Tableau Training

simplilearn

DATA AND
ARTIFICIAL INTELLIGENCE

Structuring Data in Tableau

Learning Objectives

By the end of this lesson, you will be able to:

- Apply sorting techniques in Tableau
- Describe groups and its types
- Identify different types of sets
- Utilize bins and hierarchies for structuring data in Tableau

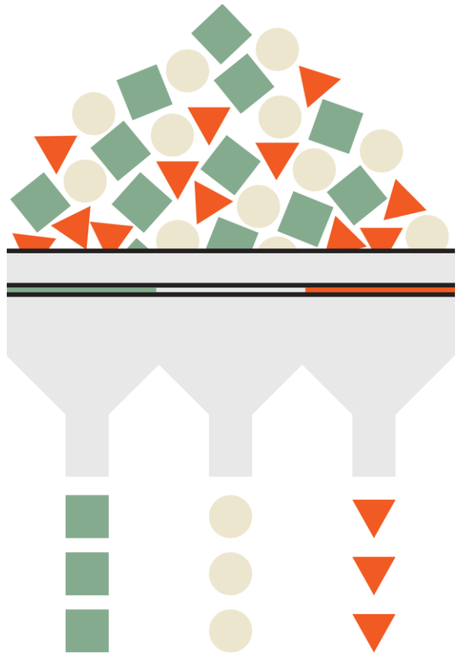
A Day in the Life of a Data Analyst

As a Data Analyst in your company, you are asked to organize the set of filtered data every day as it makes the evaluation easier.

To achieve these, you are required to arrange the data in the various structure such as sorting, groups, sets, bins, and hierarchies.

Sorting

Sorting

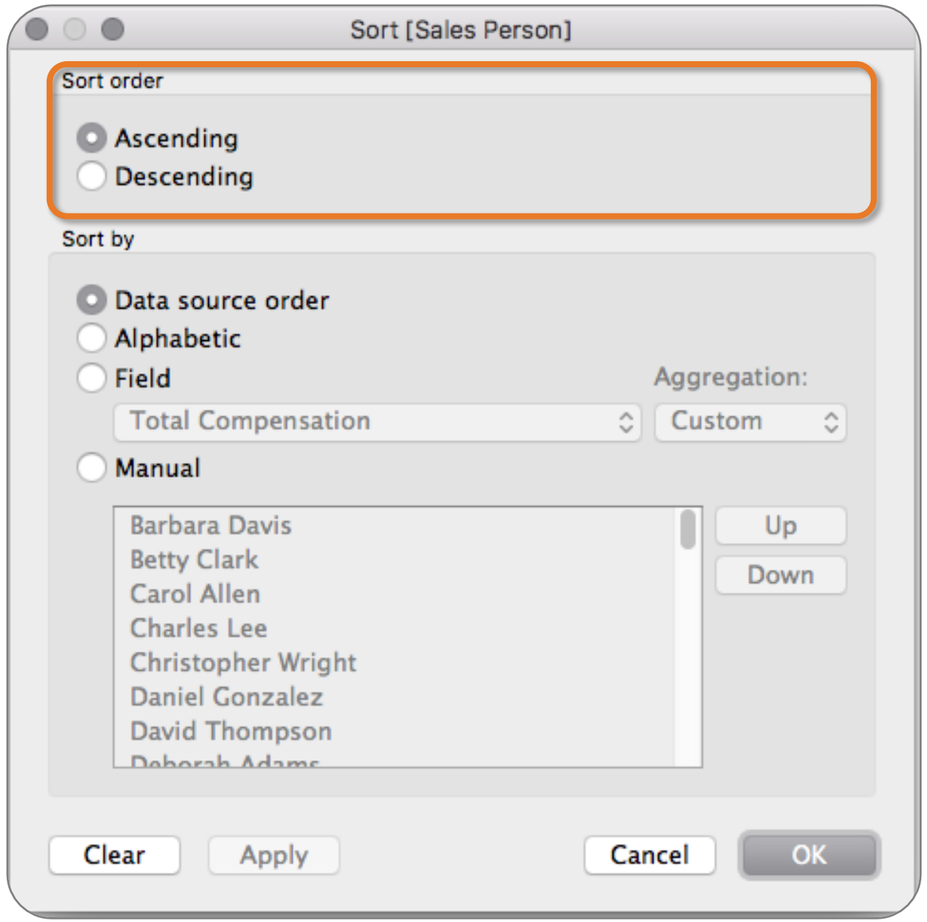


Sorting is the process of organizing data in a particular sequence.

It is an effective way to highlight the extremes in data.

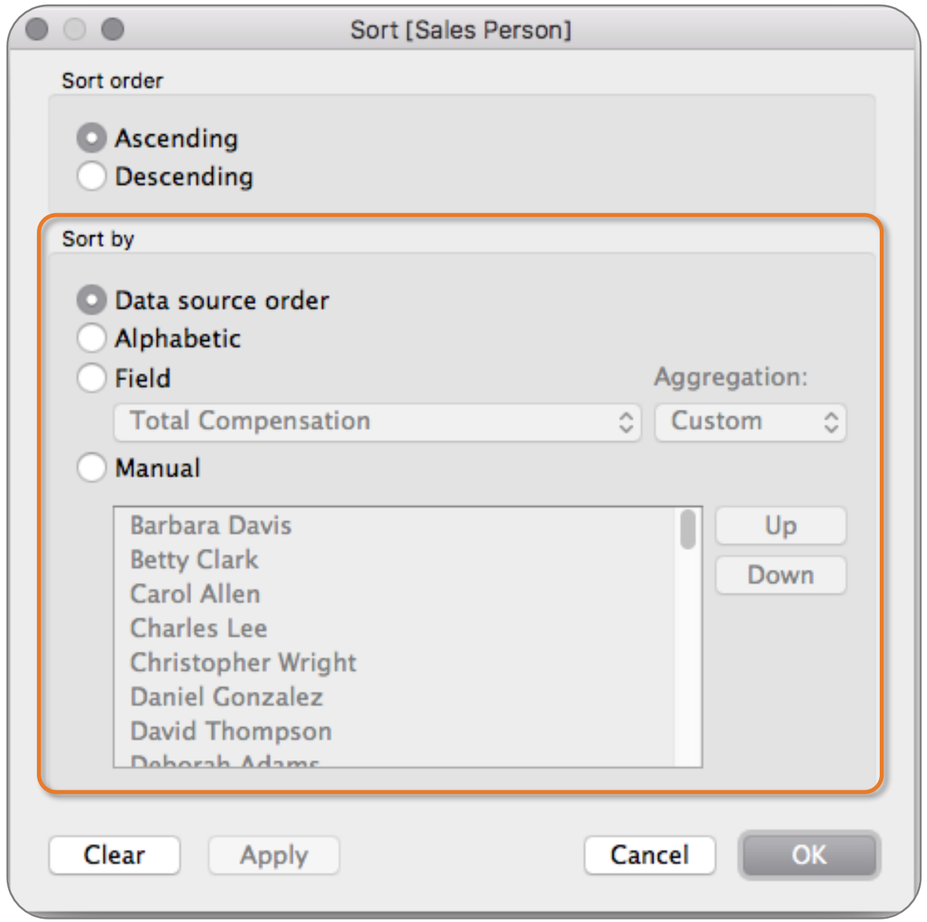
Sorting

Sorting can be in either ascending or descending order.



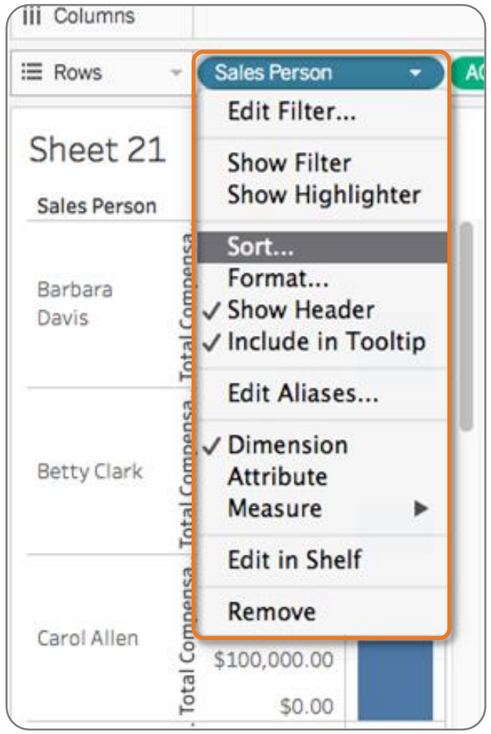
Sorting

Sorting on a dimension can be based on data source order, field, alphabetical order, or manual.



