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Tableau 10

Organizing and Simplifying Data

What's In It For Me

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

- List the ways to filter data
- Understand how to sort data
- Explain how to build groups
- Explain how to build hierarchies
- Explain how to build sets

Organizing & Simplifying Data

Topic 1: Filtering Data

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Filtering Data

FILTER TYPES

Data filters can be used to limit the data to include specific fields and/or records that meet certain criteria.

Data can be filtered using the following filter types:

Data source filters

Filters at the data source level that are an efficient way to limit scope of data for performance/security purposes

Extract filters

Filters on extracts that perform the same function as data source filters but are applied to the extract connection

Worksheet filters

Filters that are applied within the Tableau workbook itself

Filtering Data

FIELD TYPES

Filters on the data source, extract, or worksheet can be applied to the following field types:

Dimensions - such as Region or Product Name

Measures - such as Sales or Profit

Dates - such as Year = 2017 or Month = May

Filtering Data

ON DIMENSION

Filtering on dimensions can be done using one of the following approaches:

- **General** - user selects one or multiple members from the domain
- **Wildcard** - matched values based on presence of a string (“contains”), or based on same starting characters, same ending characters, or same full set of characters (filter to identify sales reps where job title contains “sales”)
- **Condition** - matched based on field or formula (filter to list sales reps with sales volume greater than a certain dollar amount)
- **Top** - top values by field or formula (filter to do a top 10 rank of sales reps by sales volume)

Filtering Data

ON MEASURES

Filter on measures can be done using one of the following approaches:

- **Range of values -** filter to identify sales reps within a range of sales totals
- **At Least -** filter to identify sales reps with sales above a certain level
- **At Most -** filter to identify sales reps with sales below a certain level
- **Special -** all values, null values, non-null values

Filtering Data

ON DATES

Filter on measures can be done using one of the following approaches:

- **Relative dates:** The user can specify a range of dates that is updated based on the date and time you open the view (such as year-to-date sales or profits).
- **Range of dates:** The user can specify a range of dates to define a fixed range of dates to filter.
- **Discrete dates:** The user can specify a discrete date value in the dialog box if you want to include entire date levels.
- **Individual dates:** The user can select Individual dates to filter specific dates from your view.
- **Additional date filter options:** The user can specify a Starting date or Ending date, or select to include null dates, non-null dates, or all dates.

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Topic 2: Sorting Data

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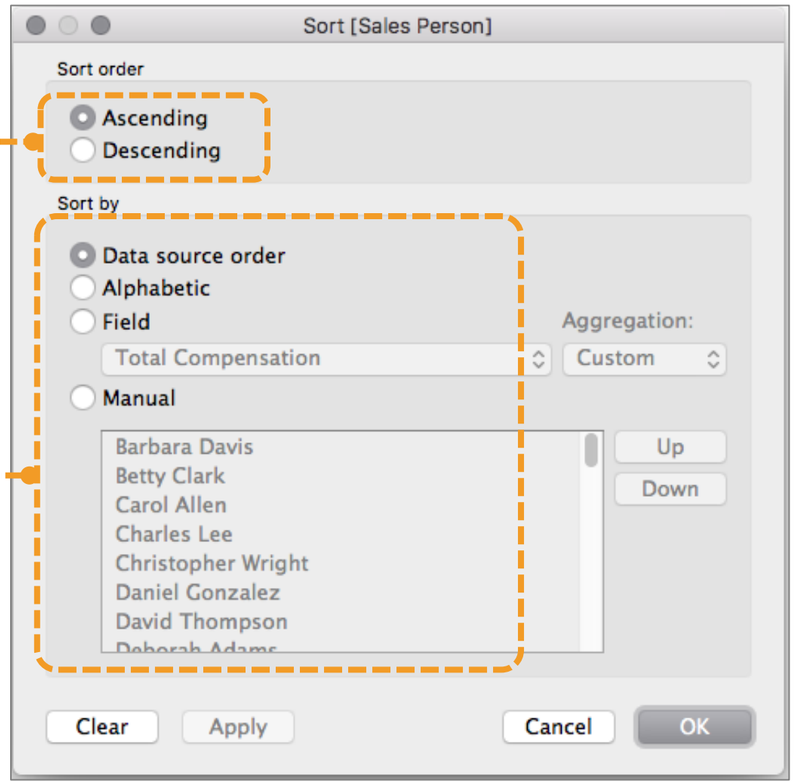
Sorting Data

