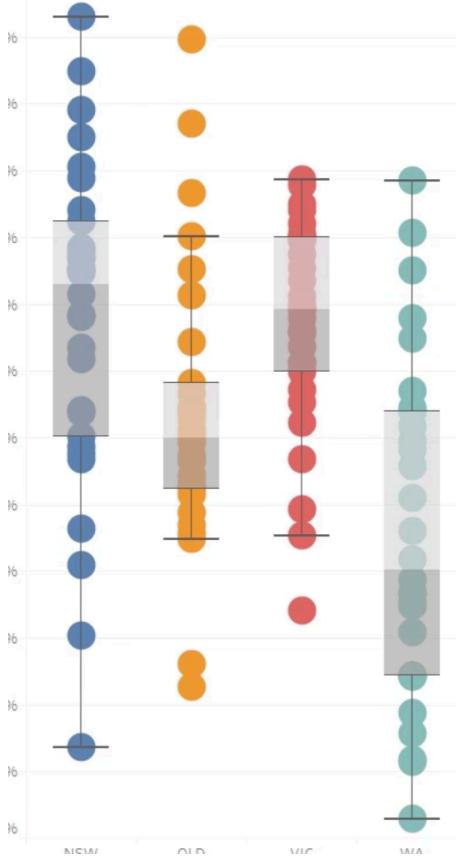
Show Trend Lines

Edit All Trend Lines...

Describe Trend Model...

# Box Plot

To add box plots, go to analytics and drag-drop box plot to the visualisation.



## Loading up massive datasets fast

Add a filter.

For eg: select the dates column and add a range as filter.

After your work, simply remove the filter

# Forecast

Lookout for forecast at the analytics pane

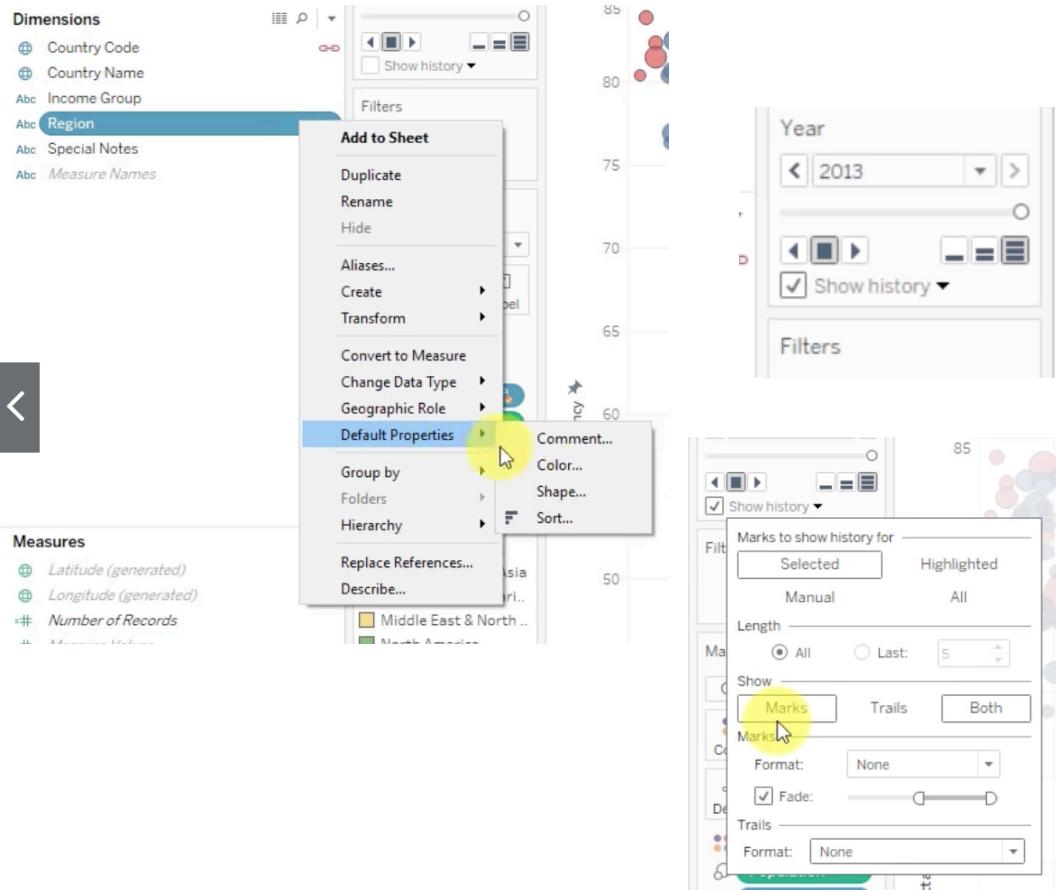
## Animation

Suppose you want to animate using years criterion. Drag "Years" into pages (pages is present above Filters)