Sorting

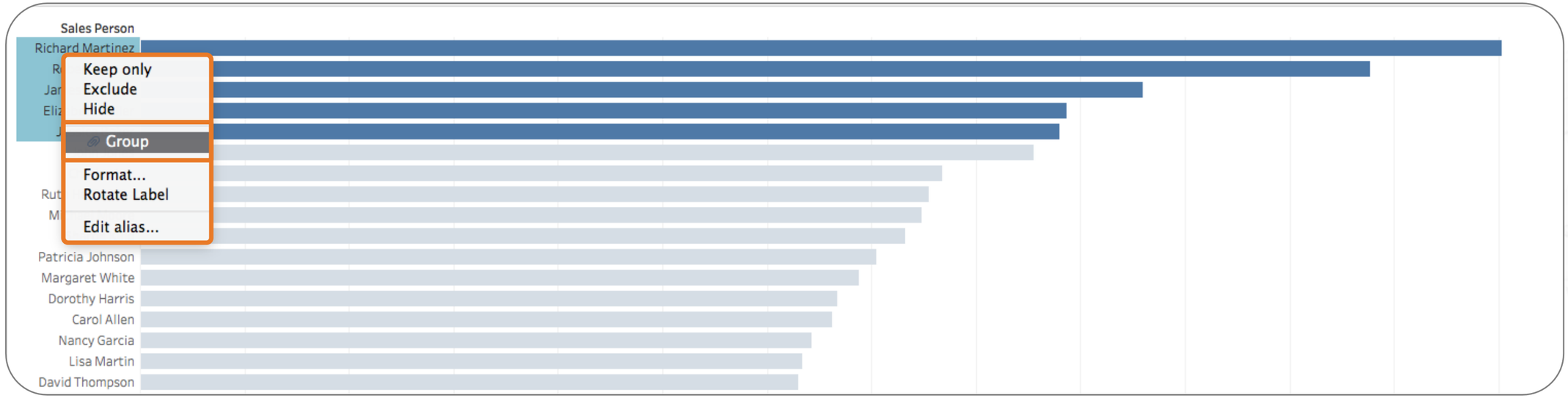
Sorting on a measure can be applied through a dimensional sort.



Groups

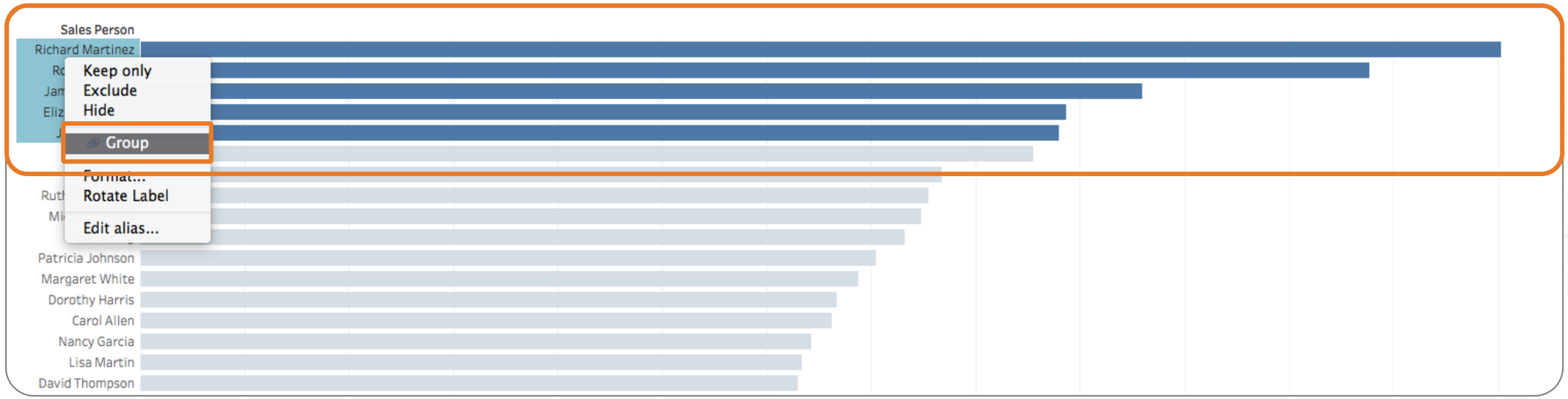
Groups

Groups aggregate the data of dimension members.



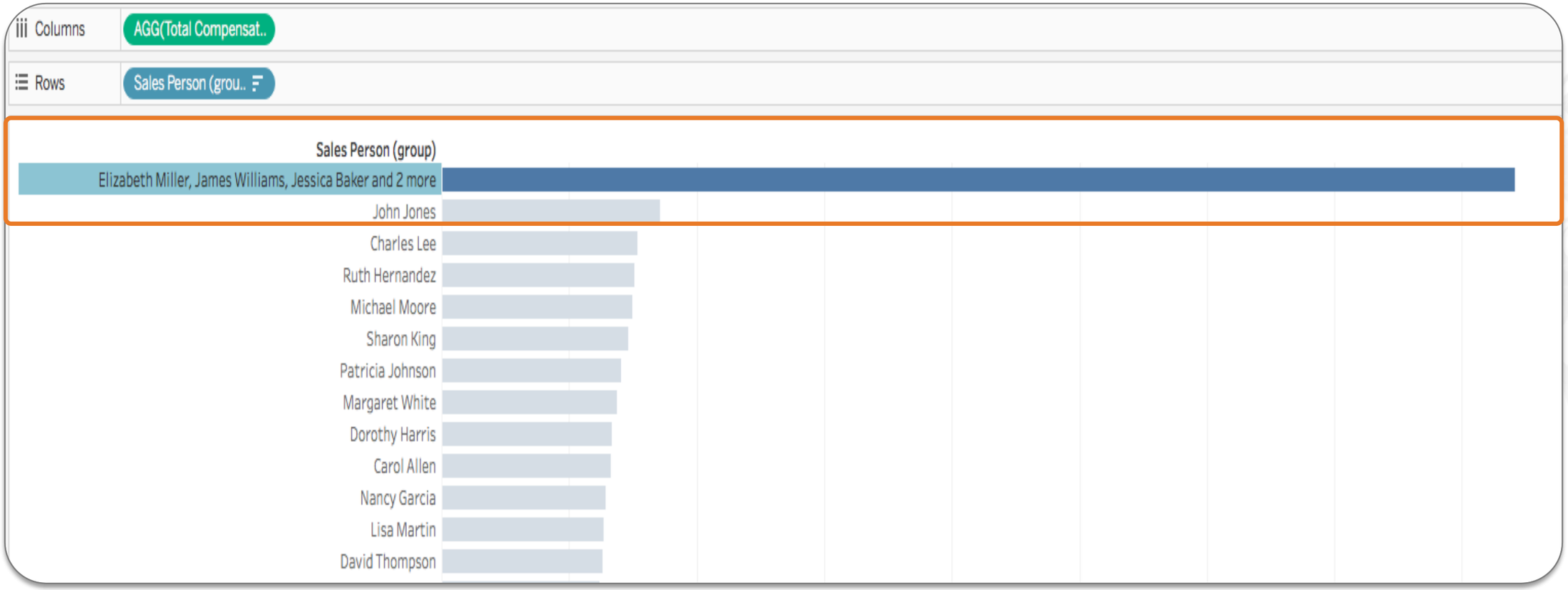
Groups

In the following example, the top five sales representatives by total salary are aggregated into a single row.



Groups

This group can now be used within filters like any other member of a dimension.



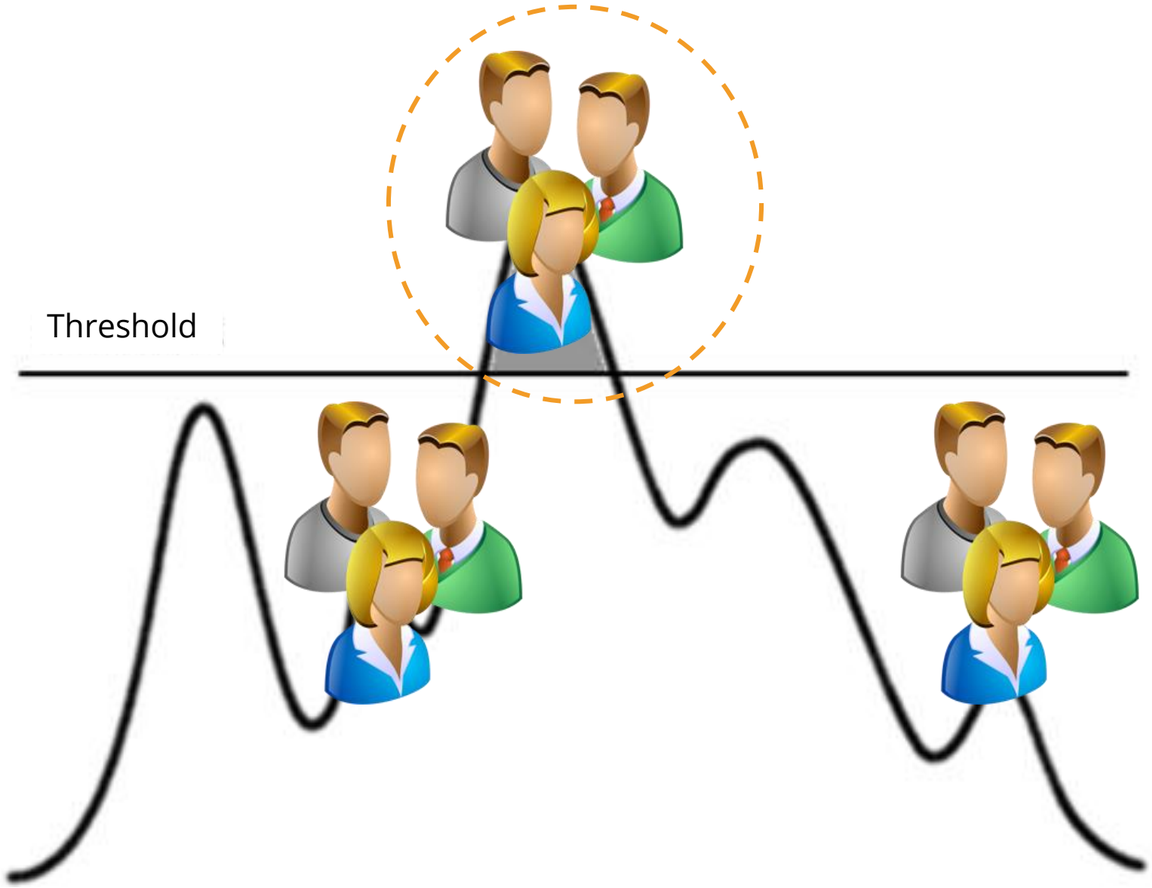
Sets

Sets

Sets are custom fields that define a subset of data based on some conditions.

