Before you begin: Access Library in the Education sandbox

The Education sandbox is a shared, cloud-based environment to help you learn about and experiment with MicroStrategy Web and Library.

Use the Education sandbox to complete various report and dossier exercises. Complete the steps below to access the sandbox.

Access Library in the Education sandbox

1. In your browser, navigate to **education.microstrategy.com/MicroStrategy/servlet/mstrWeb**.
2. Log in to the sandbox with your **MicroStrategy Account** credentials.

Open the Tutorial project

3. The MicroStrategy landing page opens. Click the **MicroStrategy Tutorial** project.

The MicroStrategy Tutorial home page opens.

4. Click **Go to MicroStrategy Library**.
5. If prompted, enter your **MicroStrategy Account** credentials, and then click **Log in with Identity**.

Your Library home page displays.

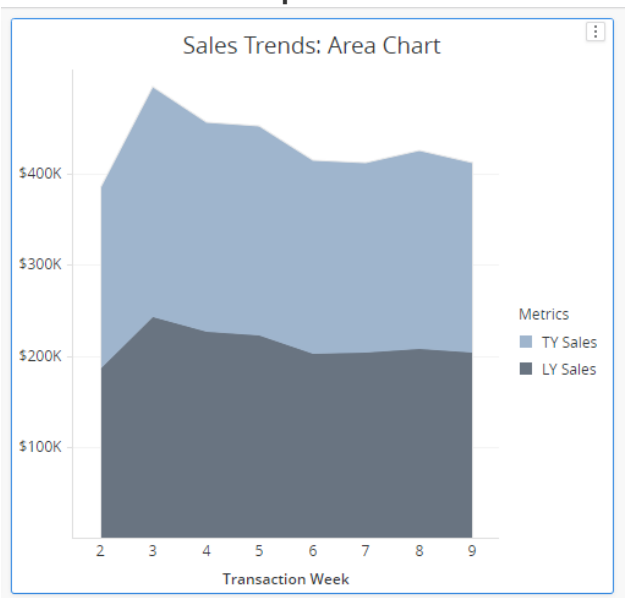
Exercise: Create an area chart

As a store manager, you want to analyze trends in your store's sales. Specifically, you want to understand this year's sales compared to last year's sales, by transaction week.

To complete this change-over-time analysis, you already created a line chart. Now you want to create an area chart to understand how line charts and area charts are similar and different.

Your completed area chart looks like the image below.

Sample area chart



Prerequisite

If you did not already complete *Exercise: Create a line chart*, it is recommended that you do so before completing this exercise to help you understand when to use a line chart or an area chart.

Create an area chart

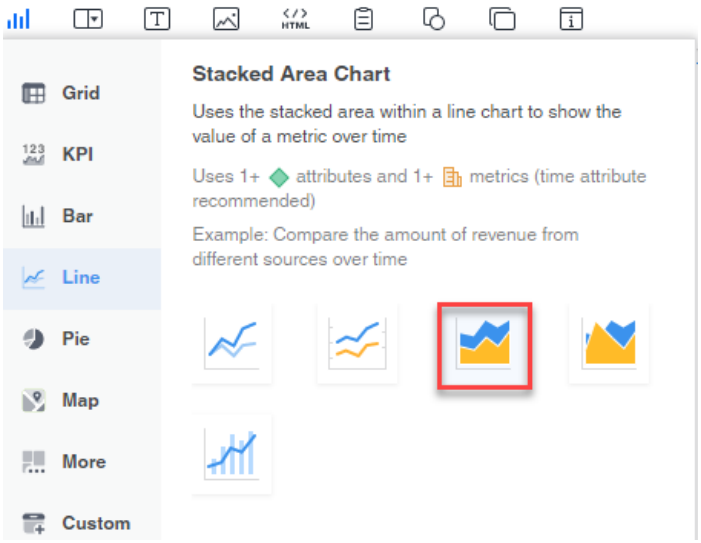
1 In the Education sandbox Library, open the **Visualization Types** dossier in Edit mode, if not already there. For a reminder on how to do this, see *Exercise: Access Library in the Education sandbox*, and *Exercise: Add the Visualization Types dossier to MicroStrategy Library*.

2 In the Contents panel on the left, in the Change Over Time chapter, click the **Line Chart and Area Chart** page, if not already there.

The page displays the line chart you created in *Exercise: Create a line chart*.