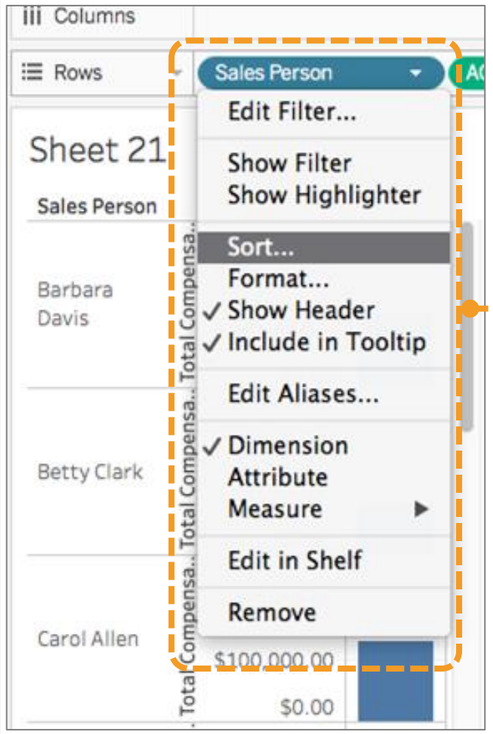
Sorting is arranging the data in a specific order.

Sorts are an effective way to highlight the extremes in data.

Sorting can be done in ascending or descending order

Sorting on a dimension can be based on data source order, field (typically a measure), alphabetical order, or manual





Sorting on a measure can be applied through a dimensional sort (sort by sales reps in descending order in terms of sales)

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Topic 3: Building Groups

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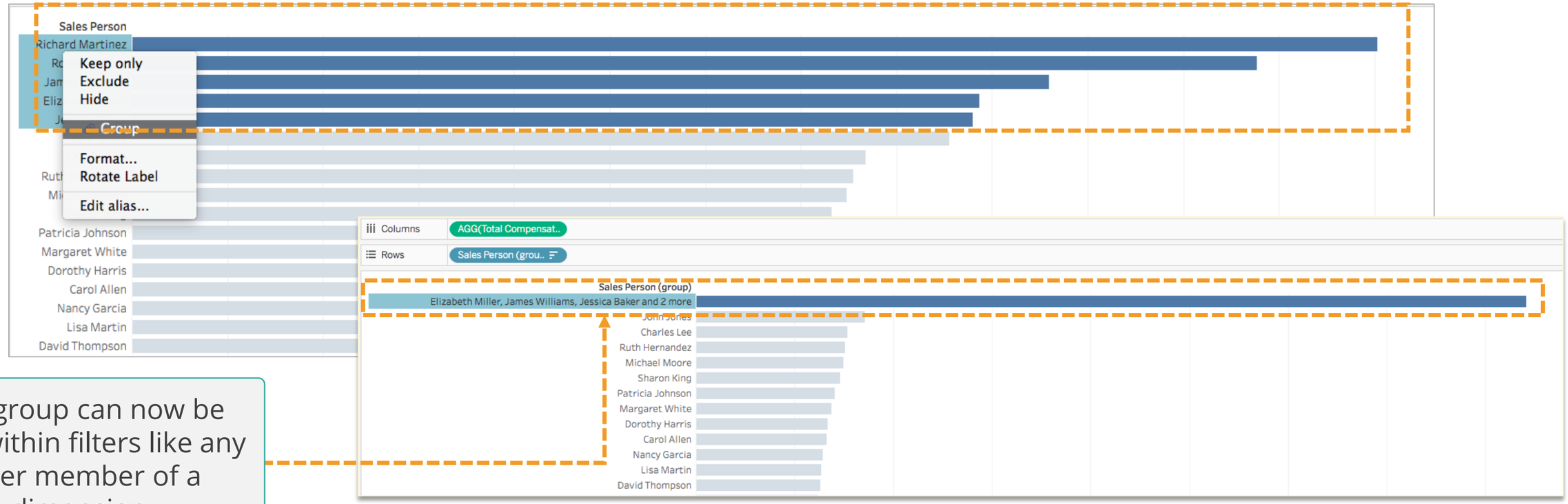
Building Groups

You can combine dimension members into Groups to aggregate the members' data.