Sets

For example, a set may include customers with sales over a certain threshold.



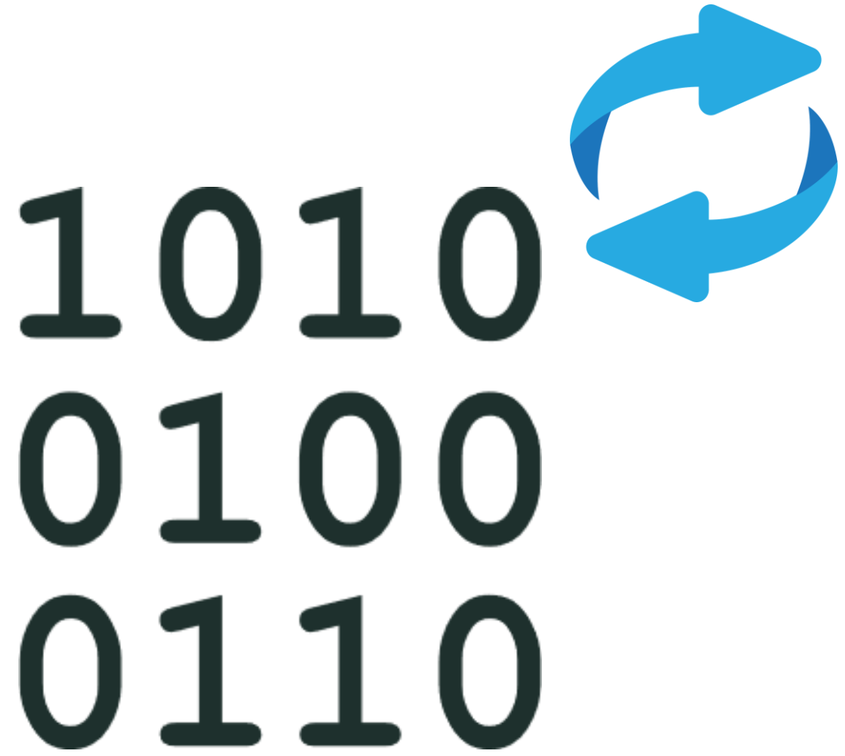
Constant Sets

Constant sets do not change after they are created.

The membership of the constant set does not change if the underlying data changes.

Computed Sets

Computed sets are the types of sets that change with the change in data.



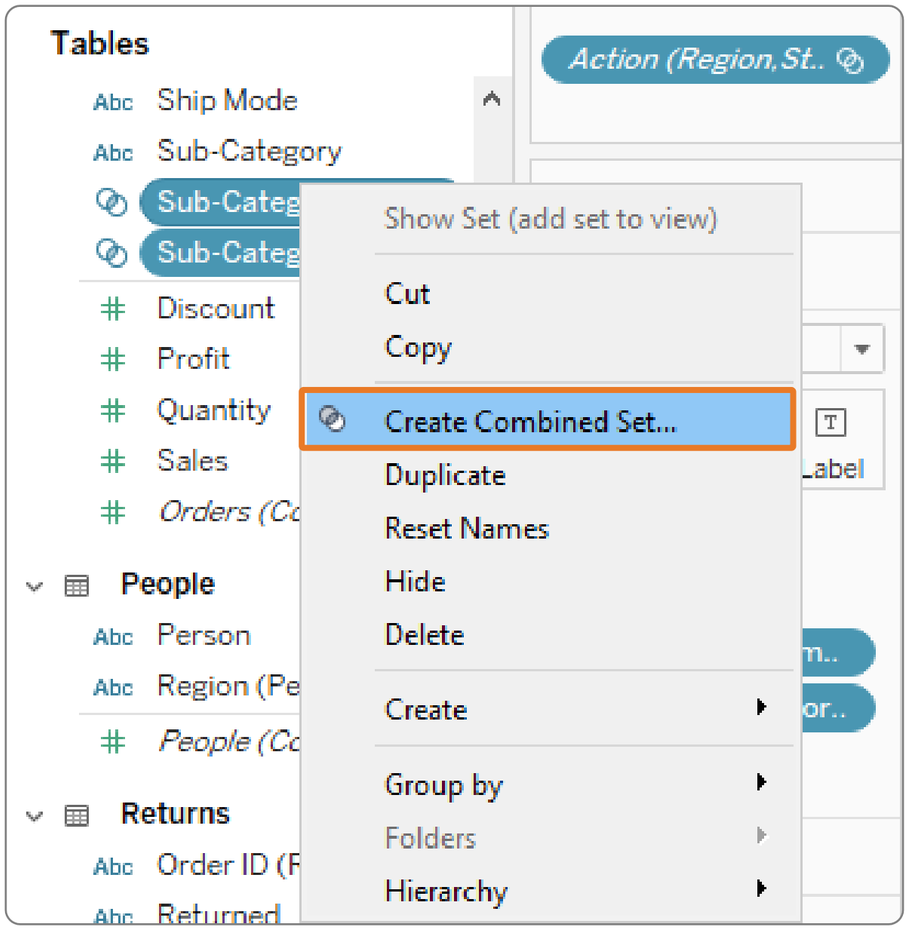
Computed Sets

Computed sets use logic to update the membership of a set.

This is the primary distinction between constant and computed sets.

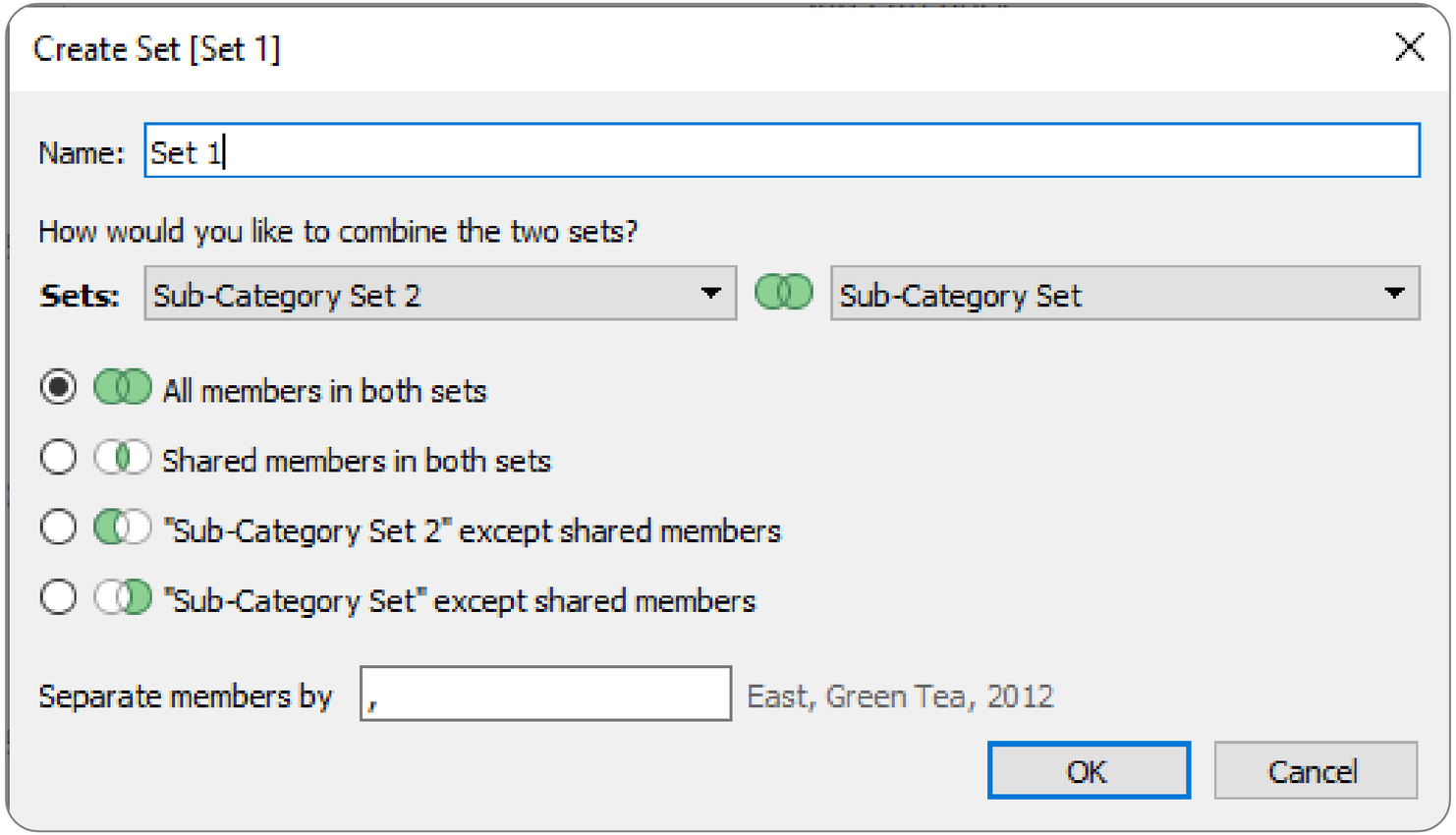
Combined Sets

Two sets can be combined to compare different members.



