
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.



MicroStrategy Tutorial

MicroStrategy Tutorial project and application set designed to illustrate the platform's rich functionality. The theme is an Electronics, Books, Movies and Music store. Employees, Inventory, Finance, Product Sales and Suppliers are analyzed.
Server name ENV-218880LAIOUSE1

The MicroStrategy Tutorial home page opens.

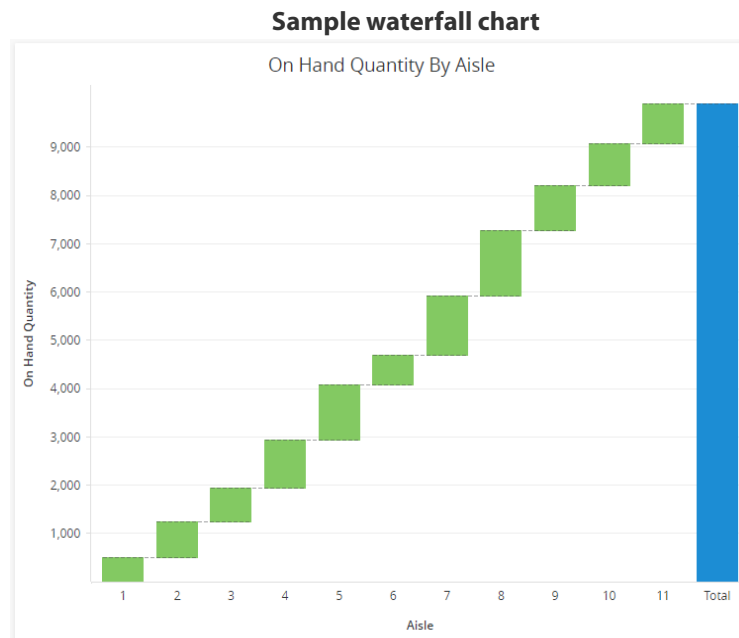
- 4 Click **Go to MicroStrategy Library**.
- 5 If prompted, enter your **MicroStrategy Account** credentials, and then click **Log in with Identity**.

Your Library home page displays.

Exercise: Create a waterfall chart

As a manager, you want to understand the on-hand quantity of items across all aisles in your store and how each aisle contributes to that. This can help you understand your store's overall inventory level and determine if your store is over-stocking or under-stocking items in specific aisles.

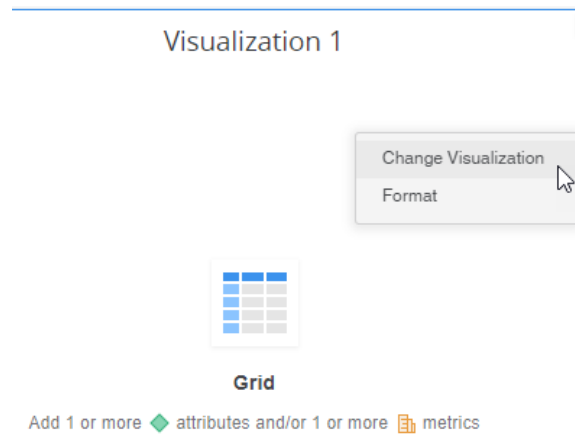
Create a waterfall chart to complete this part-to-whole analysis. Your completed waterfall chart looks like the image below.



