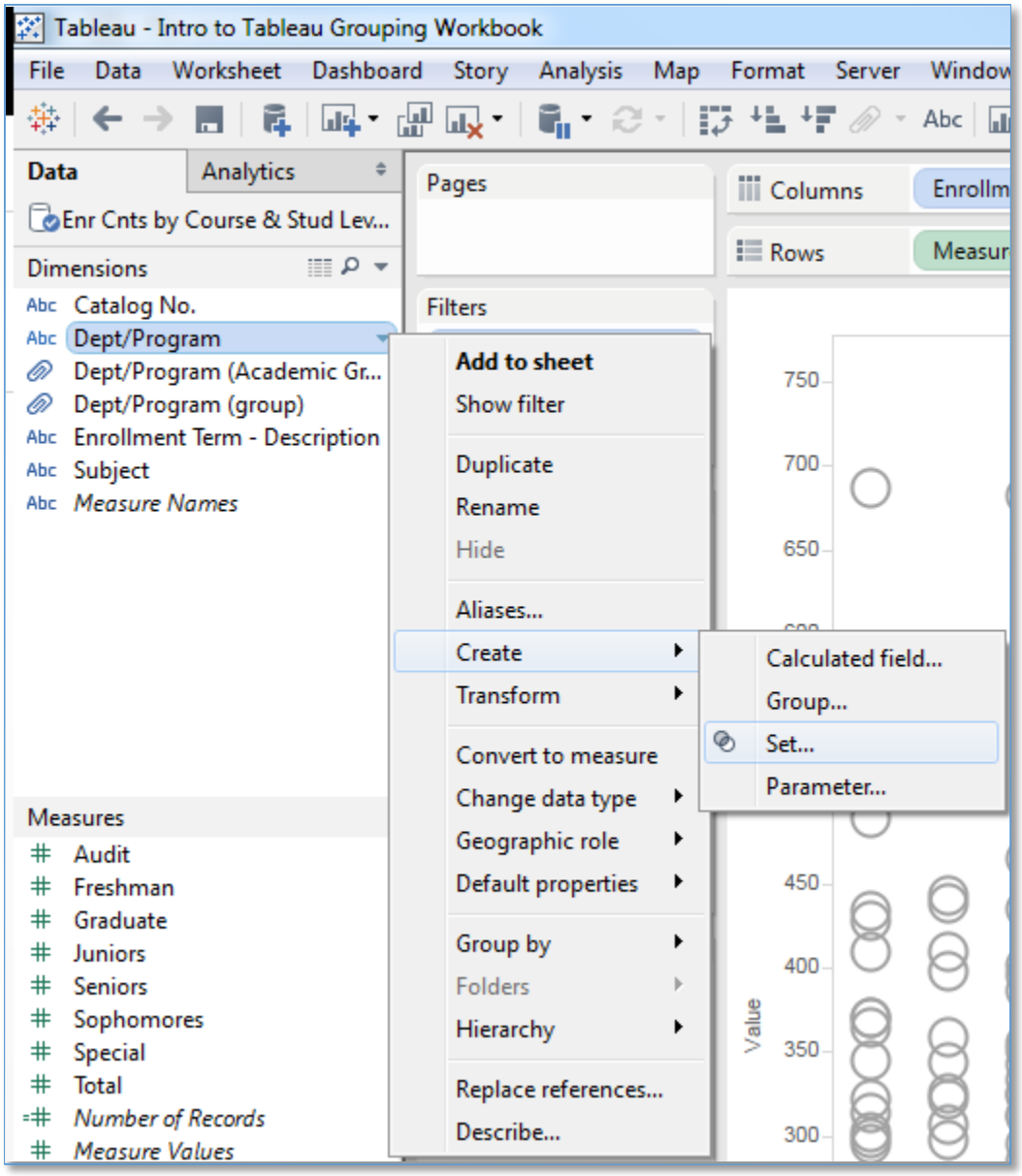
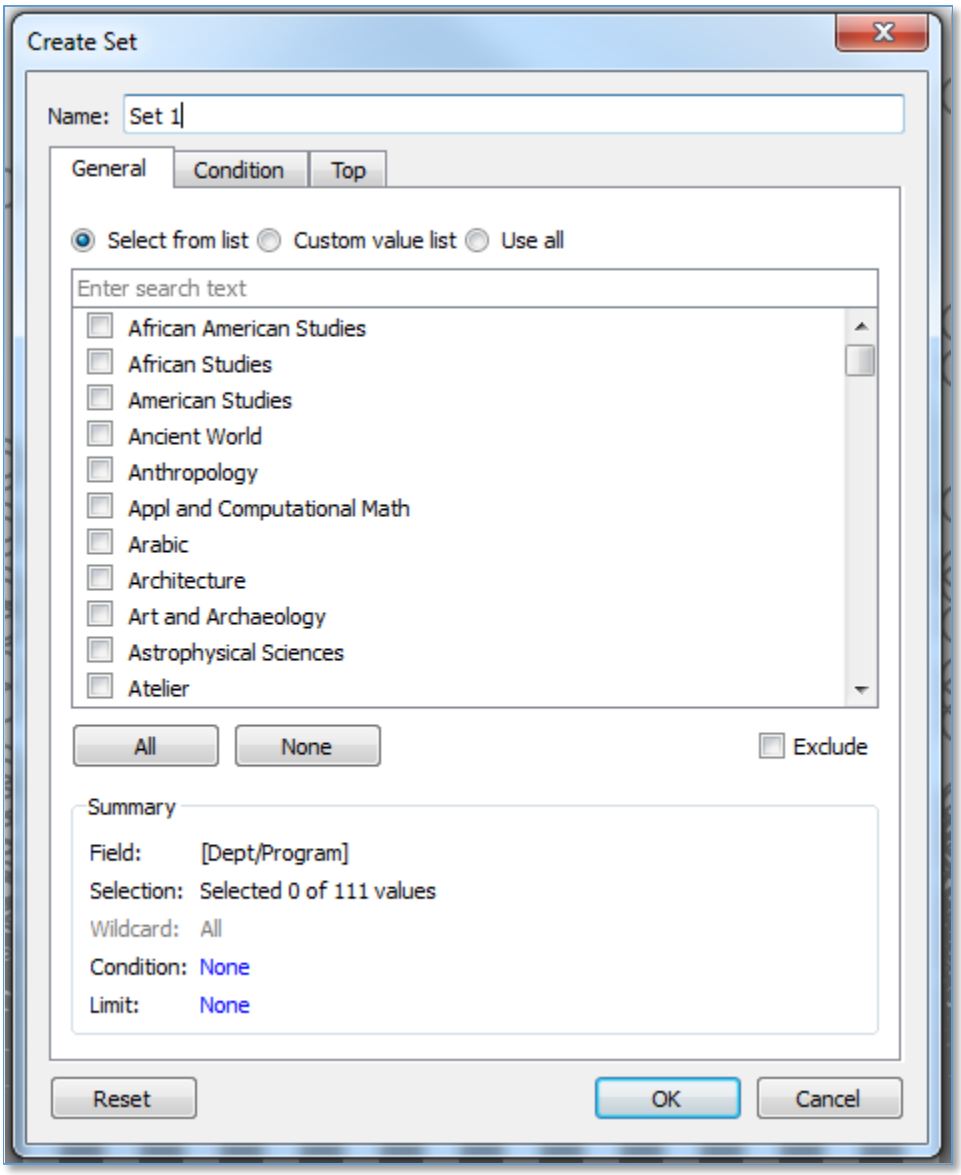
Creating a Dynamic Set