3 To add a new visualization, click the **Visualization** icon in the toolbar. The Visualization Gallery displays.

4 In the Visualization Gallery, point to **Line**, and then click the **Stacked Area Chart** icon.



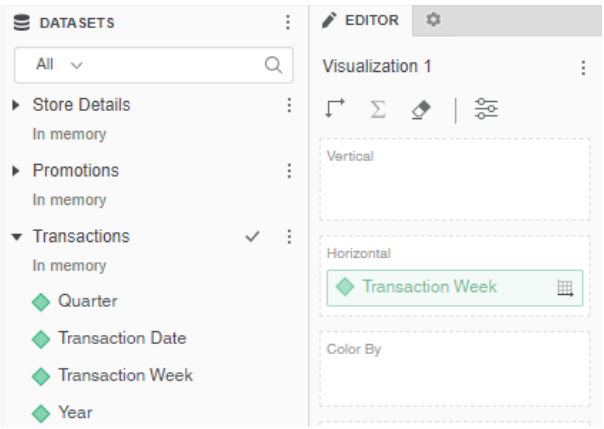
A blank stacked area chart titled Visualization 1 displays next to the line chart.

5 The data you need for this analysis is stored in the Transactions dataset. In the Datasets panel, click the arrow icon to the left of the **Transactions** dataset to expand it, if not already expanded. The dataset's attributes and metrics display.

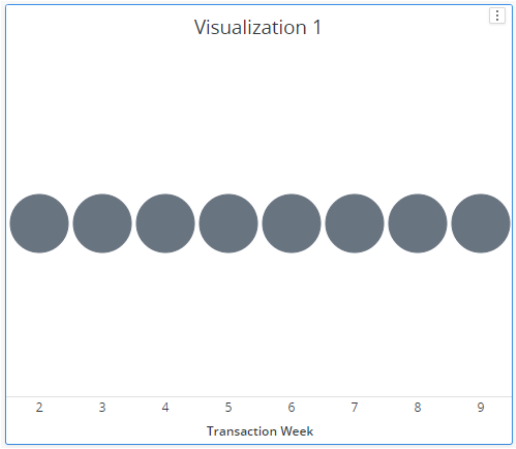
6 To focus on the objects in the Transactions dataset rather than the other datasets, collapse any other datasets that are expanded by clicking the arrow icon to the left of the dataset name.

7 Click the **Editor** icon to display the Editor panel, if not already displayed.

8 From the **Transactions** dataset, double-click the **Transaction Week** attribute to add it to the **Horizontal** drop zone in the Editor panel.



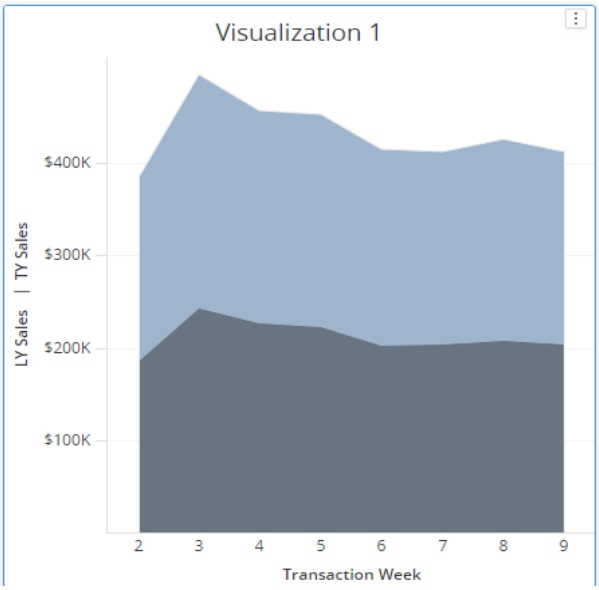
The transaction week is added to the horizontal axis of the area chart, and a bubble displays for each transaction week.



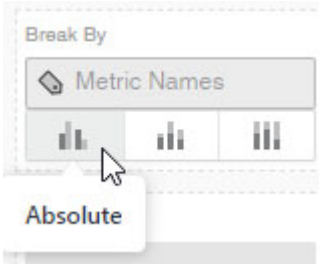
9 From the **Transactions** dataset, double-click the **LY Sales** metric (last year's sales) and **TY Sales** metric (this year's sales) to add them to the **Vertical** drop zone in the Editor panel.

The vertical axis displays a scale of sales values. Two colored areas display; one represents this year, and the other represents last year. The height of the colored areas for each transaction week represents the sales amount for that

week. The combined height of the colored areas represents the total sales amount of this year and last year.