In the following example, a group of the top 5 sales reps by total compensation is grouped into one row.



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

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Topic 4: Building Hierarchies

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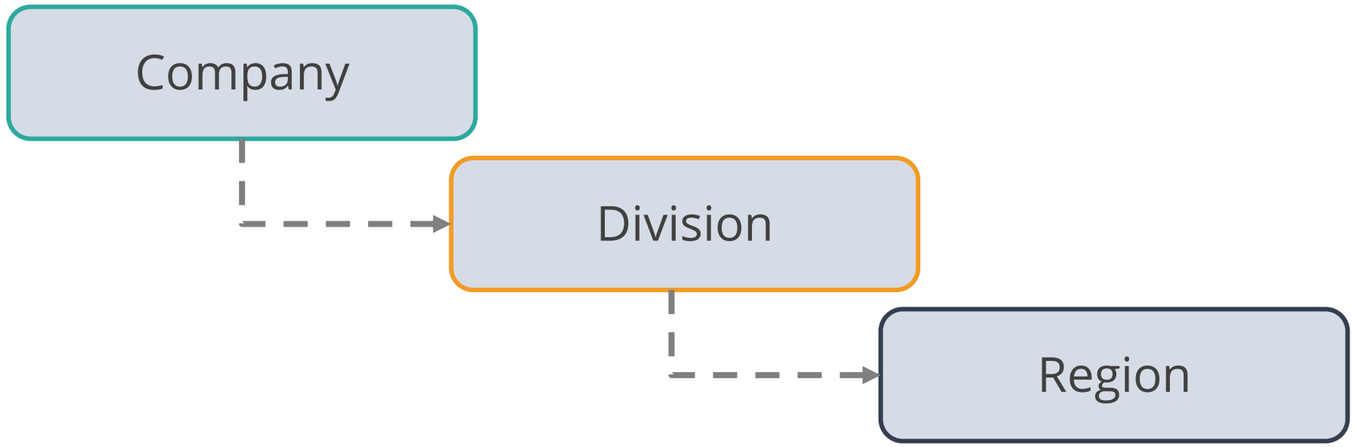
Building Hierarchies

WHAT IS HIERARCHY

Hierarchies are groups of related dimensions that are organized into levels at different granularities.

Example: A business may have an organizational hierarchy that includes levels such as company, division, region, etc.