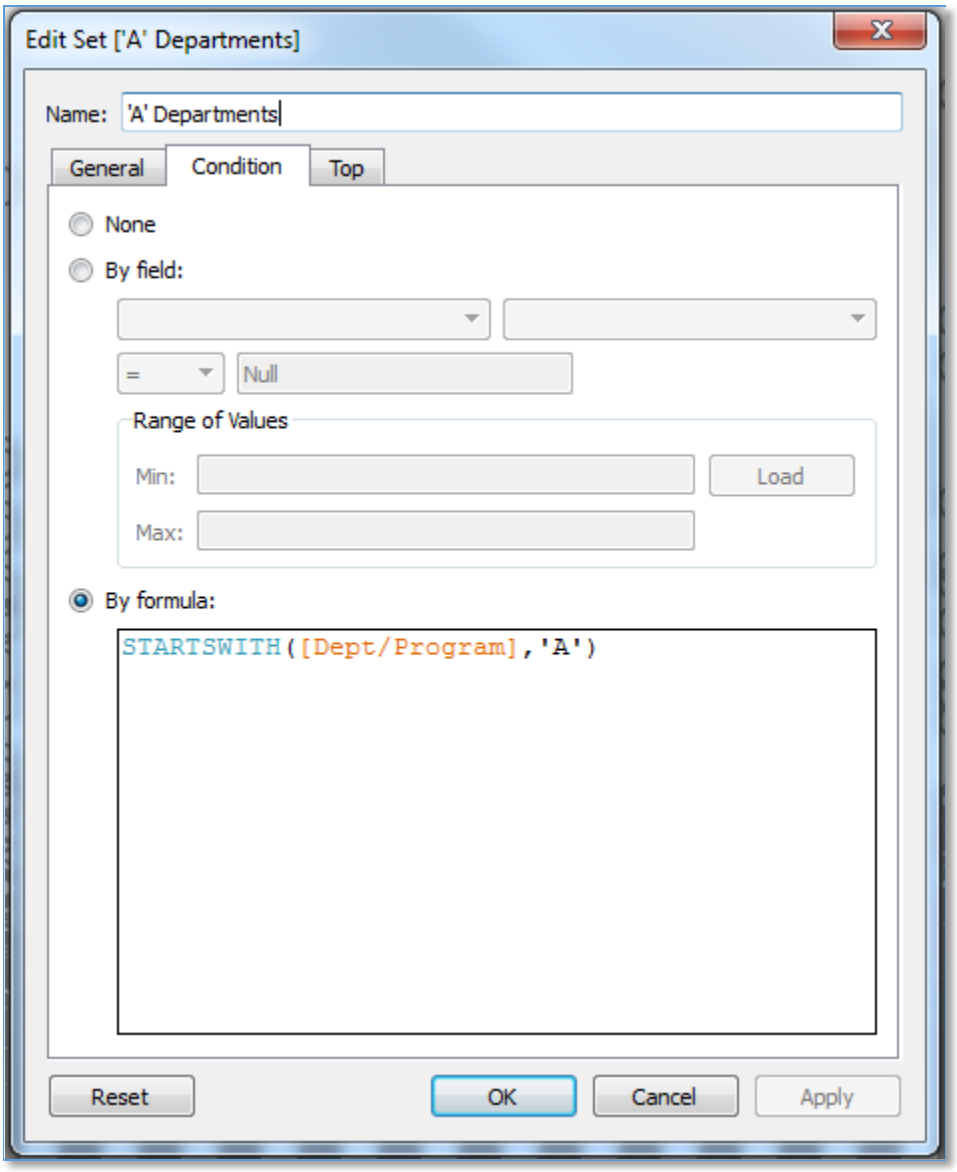
A dynamic set is computed and changes when the underlying data changes. It is based upon only a single dimension.