Right Click on the visualisation pane —> annotate —> insert —> <page name>

## Sorting data coming from secondary data source

Select "Sort" —> then manually sort



You can check this option to click and highlight the trails

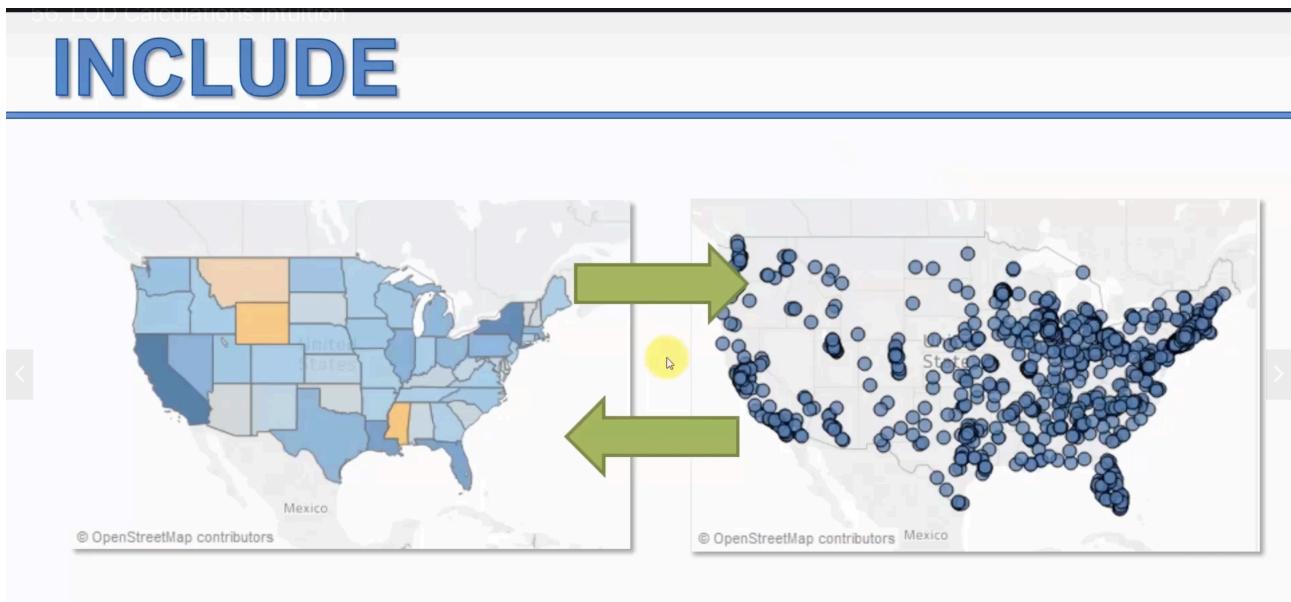
Clicking on the Show History drop down option will also give you a lot of other options

# Level of Detail Calculation

**Note:** fixed is the most versatile and easiest to use.

## Include

Calculates your data at a more granular level but shows the data at a much less granularity  
For eg: You calculation will be done at city level but visualisation will be kept at state level



## Exclude

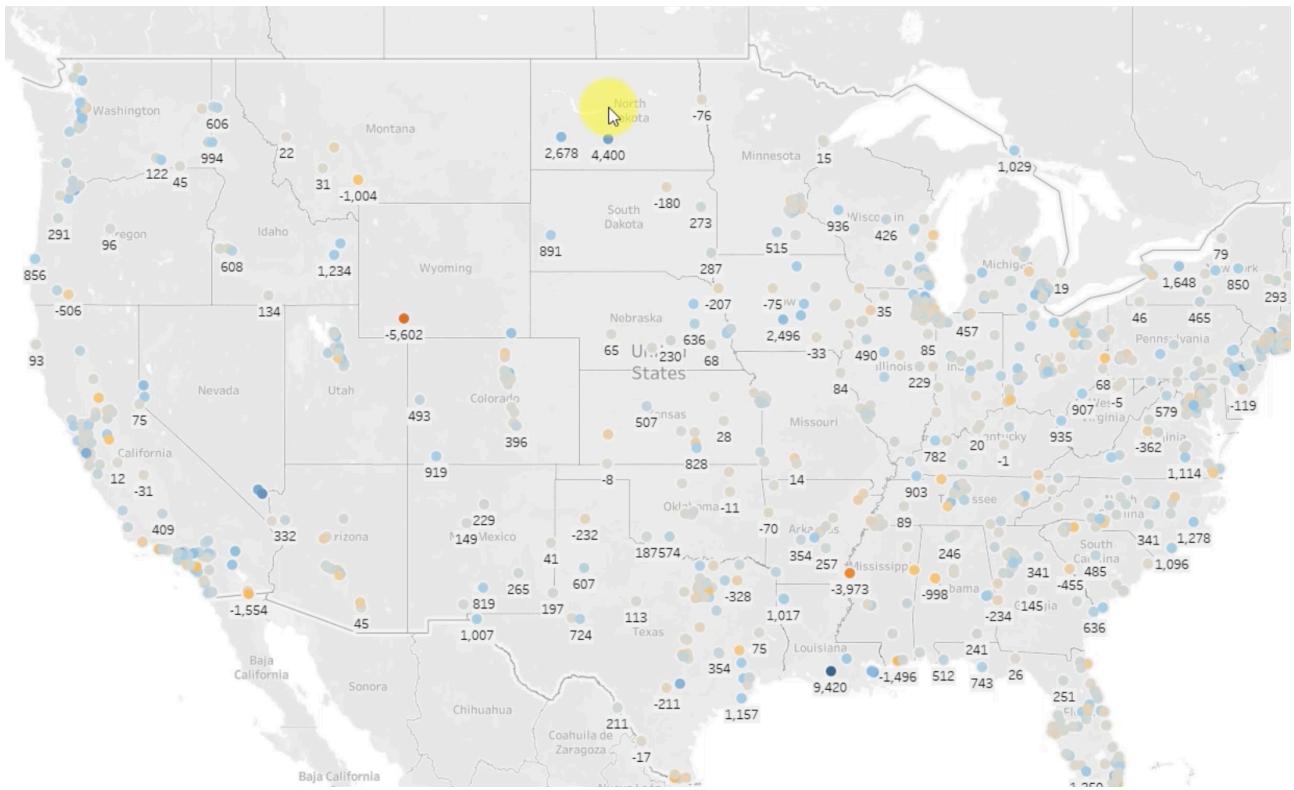
Visualisation stays at city level (more granular level) but calculation is done at state level (less granular level).