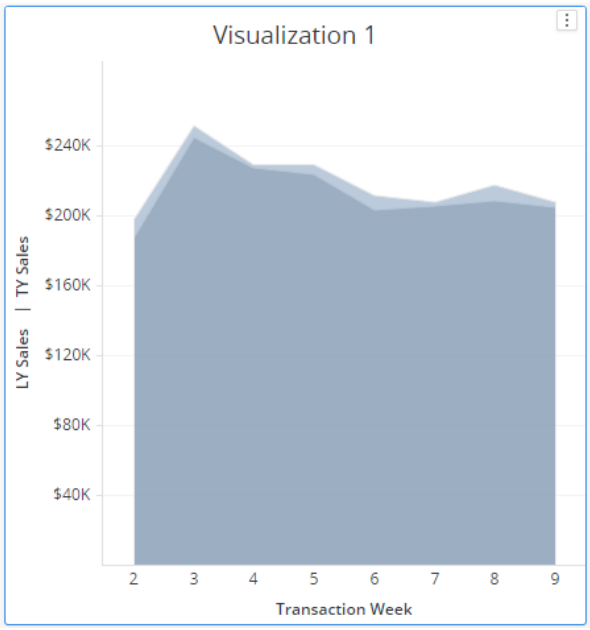


10 You want to see how creating an absolute area chart impacts how the data displays. In the Editor panel, in the **Break By** drop zone, select the **Absolute** icon.



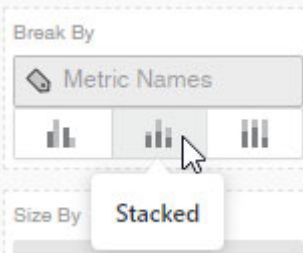
The area chart updates and now reflects an absolute area chart rather than a stacked area chart. The absolute area chart contains opaque colored areas

that overlap rather than stack. The heights of each colored area are independent of each other and do not combine to a total.

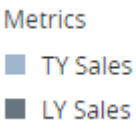


To change the stacked area chart to an absolute area chart, you can instead right-click the stacked area chart, select Change Visualization, and then select the Absolute Area Chart in the Change Visualization window.

11 For this analysis, your prefer the colored areas to combine to a total. Return to displaying the data, as a stacked area chart. In the Editor panel, in the **Break By** drop zone, select the **Stacked** icon.



12 To help users understand what each colored area represents, right-click inside of the area chart above the data and select **Show Legend**. A legend displays to the right of the area chart, indicating that the light-gray area represents TY Sales, and the dark-gray area represents LY Sales.



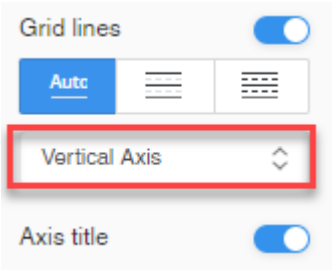
Remove the vertical axis title

The legend indicates what each line represents, so you remove the vertical axis title to avoid redundant labels.

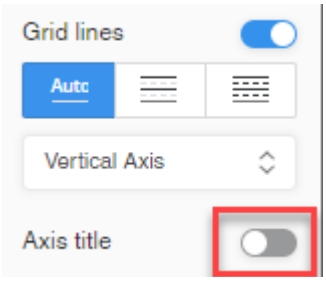
1 Click the **Format** icon to display the Format panel.

2 Expand **Axes**.

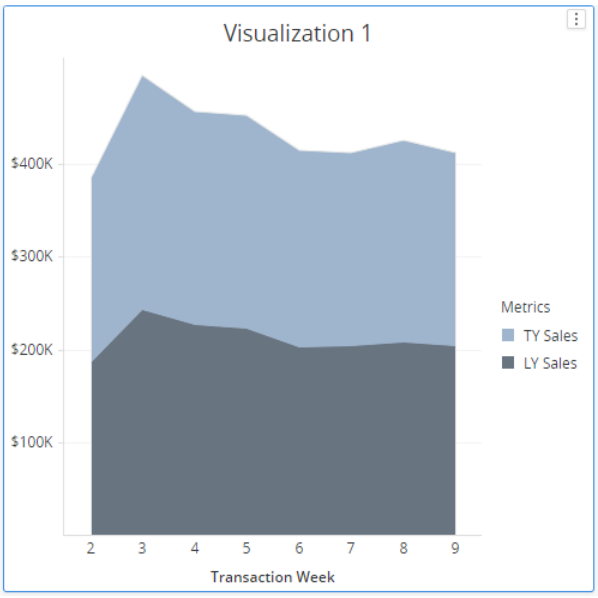
3 From the drop-down list above Axis Title, select **Vertical Axis**.



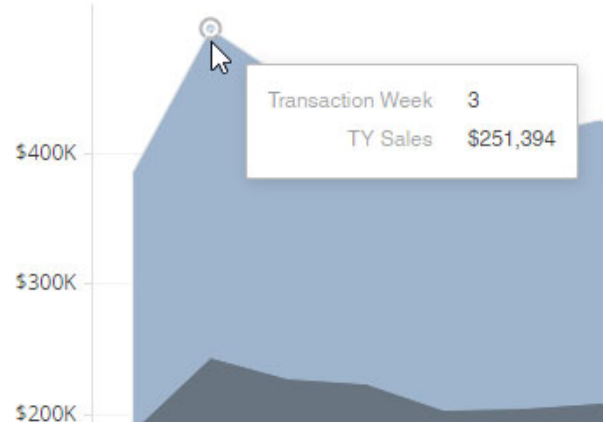
4 Below the drop-down list, disable **Axis Title**.