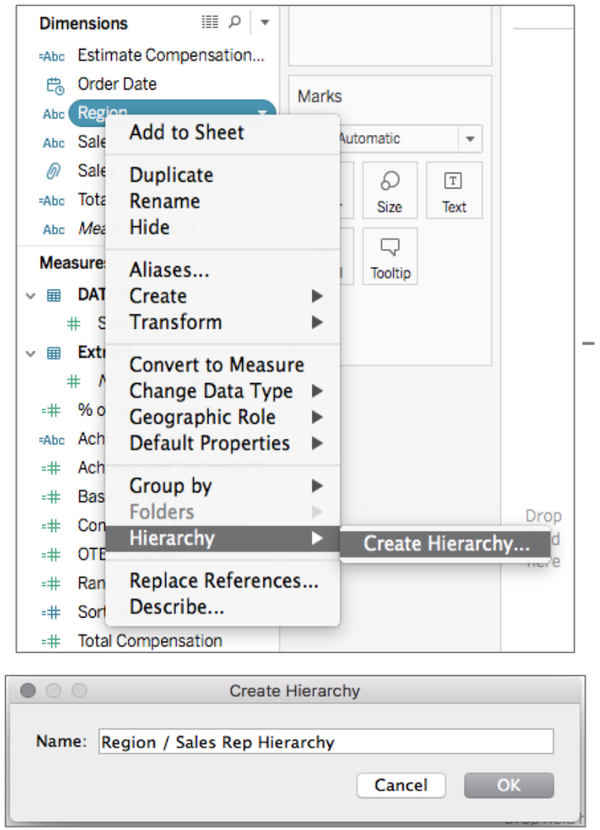


Building Hierarchies

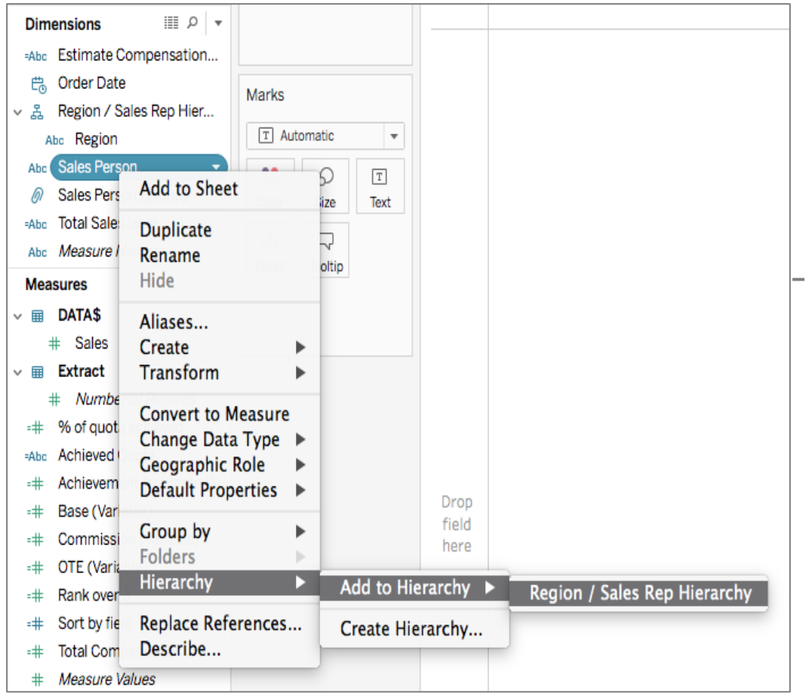
USING HIERARCHY AS DIMENSION

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

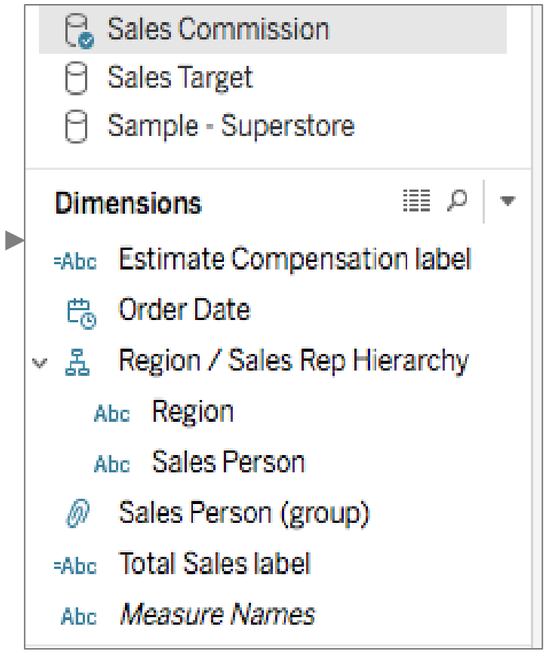
Create and add hierarchy:



Add Dimensions to Hierarchy:



Hierarchy can now be used as a dimension:



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Topic 5: Building Sets

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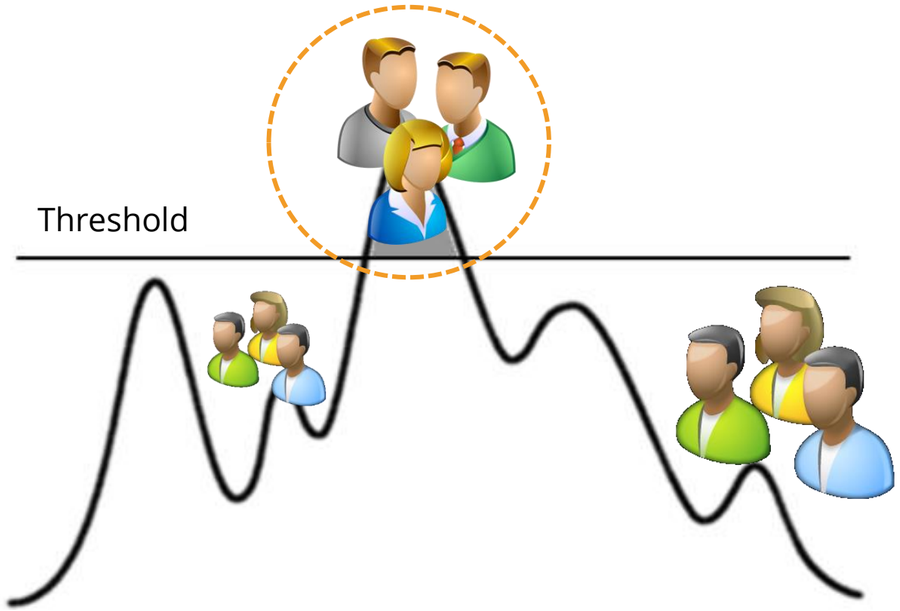
Sets