creating a new Dynamic Set, there are several options available for identifying Set members. These include General, where values are selected for consideration in the Set membership; Condition, where the limits for inclusion within the Set are defined; and Top, where the Top 'N' selection is set. Note that these Set conditions work in the same way in which filter conditions work.

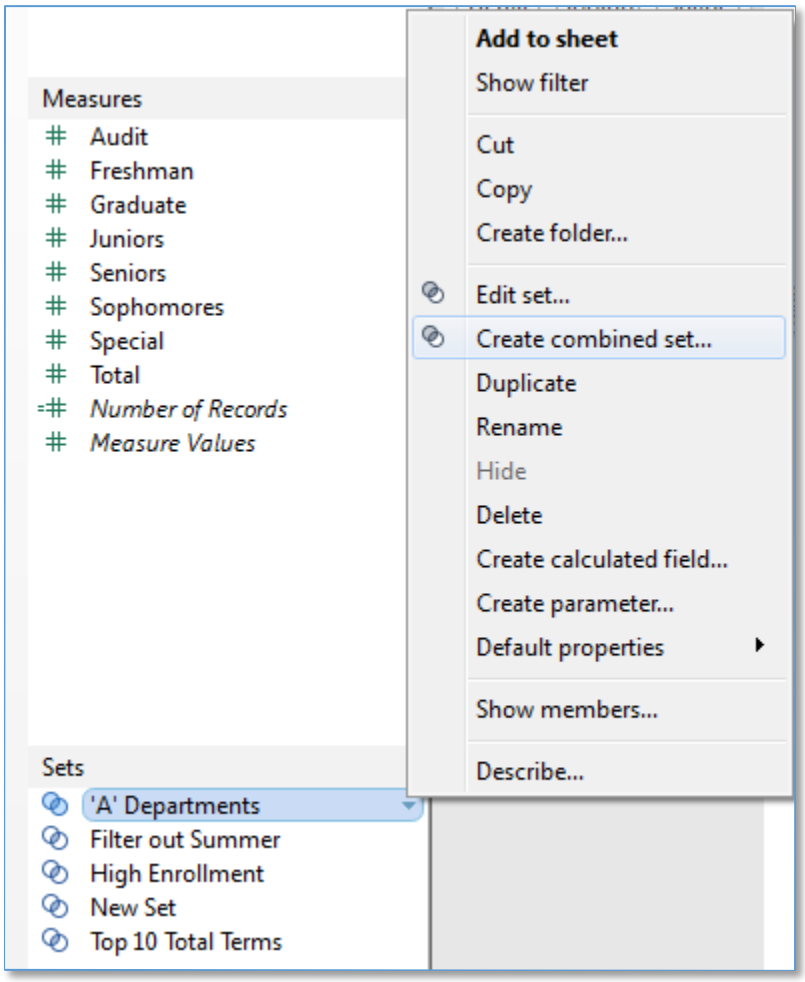


Options available for editing a Dynamic Set are similar to and reflect those available upon creation.