## Fixed

You will be explicitly specifying the level at which the calculation will happen.

# Include In Detail

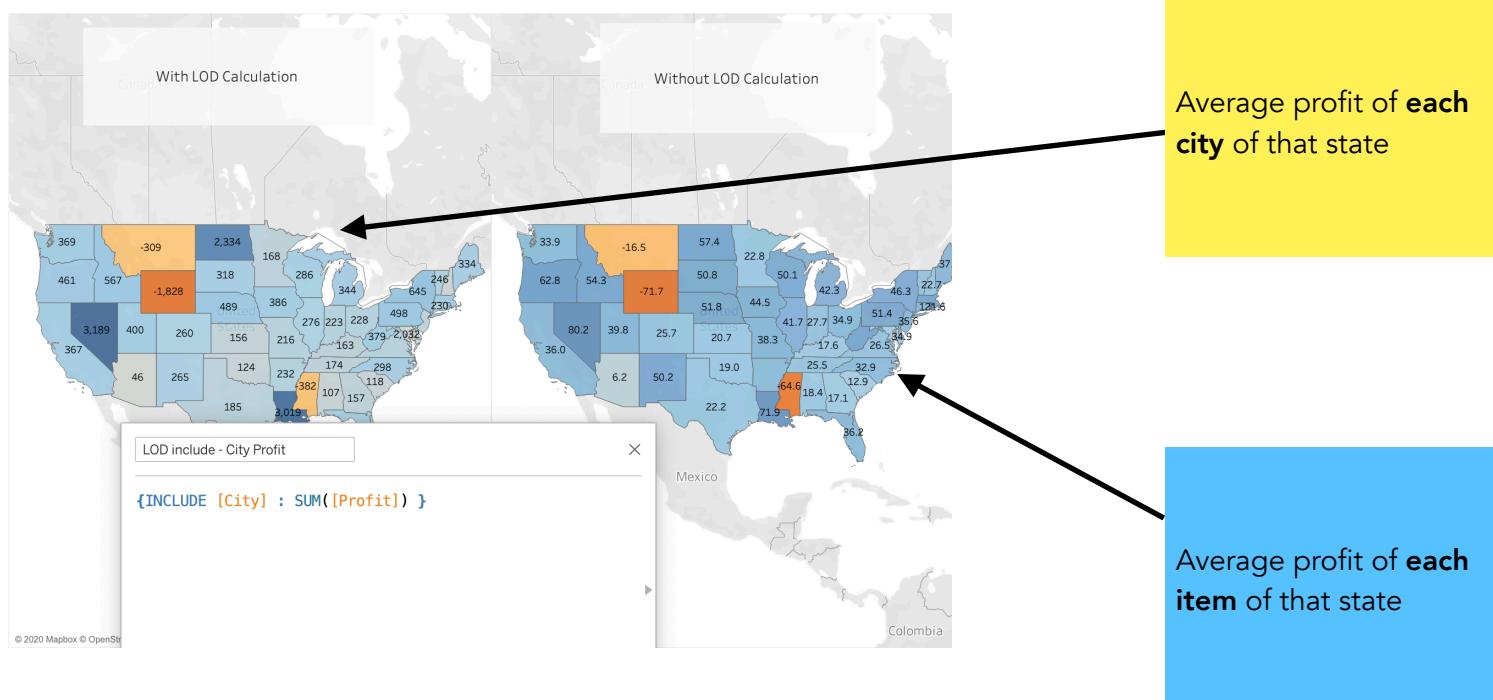
Suppose, you want to calculate the average profit of each city and show that value for that state