Sets are custom fields that define a subset of data based on some conditions, such as a computed condition.

Example: A set may contain customers with sales over a certain threshold.

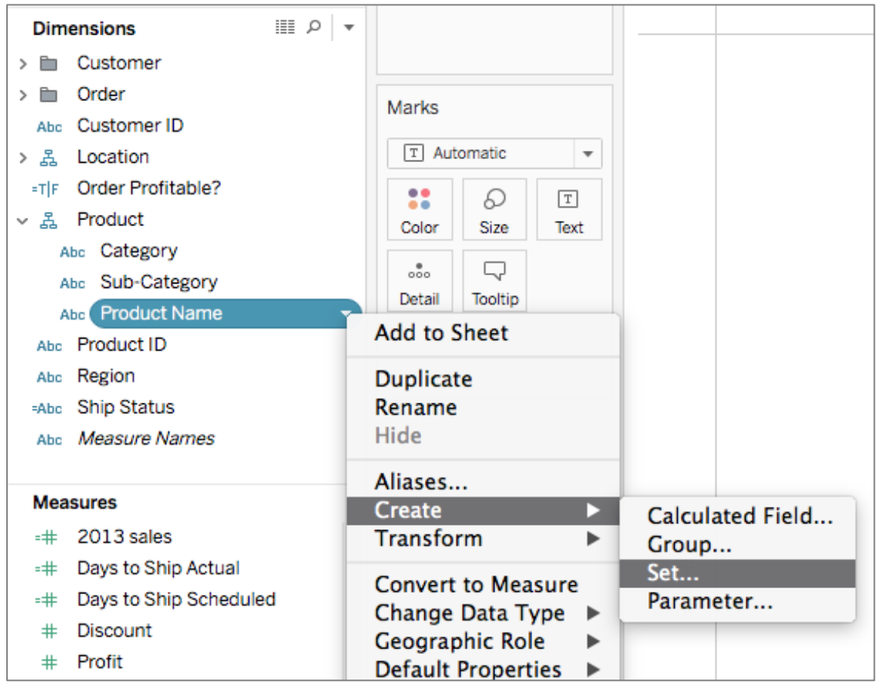


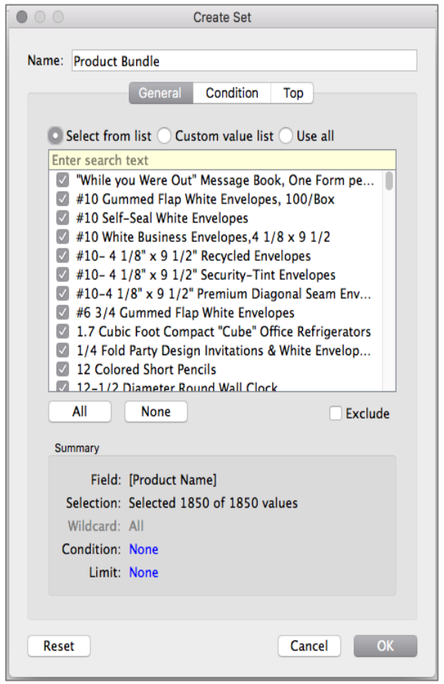
Computed sets change with the change in data.