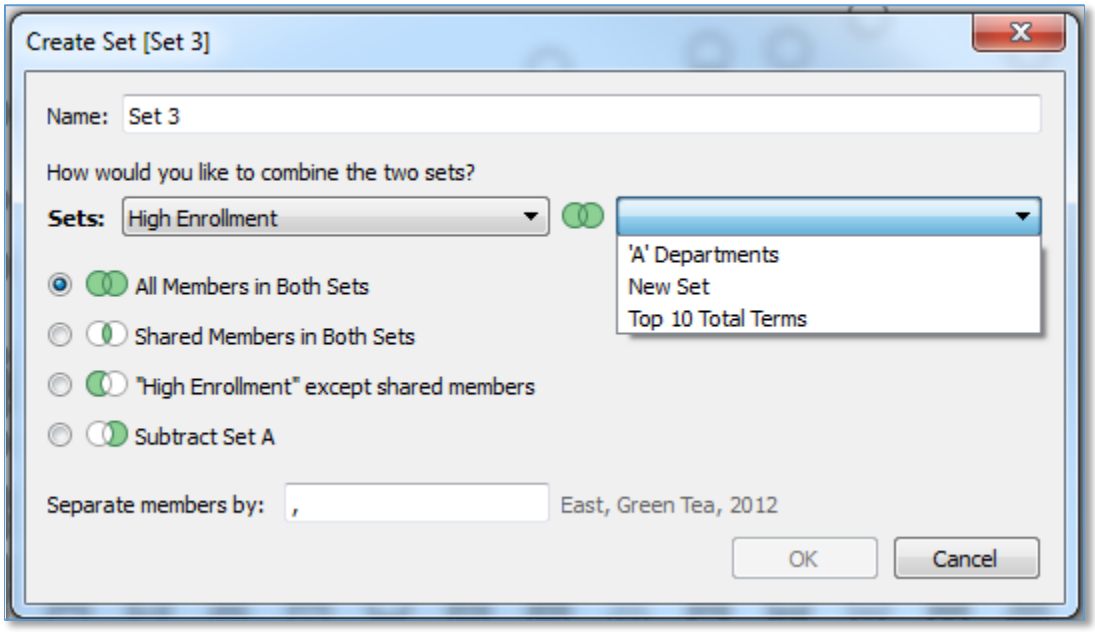


Creating a Combined Set

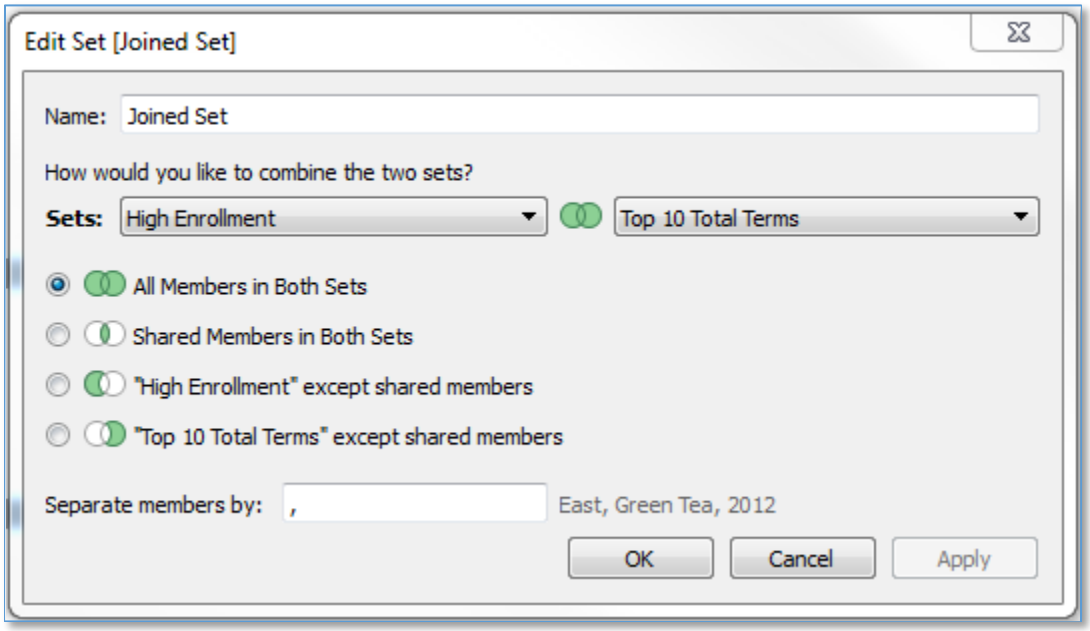
Once created if they have been created with a common Dimension, sets may also be combined.



The joins available for combining the selected Sets are similar to file joins including All Members (an outer join), Shared Members (an inner join), Set members from the first excluding those that exist in the secondary Set (a left join), and Set members from the second Set excluding those in the first (a right join).



Options available for editing a joined Set include changing the secondary Set and adjusting the join type.



Exercise: Creating a Dynamic Set

Use the workbook saved in the previous **Groupings** exercise, Groupings xx, to complete the following exercise:

Create a detail view with a Mark type of "Shape" including all Department/Program(s) starting with "C" with the **Enrollment Term – Description** across the x-axis and the number of **Freshman**, **Sophomores**, **Juniors**, **Seniors**, and **Online** along the y-axis. Filter the display to exclude Summer Terms. Create and use a Set labeled **C Departments** to limit the values displayed.

Detail Directions

1. Create a new worksheet. Then, drag the Measure **# Measure Values** to **Rows**.

2. Drag the Dimension **Enrollment Term - Description** to **Columns**.

3. **Measure Names** will now be displayed on the Filter shelf. Edit the **Measure Names** filter to include only **Freshman**, **Sophomores**, **Juniors**, **Seniors**, and **Online**.

4. Add **Measure Names** to **Color** and re-order the names as they appear in the **Measure Names** key so that they read Seniors, Juniors, Sophomores, Freshmen, and Online. (Hint: add a sort to Measure Names on the Marks Card.)