Let's take North Dakota, you want do  $\rightarrow (2678+4400-76)/3$  and take show this value at the state level visualisation

Here 2678,4400 and -76 shows the sum of profit of each city over 2013,2014,2015 and 2016 all summed up

LOD include



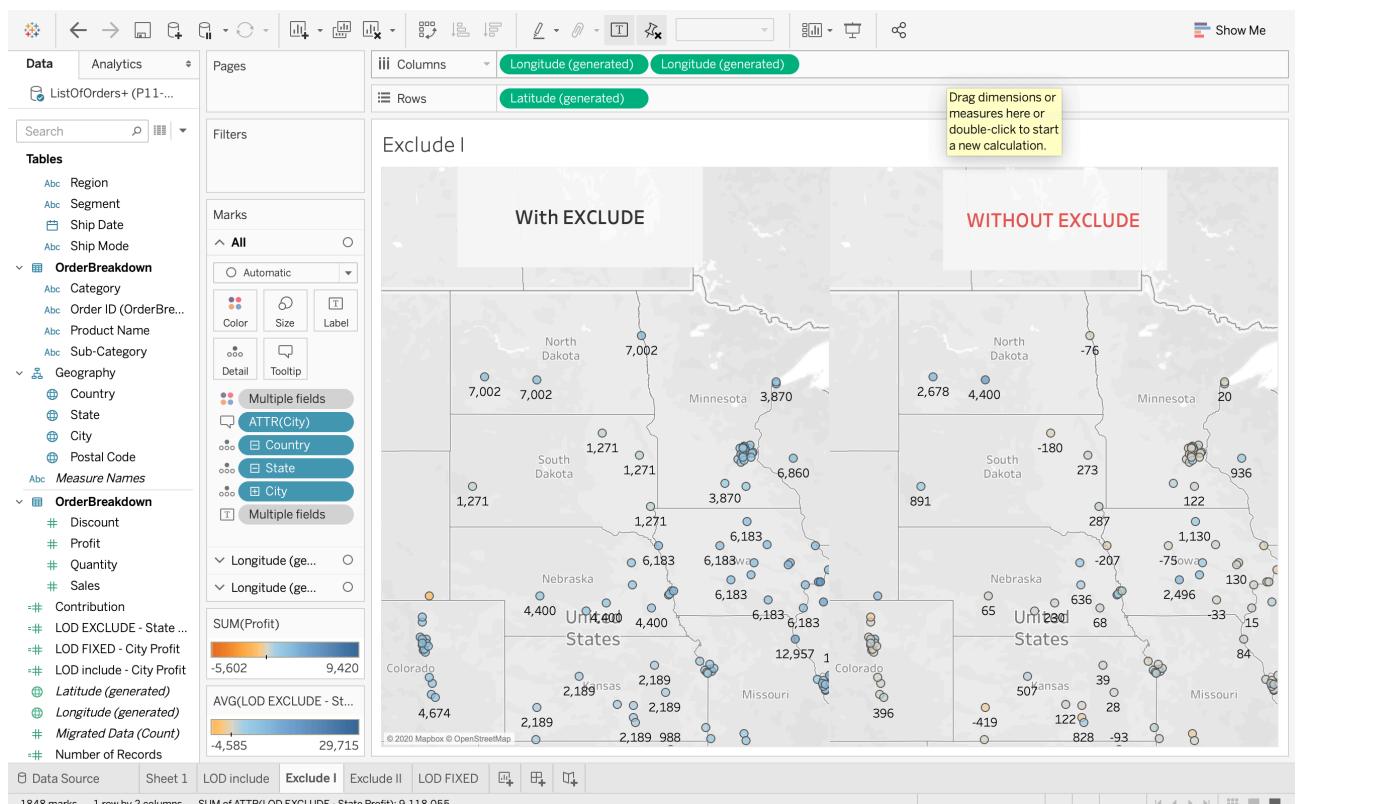
# Understanding ATTR()

Drag and drop any data field on Tooltip.

Now suppose we drag country, then for all states there is only one country -> USA. Therefore, it will show USA. But had we dragged city then it would have shown \* because there is no single value of city for each state.

Function	Syntax	Definition
<b>ATTR</b>	<code>ATTR(expression)</code>	Returns the value of the expression if it has a single value for all rows. Otherwise returns an asterisk. Null values are ignored.

## Exclude in detail



Notice how, all the cities in North Dakota show the same value.