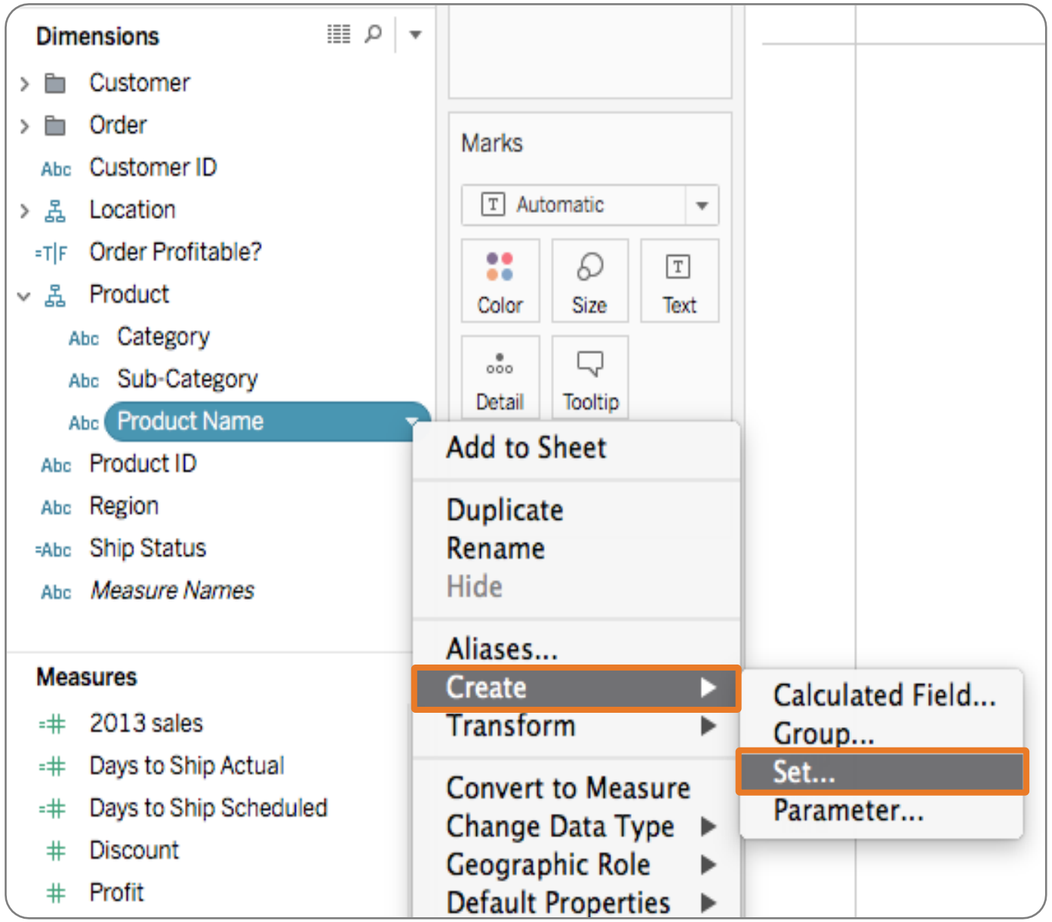
Combined Sets

When users combine sets, a new set is generated. It can either consist of all members, members from both sets, or members from one set but not the other.



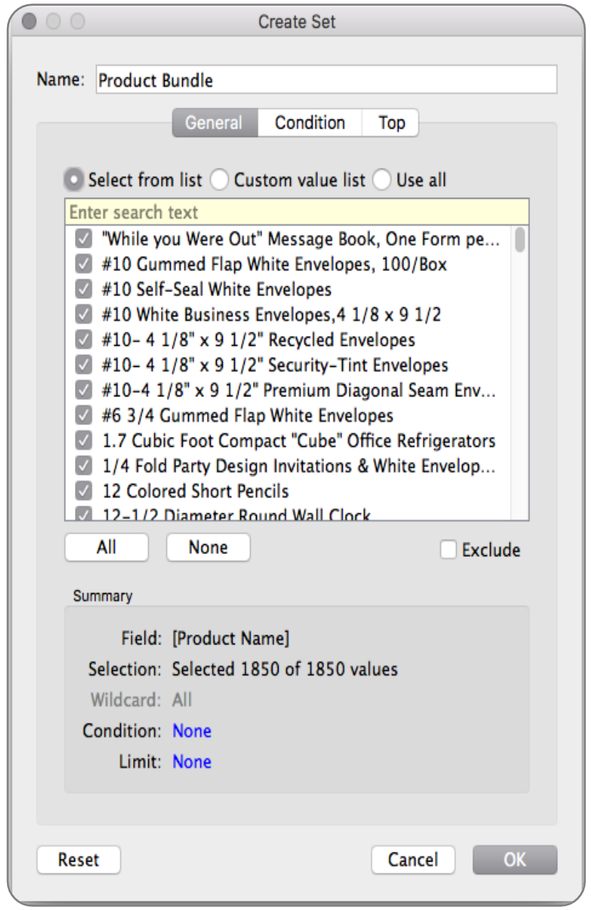
Building Sets

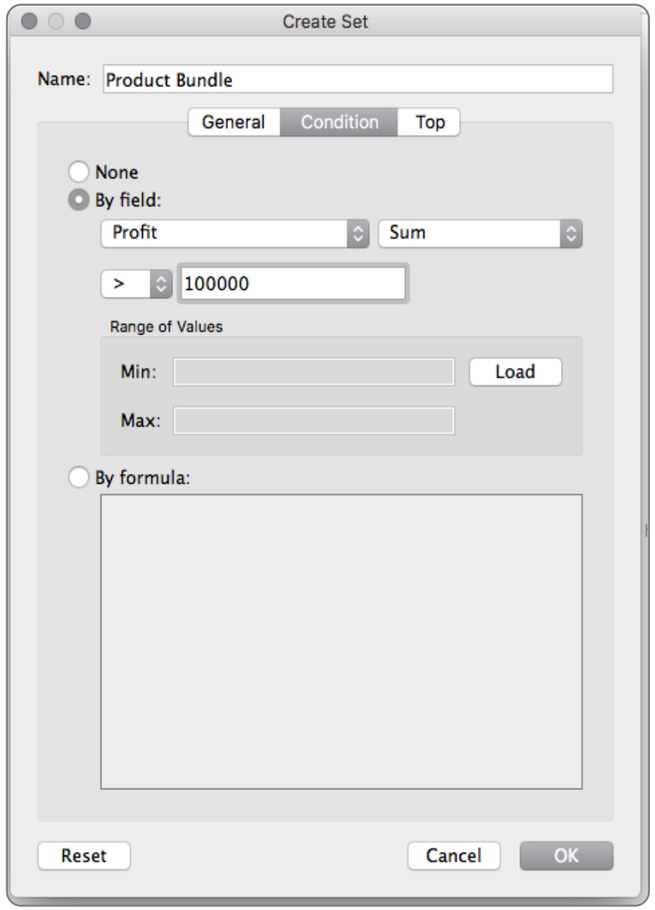
Sets can be created through manual selection, condition, or ranking.