5. Change the **Mark Type** to **Shape**.

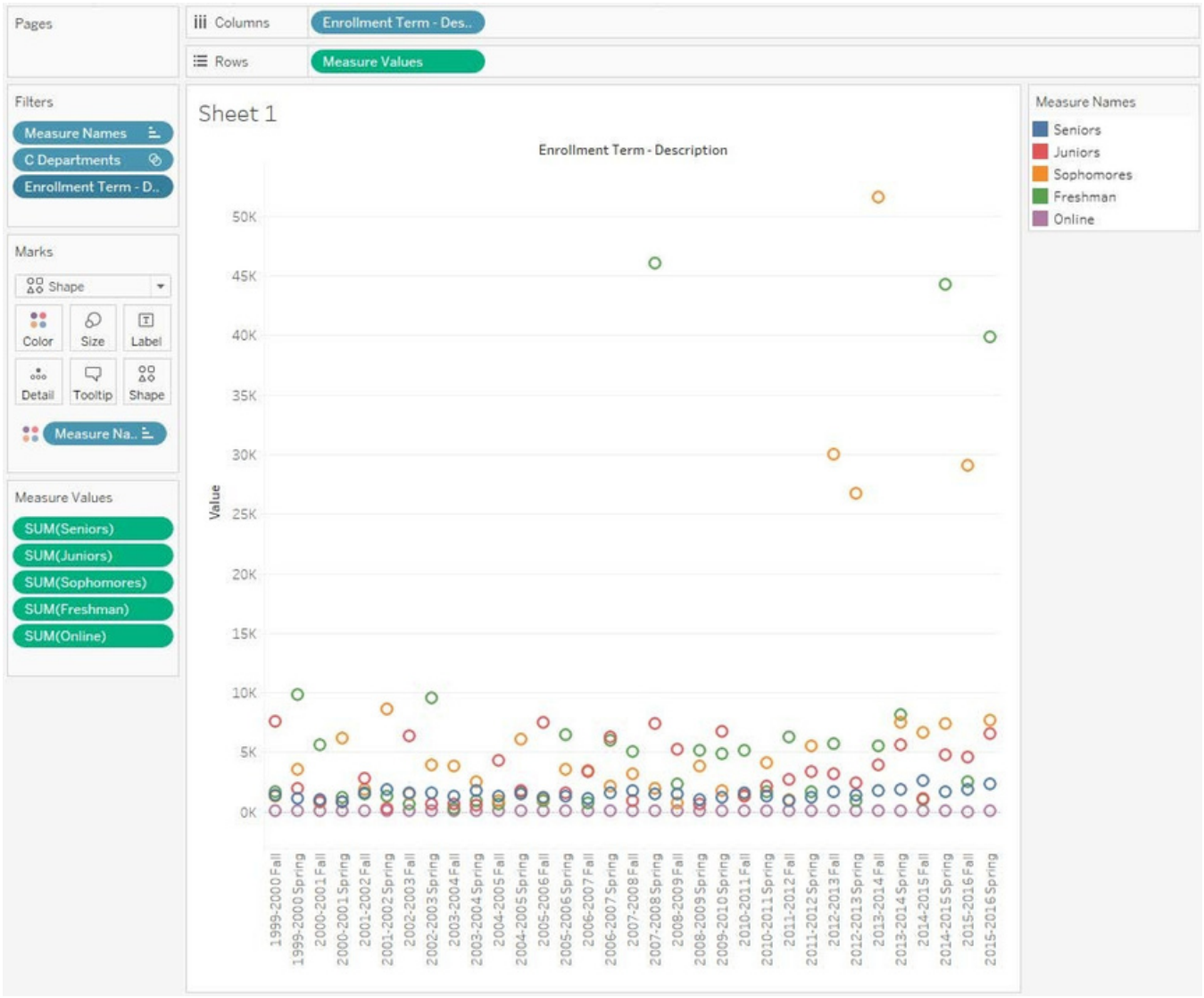
6. Add a Filter for **Enrollment Term – Description** to exclude **Summer** courses.

7. Create a **Set** named "C Departments" that include All Department/Program names that start with the letter C. (Hint: create a conditional set using the formula including the command STARTSWITH.)

8. Filter your view to include only enrollment counts from the C Departments. (Hint: use your new Set as a filter.)

9. Rename your Sheet "C Department Enrollment".

10. Make sure to **save** your workbook.


Pages
Columns
Enrollment Term - Des..
Rows
Measure Values
Filters
Measure Names
C Departments
Enrollment Term - D..
Marks
Shape
Color
Size
Label
Detail
Tooltip
Shape
Measure Na..
Measure Values
SUM(Seniors)
SUM(Juniors)
SUM(Sophomores)
SUM(Freshman)
SUM(Online)
Sheet 1
Enrollment Term - Description
Value
50K
45K
40K
35K
30K
25K
20K
15K
10K
5K
0K
1999-2000 Fall
1999-2000 Spring
2000-2001 Fall
2000-2001 Spring
2001-2002 Fall
2001-2002 Spring
2002-2003 Fall
2002-2003 Spring
2003-2004 Fall
2003-2004 Spring
2004-2005 Fall
2004-2005 Spring
2005-2006 Fall
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2007-2008 Fall
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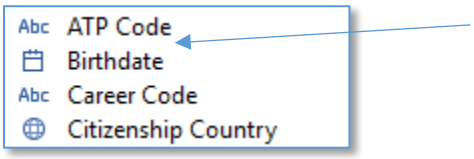
2008-2009 Fall
2008-2009 Spring
2009-2010 Spring
2010-2011 Fall
2010-2011 Spring
2011-2012 Fall
2011-2012 Spring
2012-2013 Fall
2012-2013 Spring
2013-2014 Fall
2013-2014 Spring
2014-2015 Fall
2014-2015 Spring
2015-2016 Fall
2015-2016 Spring
Measure Names
Seniors
Juniors
Sophomores
Freshman
Online