Also, you need not include [Postal Code] in the formula but we have done so anyway for making the exclusion path fixed.

LOD EXCLUDE - State Profit

```
{EXCLUDE [City], [Postal Code]: SUM([Profit])}
```

The calculation is valid. 5 Dependencies ▾

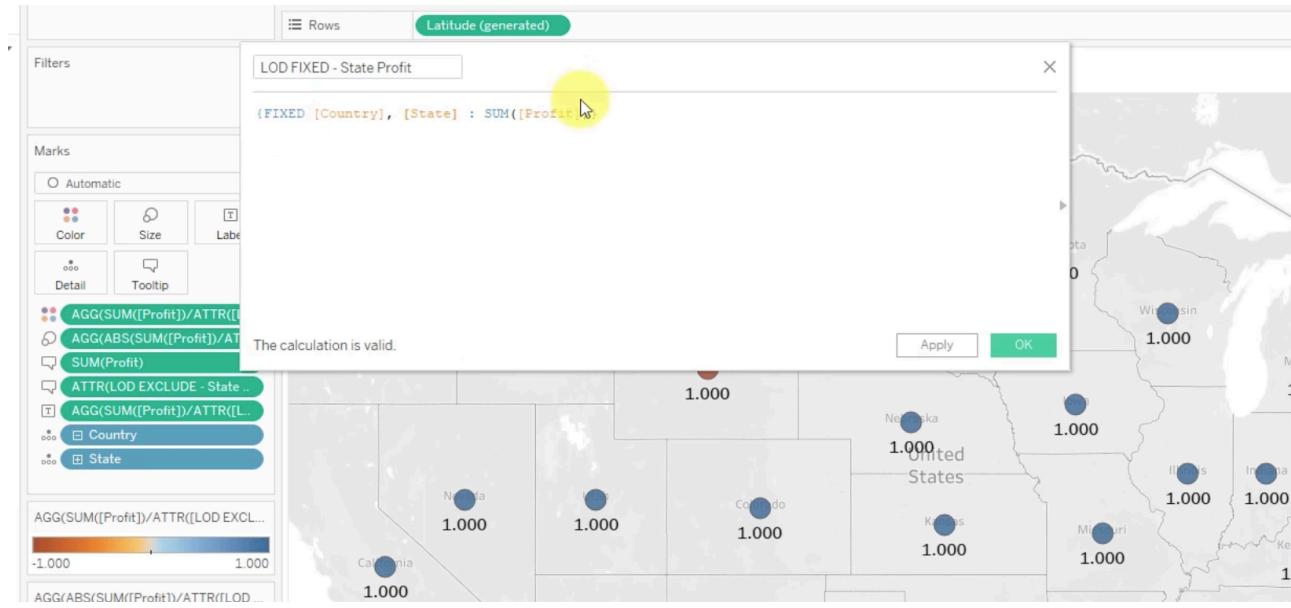
Apply OK

# Fixed in detail

It can implement both include and exclude but the pathway defined here is fixed.

```
LOD FIXED - City Profit  
{FIXED [Country], [State], [City] : SUM([Profit]) }
```

We need to include From top level upto city level and return back the result. —> Fixed version of Include at city level.