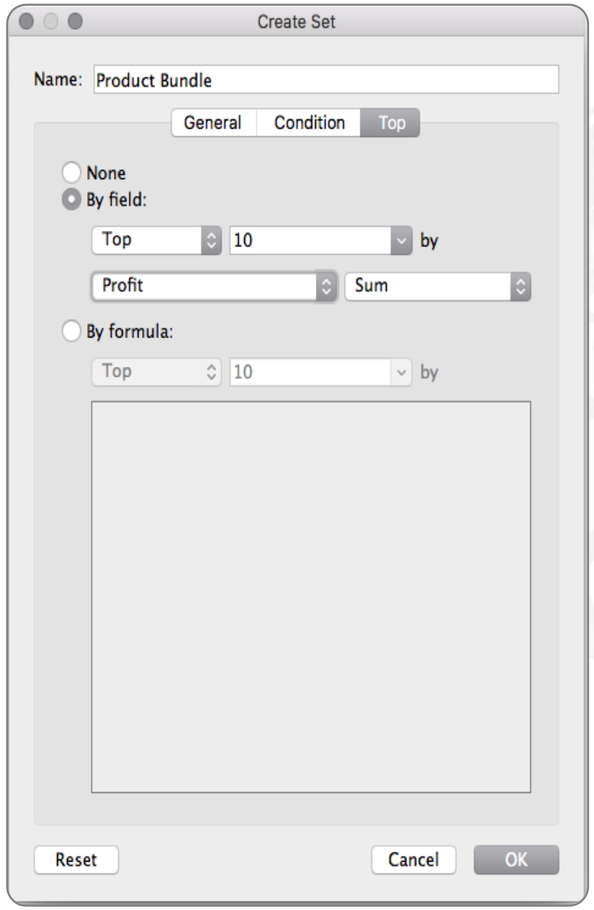


Building Sets

Example of a set of products called **Product Bundle**, defined in a manual or custom approach:



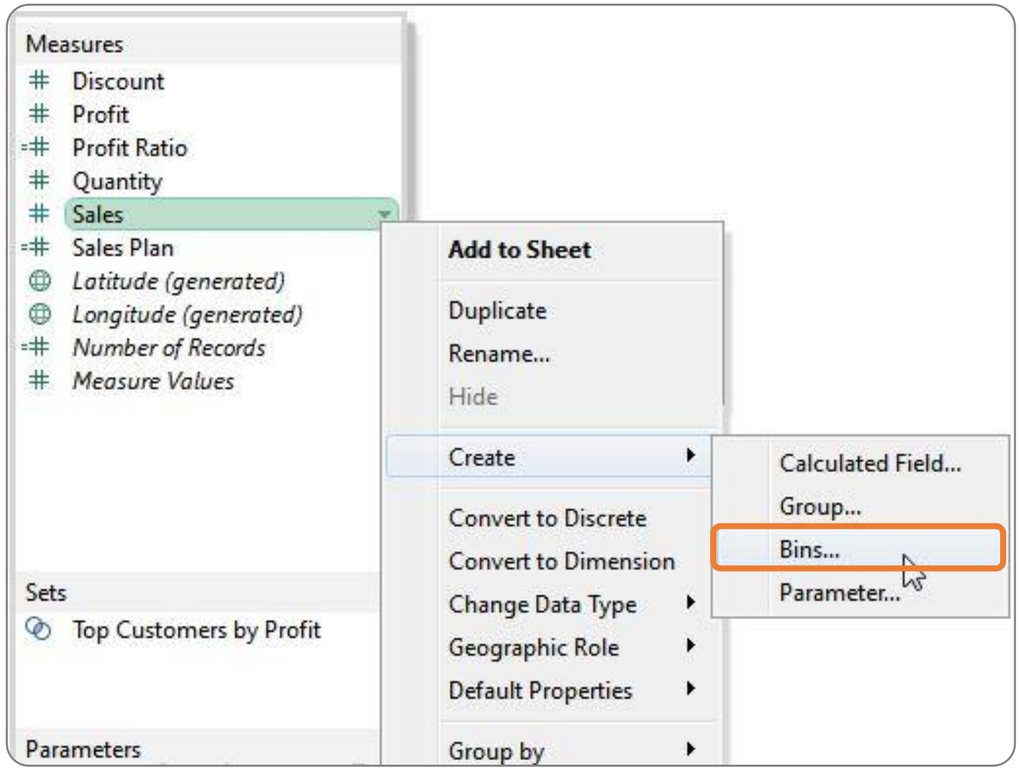




Bins

Bins

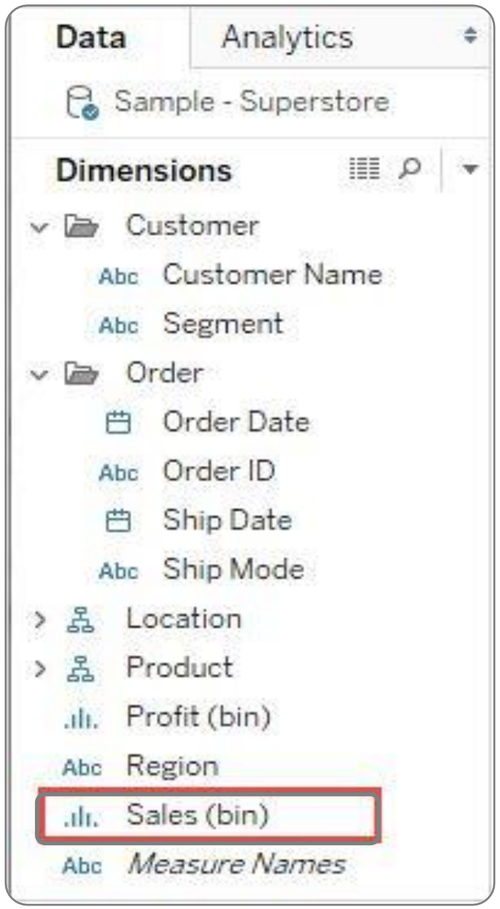
Tableau bins are equal-sized containers that store data values that correspond to or fit within the bin size.



Data from any discrete field can be taken to create bins in Tableau.

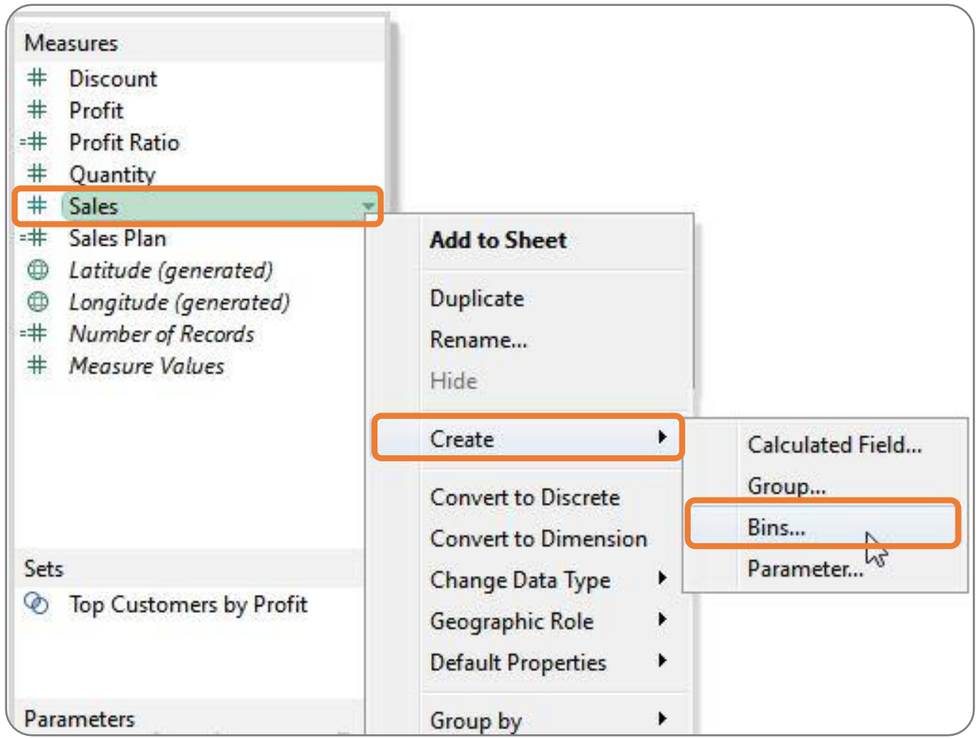
Bins

Let’s learn how to create bins in Tableau.



Bins

Steps to create bins:

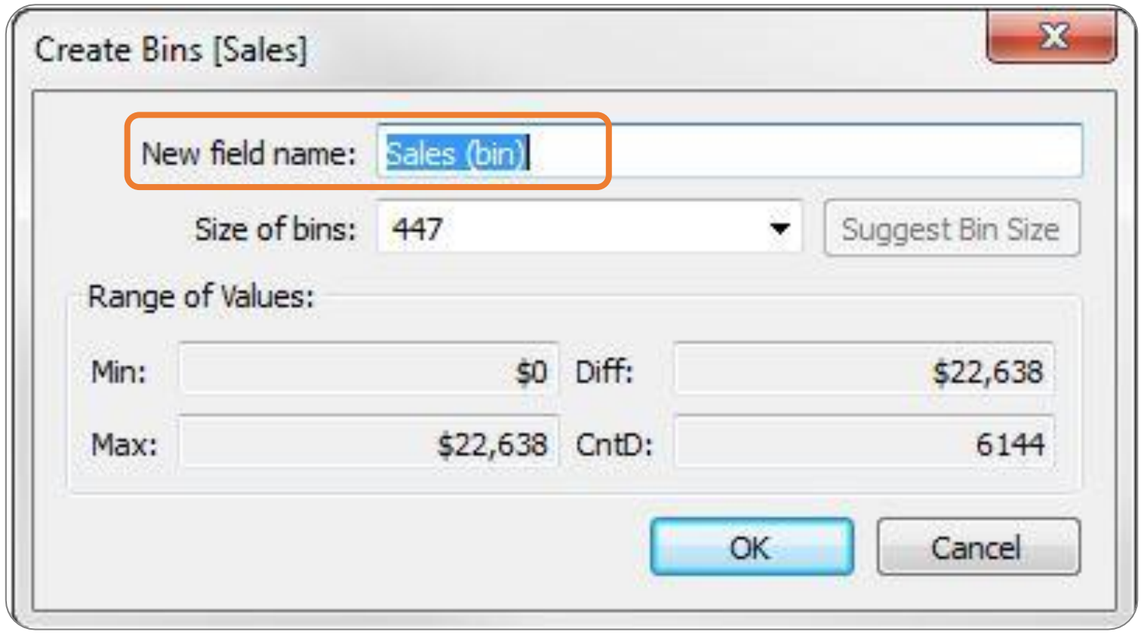


Step 01

Right-click on the measure **Sales** in the **Data** pane, select **Create,** and then click on **Bins**