Dates in Tableau

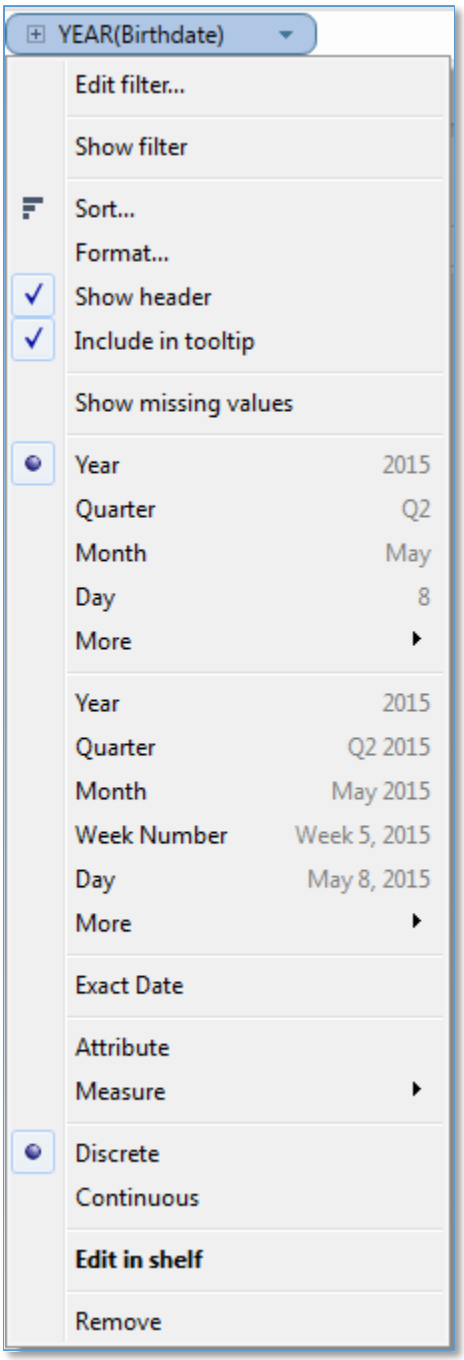
Tableau automatically defines dates and times as Dimensions for relational data sources. They are identified in the Data Pane by a calendar icon.



When brought to a shelf in a view, the field name automatically reflects the default date level reflecting the level of multiple date instances. What this means is that if the dates in your data source span several years, the default date will be year. However, if all dates are within the same year or month, the default level will be months and days respectively. The level may be changed by hovering over the date on the shelf, clicking on the down arrow, and selecting the desired level (year, quarter, month, day, etc.).

Discrete Dates

Continuous Dates



Discrete vs. Continuous Dates

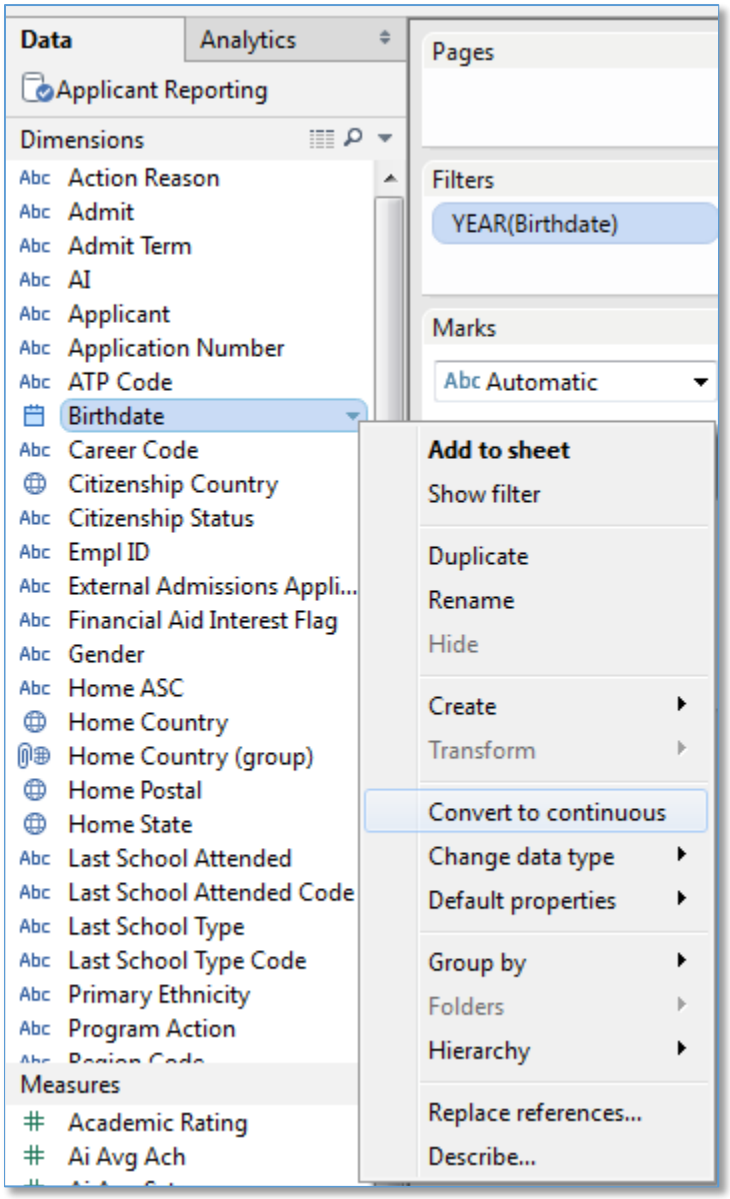
Dates are characterized in one of two ways within views. They may be apportioned as discrete units within a defined category (e.g. October) independent of time. Alternatively, they may be representative of a continuous progression of time. The categorization selected will affect the way in which the date behaves and the options available when added to a view.