The vertical axis no longer displays TY Sales and LY Sales as an axis title. The axis labels (the values for each grid line) continue to display because Axis Labels is still enabled.



5 In the area chart, hover over a data point on the **TY Sales** area to display its details in a tooltip. For example, in the image below, you can see in the tooltip that the point represents Week 3, which had sales of $251,394 this year.

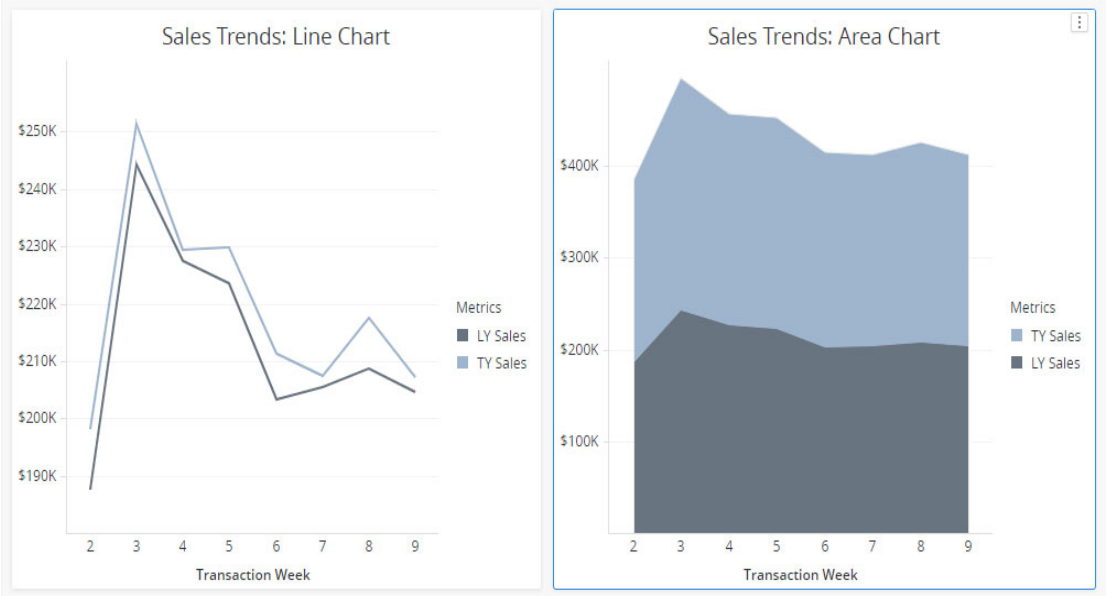


6 To rename the visualization, double-click the **Visualization 1** title on the area chart, and type **Sales Trends: Area Chart**. Your area chart now looks like *Sample area chart*.

7 Click **Save** in the upper right of the dossier toolbar.

Analyze the line chart and area chart

Throughout this exercise and *Exercise: Create a line chart*, you completed the Line and Area Chart page of the Visualization Types dossier. On this page, the same store sales data is displayed in a line chart and stacked area chart, so that you can see how the same data is shown in different visualization types.



Line charts and area charts are both useful for analyzing change over time, but differences between them can impact how quickly you can answer some types of questions.

1. Think through how the differences between a line chart and an area chart might impact the ease of analysis by using the visualizations to answer the following questions:

   - How quickly can you determine the general change over time in this year's and last year's sales using each of the visualizations? Is this analysis easier with the line chart or area chart, or is the ease of analysis about the same for both?
   - Do these visualizations make it easy to determine the transaction week when LY Sales were lowest? Is this analysis easier with the line chart or area chart, or is the ease of analysis about the same for both?
   - Is it faster to determine the value of TY Sales for a specific transaction week using the line chart or the area chart?

The area chart displays stacked areas for this year's sales and last year's sales to help you visualize a part-to-whole relationship. As such, it is faster to determine the value of this year's sales for a specific week using the line chart because the values on the line chart's vertical axis do not reflect a cumulative total for this year and last year.

- You want to know the approximate combined value of this year's and last year's sales for transaction Week 3. Is it easier to determine this with the line chart or the area chart?

  The area chart displays stacked areas for this year's sales and last year's sales to help you visualize a part-to-whole relationship. As such, it is faster to determine combined values for this year and last year using the area chart.