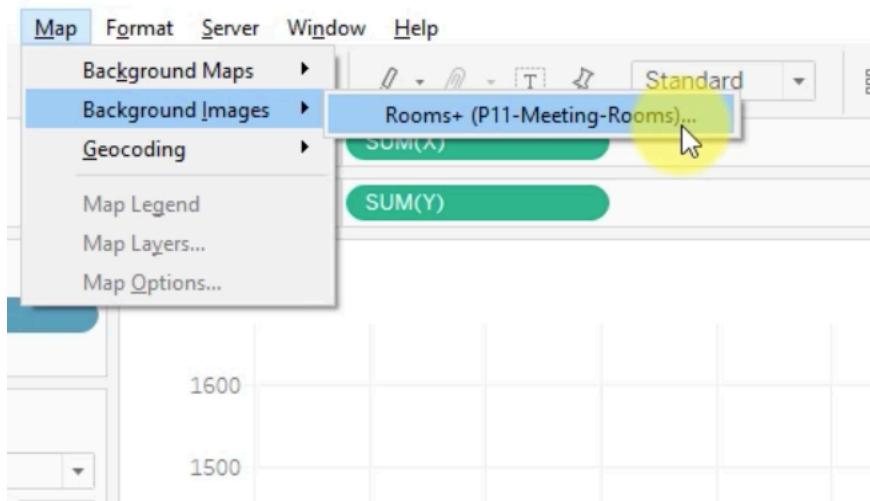


Above is the fixed version of Exclude. You want to exclude Country and state

# Advanced Mapping Techniques

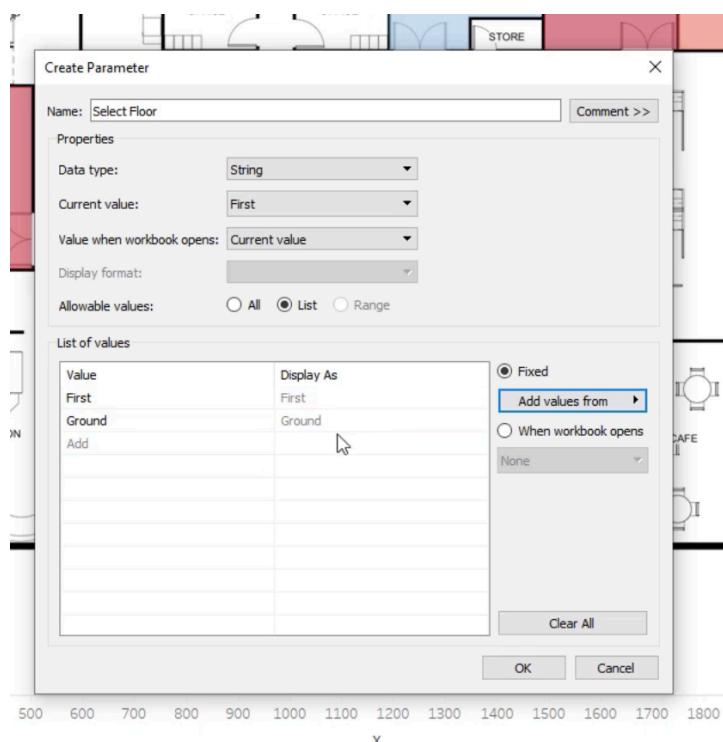


# To add background image:



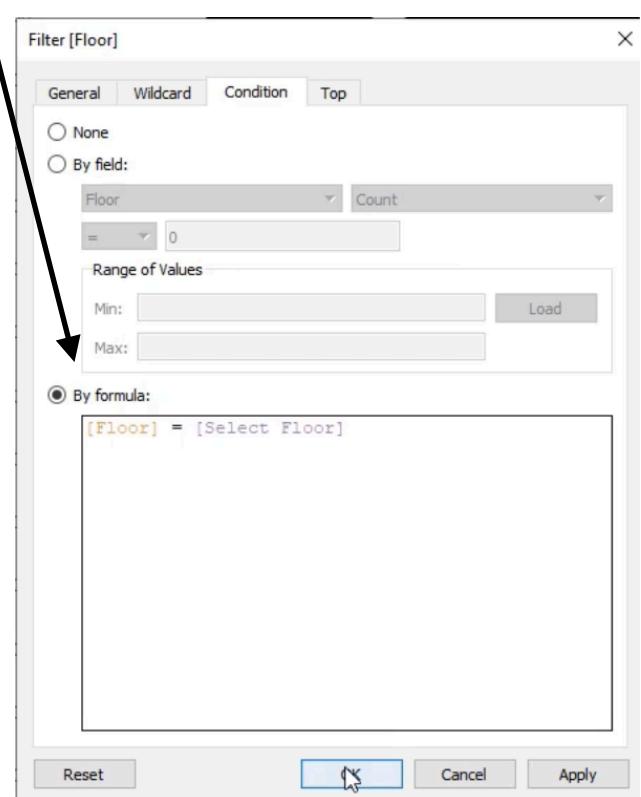
Make sure to check image dimensions from its property as you will need to add those values as the x and y size