Bins

Steps to create bins:

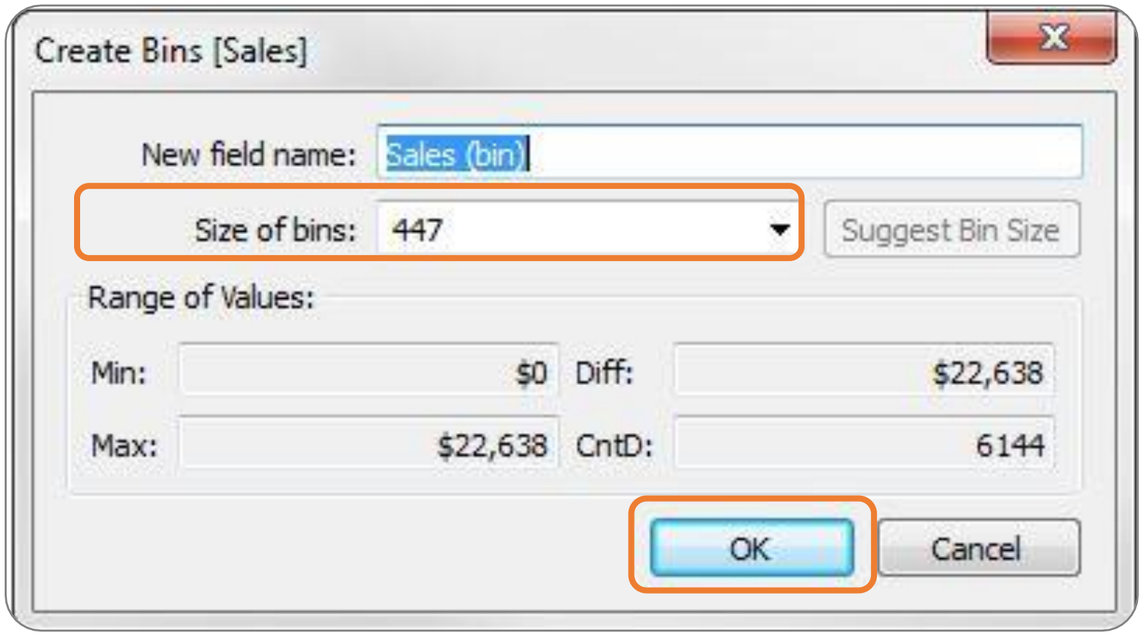


Step 02

In the **Create Bins** dialog box, enter a name for the field in **New field name**

Bins

Steps to create bins:

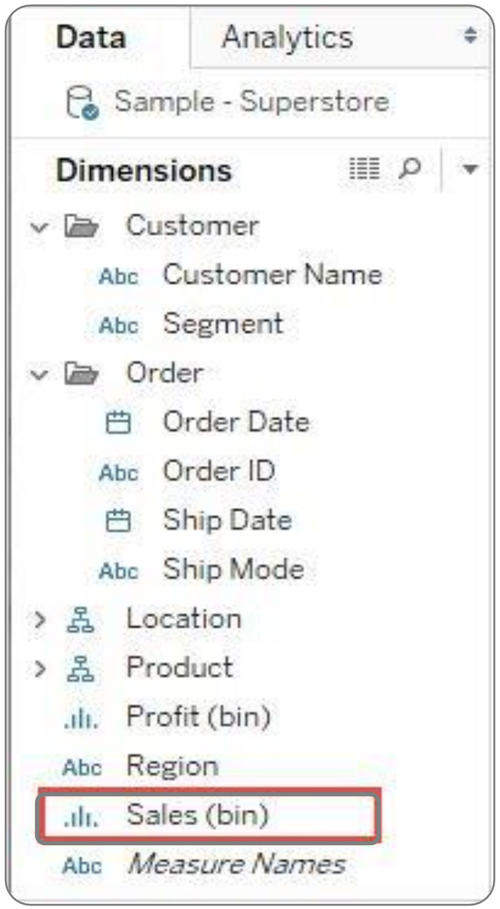


Step 03

Either enter a value in the **Size of bins** field or use the Tableau estimated value and then click **OK**

Bins

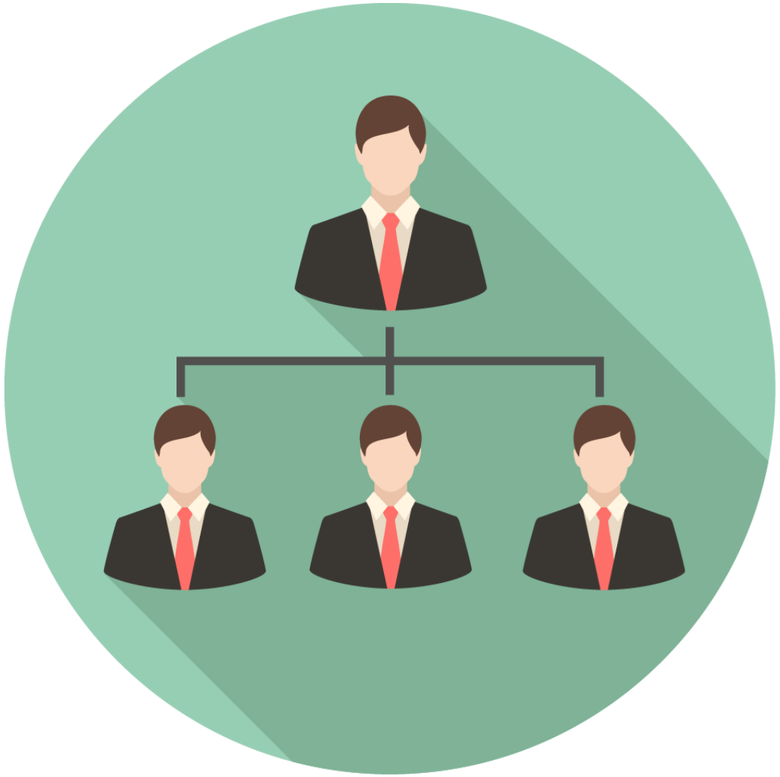
A new binned field appears in the **Dimensions** area of the **Data** pane.



Hierarchies

Hierarchies

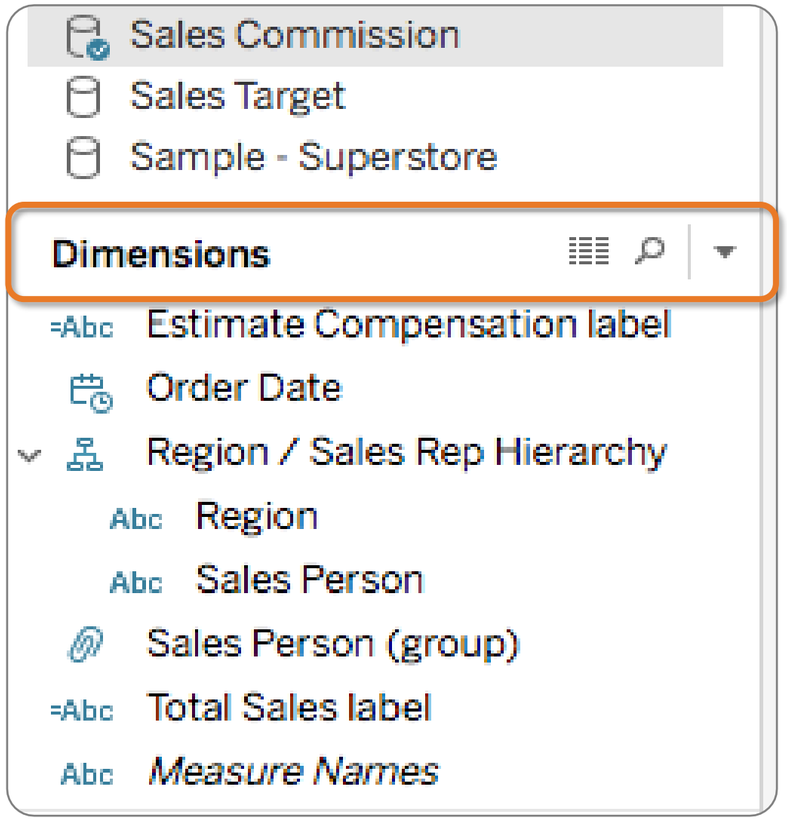
The hierarchy in Tableau is an arrangement where entities are present at various levels.



It is a collection of linked dimensions grouped into degrees of varying complexity.