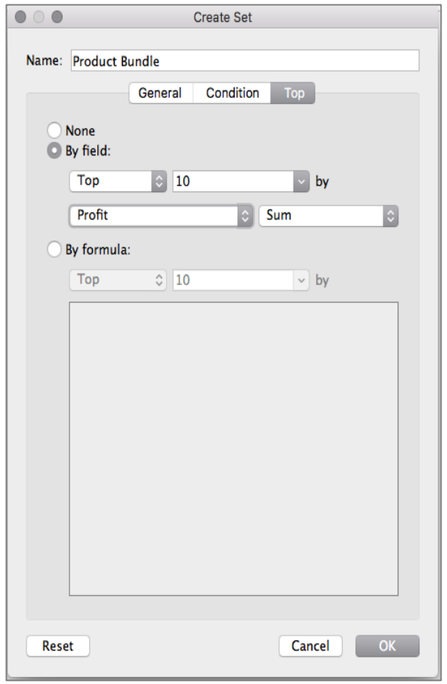
Building Sets

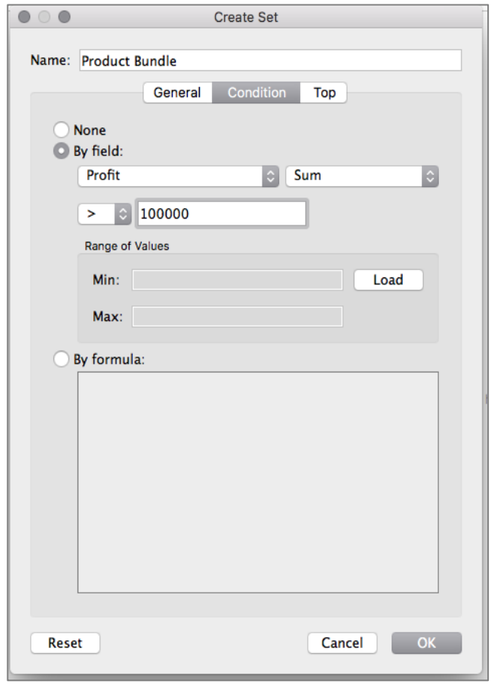
Sets can be created through manual selection, by condition, or by ranking.

The following image is an example of a set of products called “Product Bundle,” defined in a manual or custom approach:









Demo—Data, sorting Data, building groups, hierarchies, and sets

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Quiz

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QUIZ
1

A filter that limits query results to fields that contain a specific string of text is called ____.

a. Top filter

b. General filter

c. Wildcard filter

d. Condition filter

QUIZ 1

A filter that limits query results to fields that contain a specific string of text is called ____.

a. Top filter

b. General filter

c. Wildcard filter

d. Condition filter

The correct answer is **c.**

A Wildcard filter matches values based on presence of a string (“contains”), or based on same starting characters, same ending characters, or same full set of characters.

QUIZ
2

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

a. Hierarchies

b. Sets

c. Groups

d. Measure Values

QUIZ 2

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

a. Hierarchies

b. Sets

c. Groups

d. Measure Values

The correct answer is **b.**

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.

QUIZ
3

Using _____ in tandem with Tableau's drill-down and drill-up functionality is an efficient way to present data at various levels of detail.

a. Extracts

b. Filters

c. Measure Values

d. Hierarchies

QUIZ 3

Using _____ in tandem with Tableau's drill-down and drill-up functionality is an efficient way to present data at various levels of detail.

a. Extracts

b. Filters

c. Measure Values

d. Hierarchies

The correct answer is **d.**

Using hierarchies with Tableau's drill-up/drill-down functionality allows the user to easily pivot between different levels of aggregation.

Guided Exercise

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Problem Statement

Mary is analyzing sales volumes for her company. She wants to highlight the top performing products and sales representatives in her analysis. How could Mary use some of the tools covered in this lesson to perform her analysis?

Solution

Mary is analyzing sales volumes for her company. She wants to highlight the top performing products and sales representatives in her analysis. How could Mary use some of the tools covered in this lesson to perform her analysis?

Here are some ways that Mary could use these tools in her analysis:

- She could sort her data to show the top sales representatives or top selling products at the top of the view
- She could use filters to present the top 10 sales representatives in terms of sales volume
- She could create an organizational or product hierarchy so the user could easily pivot to different levels of aggregation
- She could create a group of products with the highest profit margins
- She could create a dynamic set of sales representatives or products that meet a specific criteria

Key Takeaways

- Tableau offers functionality to help you organize and simplify your data to create efficient, concise, meaningful analyses
- The user can Filter the data using dimensions and/or measures
- Similar records can be combined into Groups to simplify the analysis
- Similar records can be added to a set of records
- Related dimensions can be added to custom hierarchies

This concludes “Organizing & Simplifying Data.”