# Toggle polygon



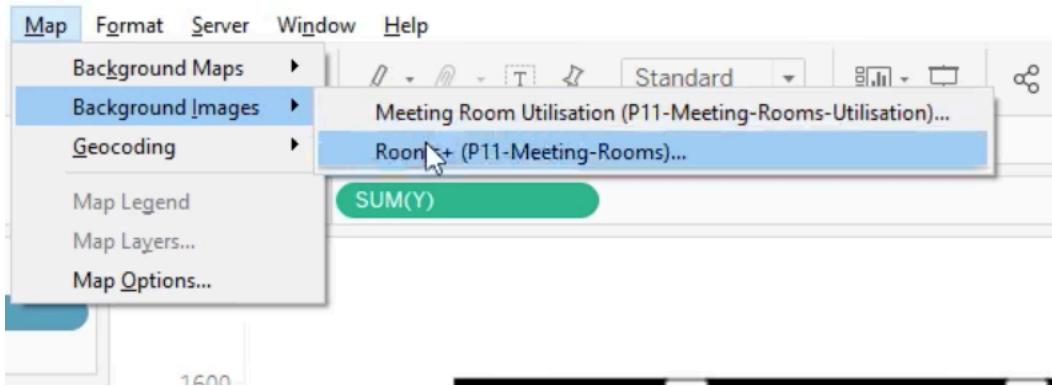
Create a parameter

Connect "Floor" field with "Select Floor" parameters using formula

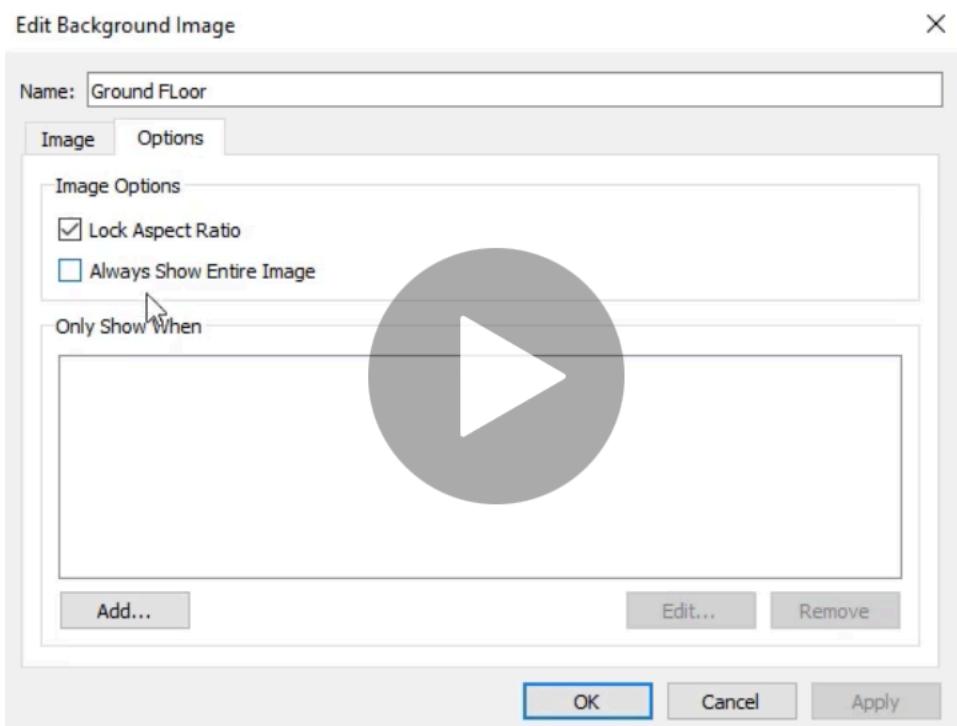


# Toggle background image

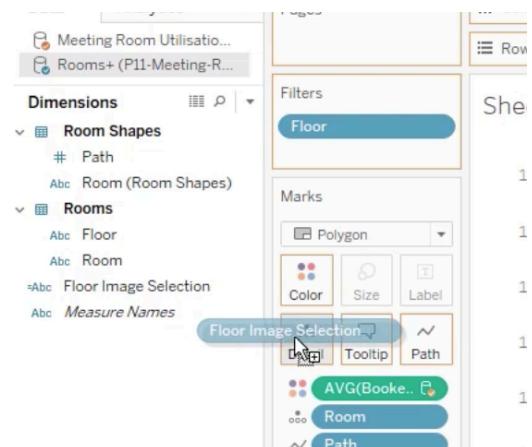
Create a calculated field and link its value to the parameter