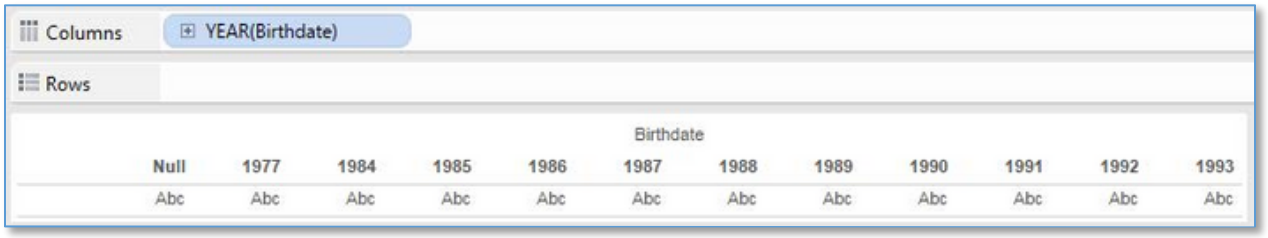
Discrete dates are unique in that the individual parts (year, quarter, month, and day) are automatically set up in a hierarchy. These parts are independent of linear time. As such, these parts may be drilled into and out of and arranged on a view in the order desired on a single shelf or even on different shelves.

Continuous dates always reflect the progression of time. Though the level may be narrowed (e.g. from years to quarters to months, etc.), these are not distinct entities as they are with discrete dates. Once a level has been selected, the view will reflect the corresponding level of detail. One may drill in but not out of the continuous date detail.

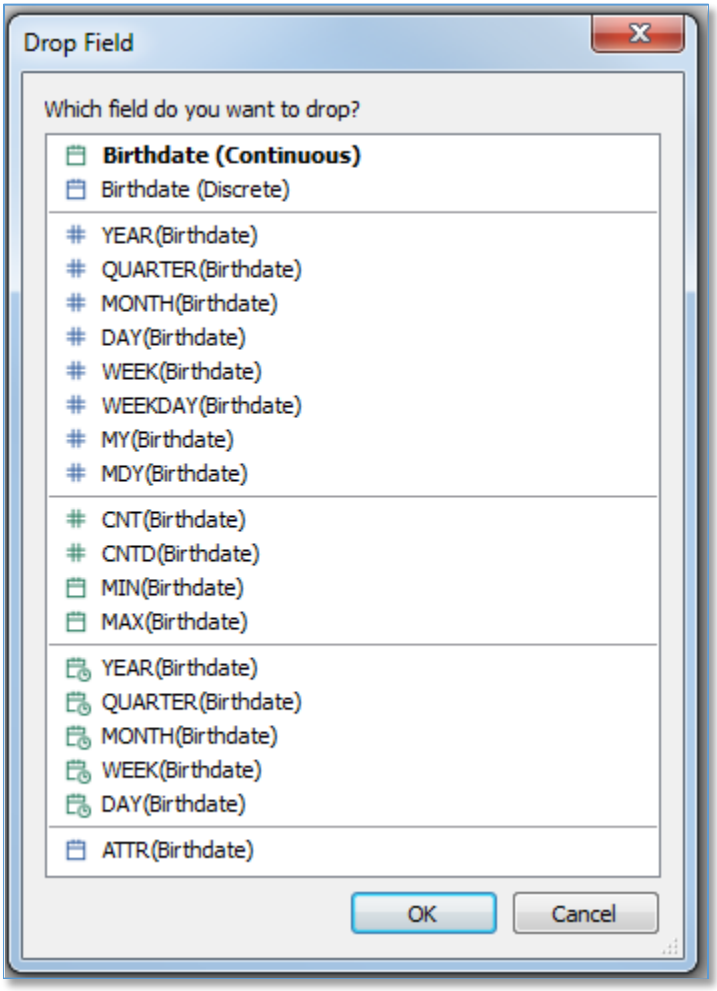
By default, Tableau will define date and date/time fields as discrete. This setting can be changed by clicking on the arrow next to the field name and selecting **Convert to continuous**.

When dragging the date field onto a view, the resulting Pill type will reflect the default type (continuous or discrete) that has been set. As with all Tableau indicators, green indicates continuous and blue discrete.





Alternatively using the mouse right click to drag the date onto a shelf, the specific date type and level of detail may be selected at the time the Date Dimension is added to the view.