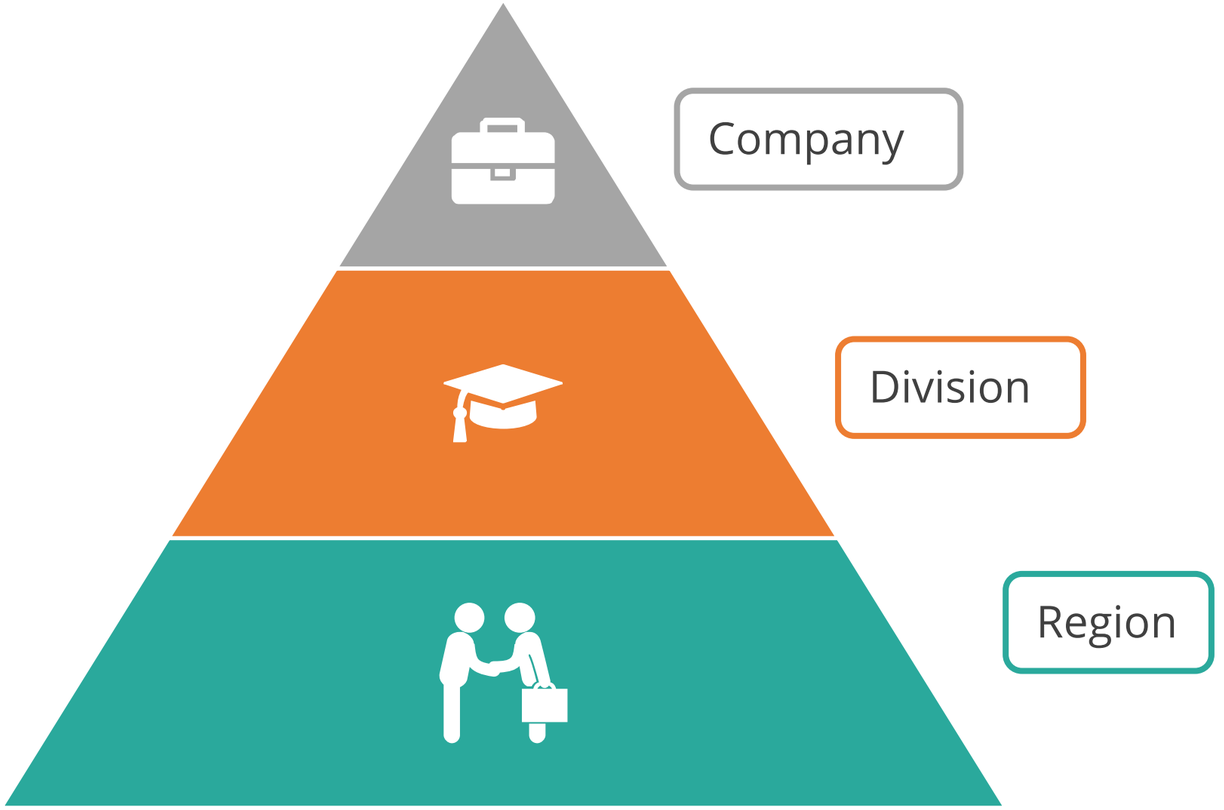
Hierarchies

We can create hierarchies by adding one dimension as a level beneath the principal dimension.



Hierarchies

For example, a business may have an organizational hierarchy that includes levels, such as company, division, and region.

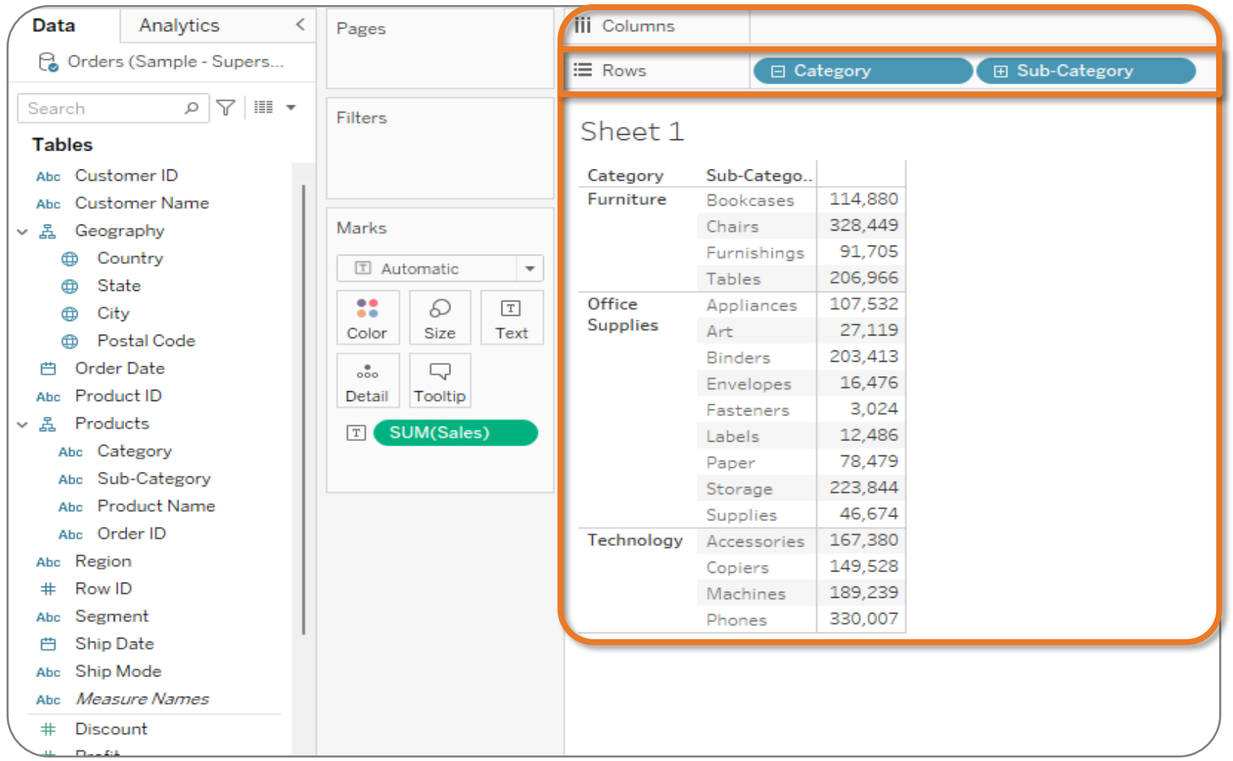


Hierarchies

Using hierarchies along with Tableau’s drill-down or drill-up functionality is an efficient way to present data at various levels of detail.

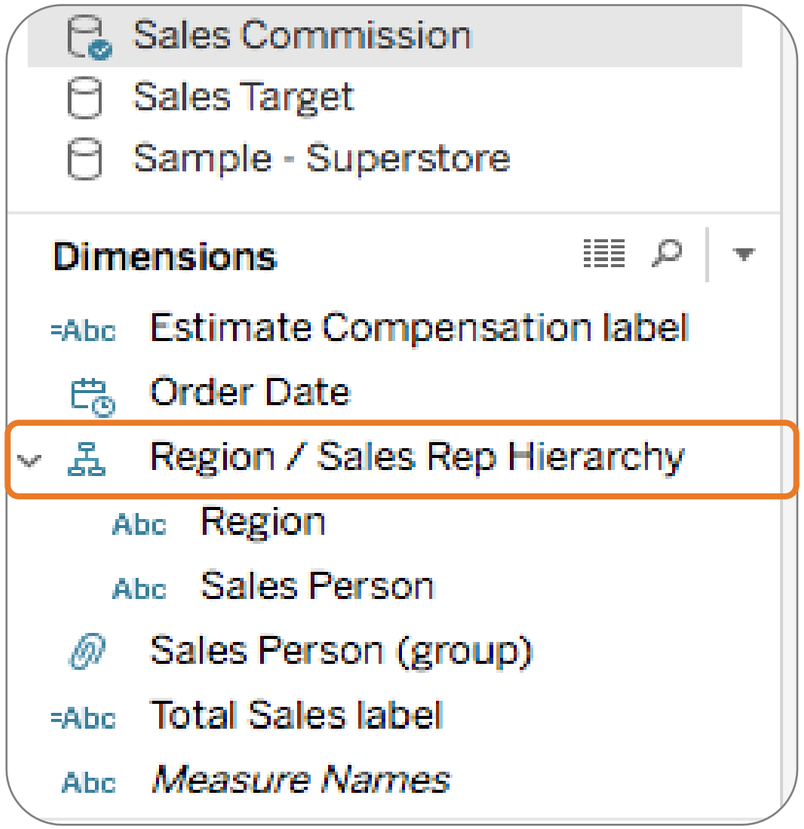
Hierarchies

This visualization shows two hierarchies created and Products hierarchy used in Row shelf.