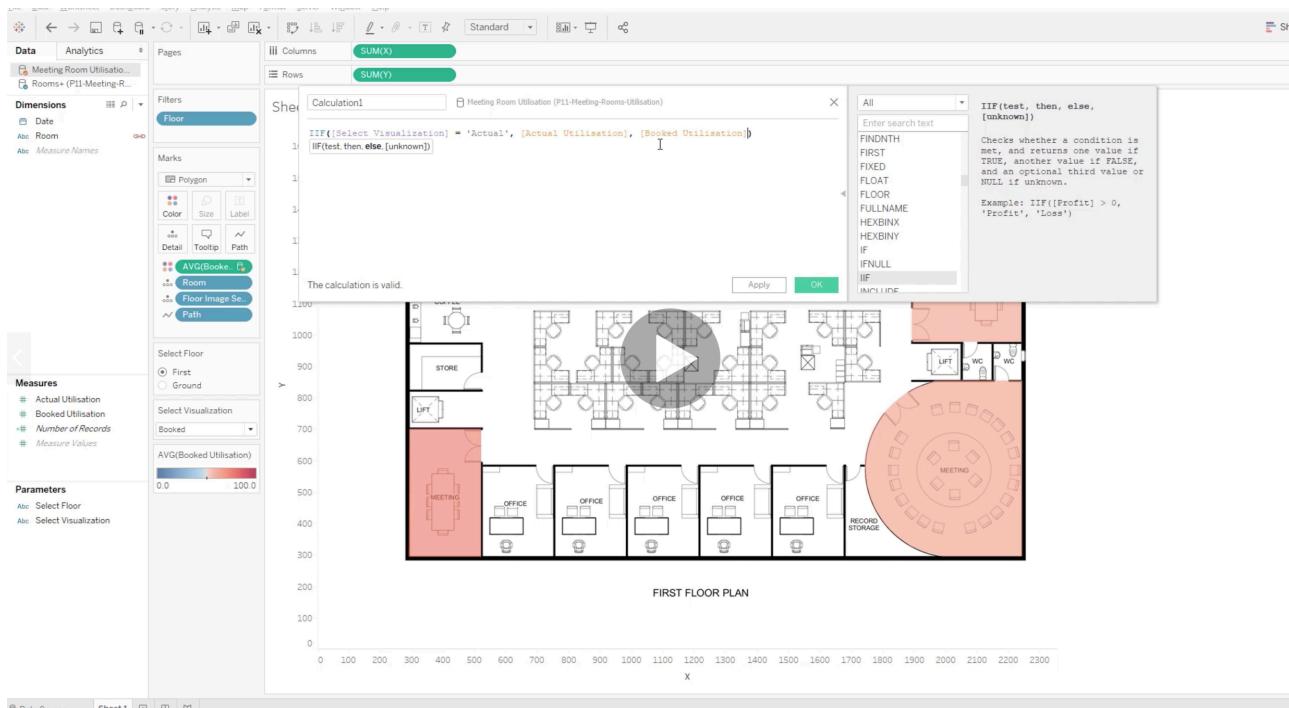


Select the image and go to Options tab



Drag the image calculated field on to the details

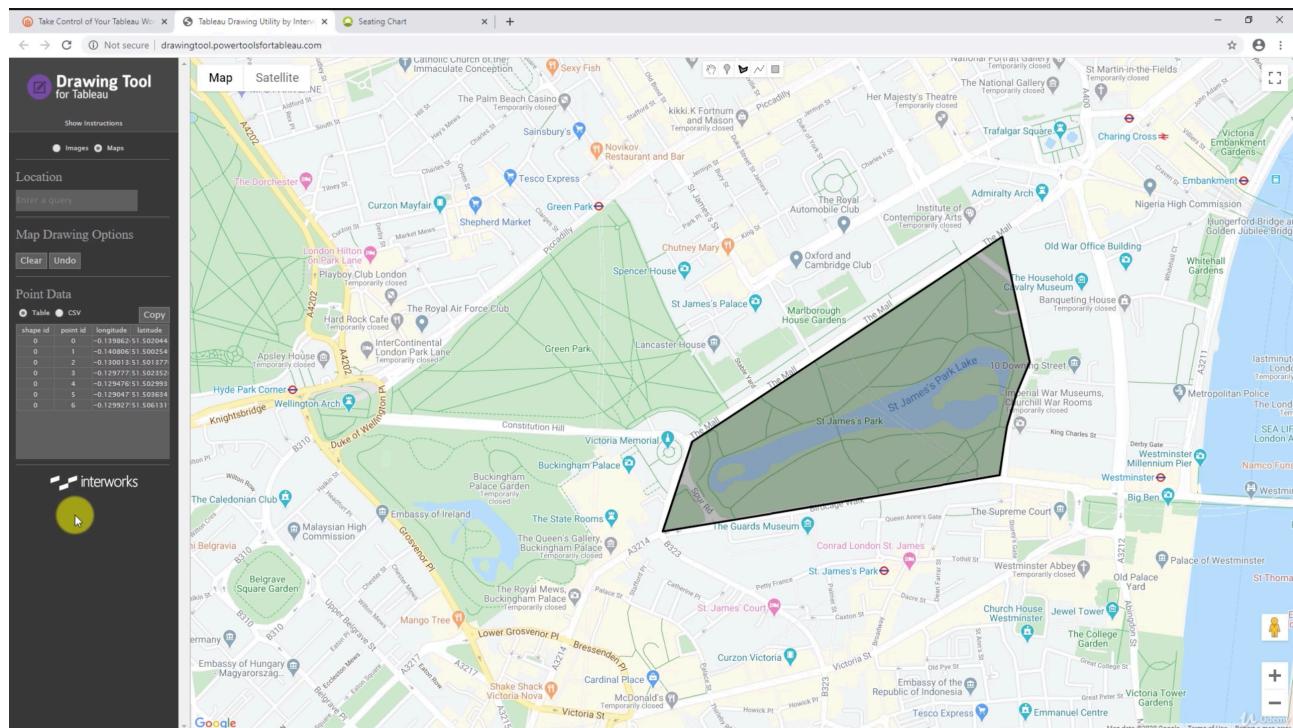




Using parameter to show if we want Actual Utilisation measure or Booked Utilisation measure

## Drawing Tools for Tableau

[drawingtools.powertoolsfortableau.com](http://drawingtools.powertoolsfortableau.com)



My Tableau Repository -> shapes -> create a folder here and move your shape icons here

Now you can use your own custom shapes in Tableau