Exercise: Using a Discrete Date in a View

Use the workbook saved in the previous **Filtering** exercise, Filtering xx, to complete the following exercise:

Create a detail view of Class Size by Specific Birthdates where **Birthdate** is tracked across the x-axis and the Sum of **Class Size** along the y-axis. Filter the display to exclude records where the Birthdate is null.

Detail Directions

1. Open the Workbook **Filtering xx** from the previous exercise.

2. Create a new worksheet, drag the Dimension **Birthdate** to **Columns**.

3. Drag the Measure **Education Rating 1** to **Rows**.

4. Filter out any null **Birthdates**.

5. Drill into **Birthdate** to see **Quarters**, **Months**, and **Days**. Drill back out of the detail on **Days**.

6 Remove **Year** from the View. Move **Quarters** to **Rows**.

. Rename your sheet “Discrete Date”.

7 Save your Workbook.

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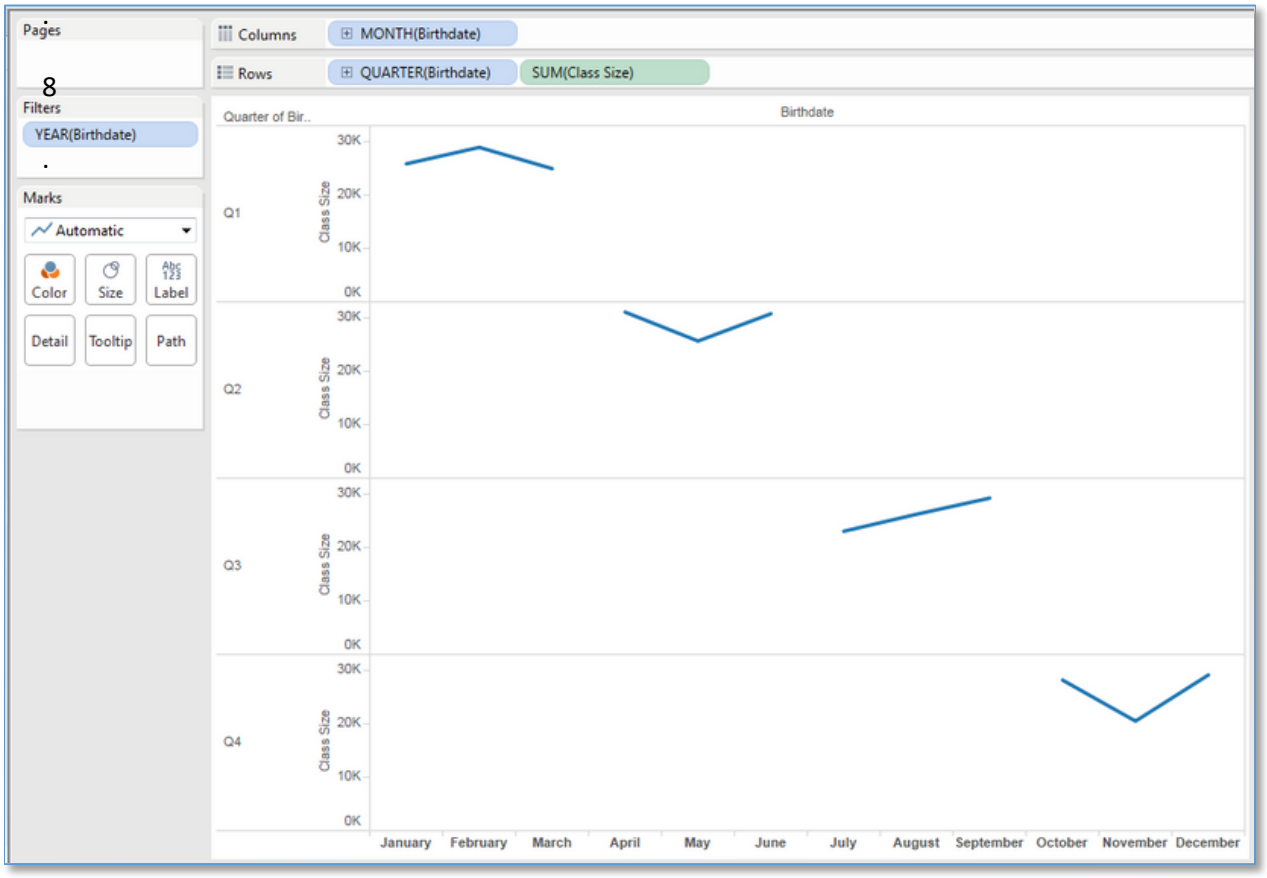

Exercise: Using a Continuous Date in a View

Create a New Worksheet in the same Workbook as the previous example, to complete the following exercise:

Create a detail view of Class Size by Specific Birthdates where **Birthdate** is tracked across the x-axis and the Sum of **Class Size** along the y-axis. Filter the display to exclude records where the Birthdate is null.

Detail Directions

1. Create a new worksheet, drag the Dimension **Birthdate** to **Columns** and ensure continuous Month is selected.

2. Drag the Measure **Education Rating 1** to **Rows**.

3. Filter out any null **Birthdates**.

4. Drill into **Month(Birthdate)**. Notice that there is no option to collapse the grouping. Reset the view to Month.

5 Rename your sheet “Continuous Date”.

. Save your Workbook.

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