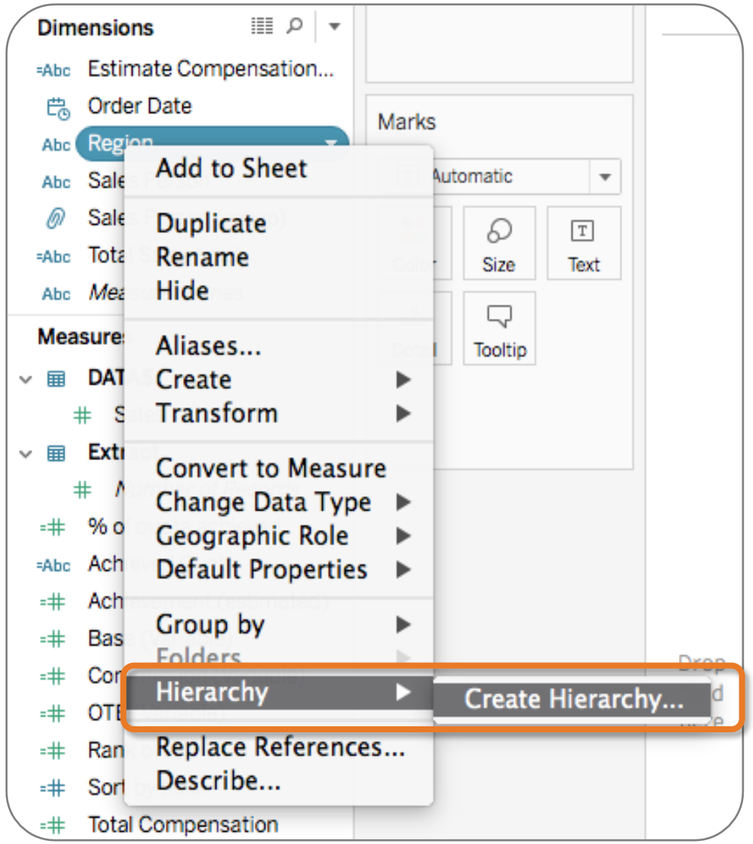
Hierarchies

Hierarchies can be used as Dimensions.



Hierarchies

The steps to use Hierarchies as Dimensions are:

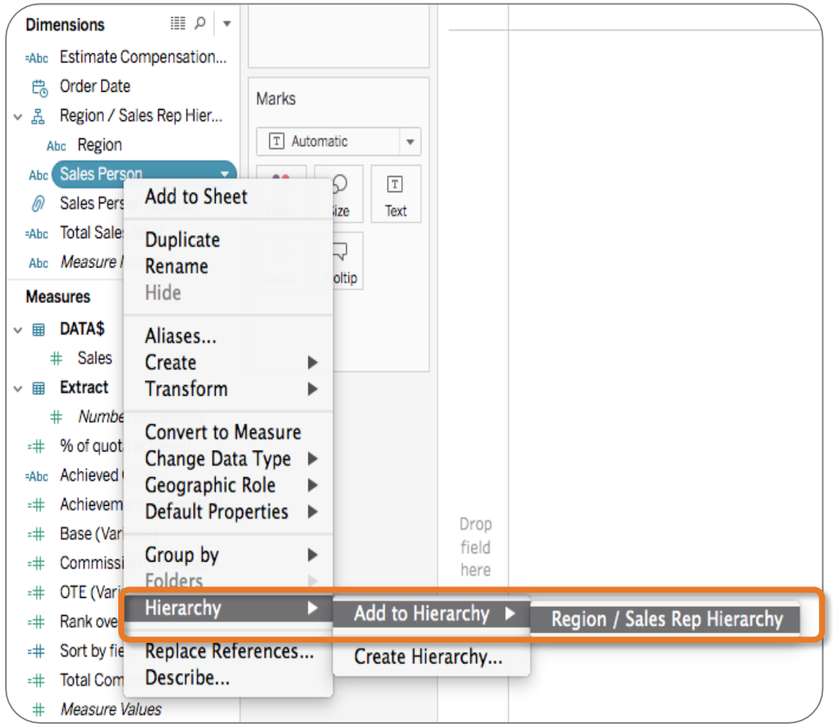


Step 01

Create a Hierarchy

Hierarchies

The steps to use Hierarchies as Dimensions are:

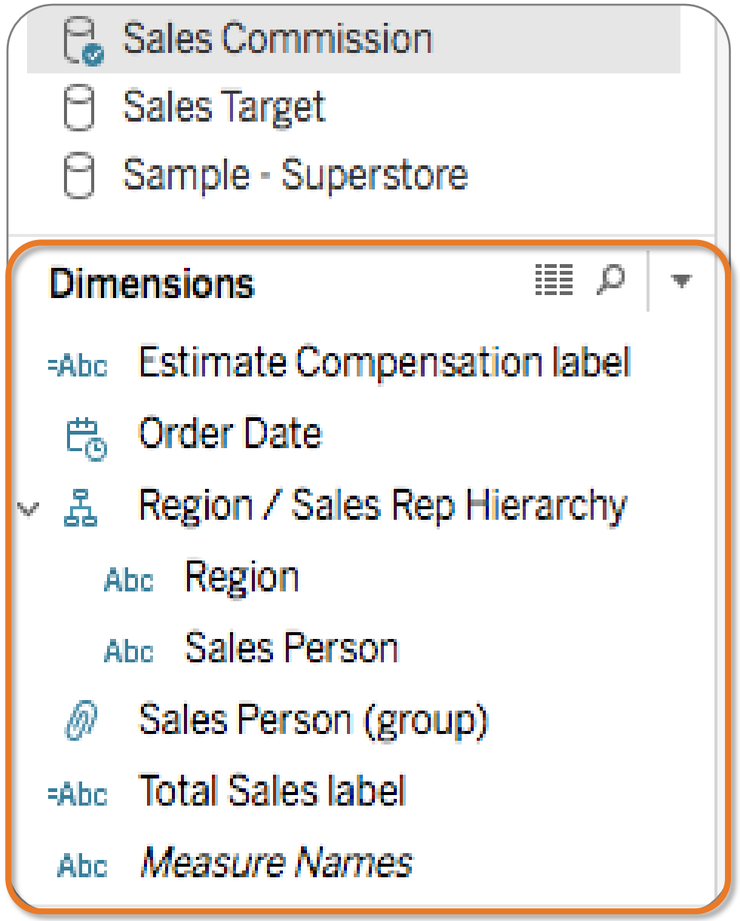


Step 02

Add a Hierarchy

Hierarchies

The steps to use Hierarchies as Dimensions are:



Step 03

Add Dimensions to Hierarchy

Assisted Practice: Grouping, Alias, and Sets

Duration: 20 minutes

Problem statement:

The sales manager of a leading retail company wants to launch an end-of-season sales initiative to encourage the sale of the products. As a part of this initiative, the manager wants to examine the combined sales of envelopes, labels, and papers. In addition to this, the manager wants to view the combined top two and bottom two subcategories based on sales. Create a view showing the accumulated sales for paper products.

ASSISTED PRACTICE

Assisted Practice Guidelines

Steps to follow:

Step 1: Create a view with subcategories and sales
Step 2: Create a group called paper products, including envelopes, labels, and paper
Step 3: Create two sets to represent the top-two and bottom-two products
Step 4: Combine those sets and place them on color
Step 5: Label the view by profit ratio

ASSISTED PRACTICE

Key Takeaways

- Sorting organizes data, and groups aggregate the data of dimension members.
- Sets are custom fields or columns created using a subset of the data based on a connection.
- Bins are containers of equal size that store numerical values.
- Hierarchies are collection of linked dimensions grouped into degrees of varying complexity.

Knowledge Check

Knowledge Check

1

_____ is the process of organizing data.

A. Hierarchies

B. Parameters

C. Sorting

D. Bins

Knowledge Check

1

_____ is the process of organizing data.

A. Hierarchies

B. Parameters

C. Sorting

D. Bins

The correct answer is **C**

Sorting is the process of organizing data in a particular sequence. It can be done either in ascending or descending order.

Knowledge Check

2

Which of the following statements is TRUE?

A. Hierarchies are collections of linked dimensions grouped into degrees of varying complexity.

B. Hierarchies aggregate the data of dimension members.

C. Hierarchies can be used as dimensions.

D. None of these

Knowledge Check

2

Which of the following statements is TRUE?

A. Hierarchies are collections of linked dimensions grouped into degrees of varying complexity.

B. Hierarchies aggregate the data of dimension members.

C. Hierarchies can be used as dimensions.

D. None of these

The correct answer is **C**

Hierarchies can be used as dimensions. It is a collection of linked dimensions grouped into degrees of varying complexity.

Knowledge Check

3

Which of the following is NOT a way of structuring data?

A. Groups

B. Parameters

C. Bins

D. Sorting

Knowledge Check

3

Which of the following is NOT a way of structuring data?

A. Groups

B. Parameters

C. Bins

D. Sorting

The correct answer is **B**

Parameters are not a way of structuring data. They are the variables used to receive user inputs.

Knowledge Check

4

_____ are containers of equal size that store numerical values.

A. Bins

B. Groups

C. Sorting

D. Parameters

Knowledge Check

4

_____ are containers of equal size that store numerical values.

A. Bins

B. Groups

C. Sorting

D. Parameters

The correct answer is **A**

Bins are containers of equal size that store numerical values. They create histograms in Tableau.

Knowledge Check 5

_____ are custom fields that define a subset of data based on some conditions.

A. Hierarchies

B. Groups

C. Bins

D. Sets

Knowledge Check 5

_____ are custom fields that define a subset of data based on some conditions.

A. Hierarchies

B. Groups

C. Bins

D. Sets

The correct answer is **D**

Sets are custom fields that define a subset of data based on some conditions and are created through manual selection, by condition, or by ranking.