Create a waterfall chart

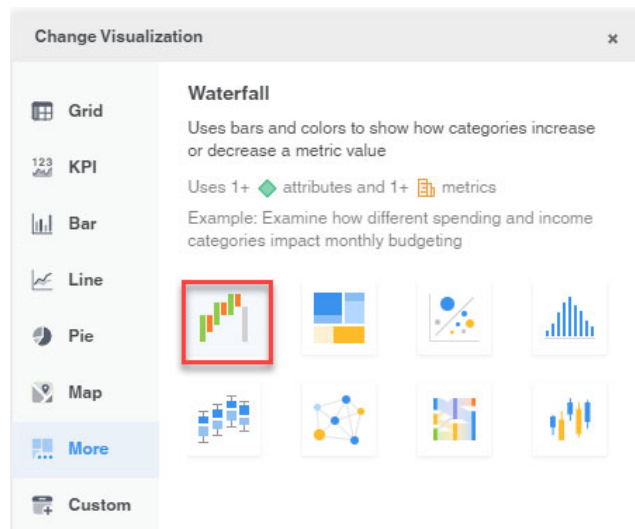
- 1 In the Education sandbox Library, open the **Visualization Types** dossier in Edit mode, if not already there. For a reminder on how to do this, see *Exercise: Access Library in the Education sandbox*, and *Exercise: Add the Visualization Types dossier to MicroStrategy Library*.
 - 2 In the Contents panel on the left, in the **Part-To-Whole Relationships** chapter, click the **Waterfall Chart** page.
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- 3 By default, a new page displays a blank grid visualization on the canvas. To change the visualization to a line chart, right-click inside the visualization and select **Change Visualization**.




The Change Visualization window opens, displaying the Visualization Gallery.

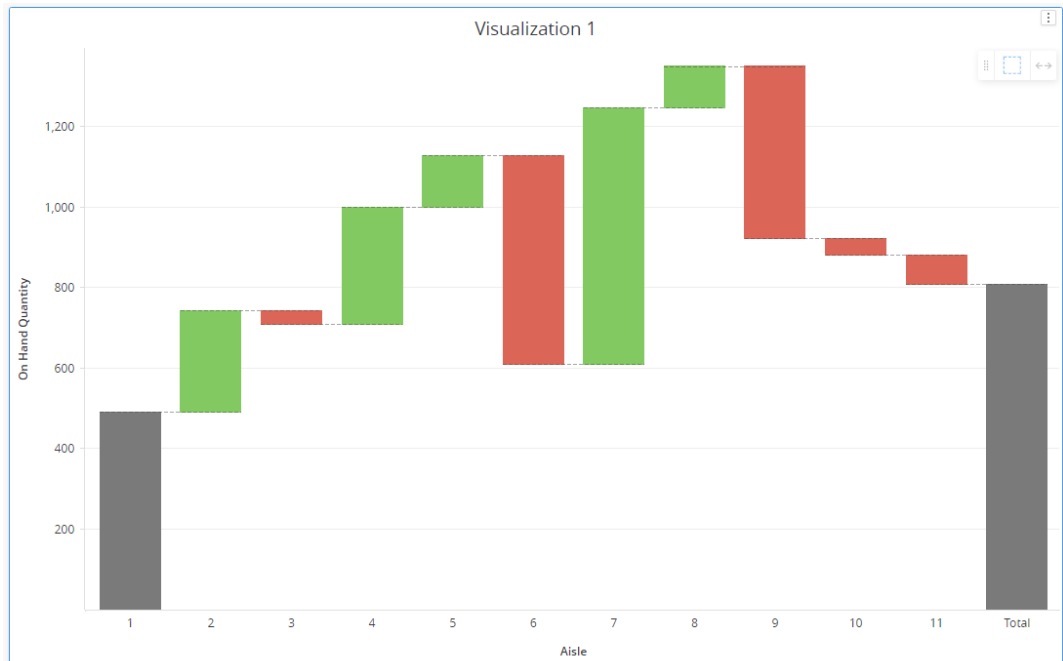
- 4 In the Visualization Gallery, point to **More**, and then click the **Waterfall** icon.



The dossier canvas displays a waterfall visualization.

- 5 The data you need for this analysis is stored in the Store Details dataset. In the Datasets panel, click the arrow icon ► to the left of the **Store Details** dataset to expand it. The dataset's attributes and metrics display.
- 6 To focus on the objects in the Store Details 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.
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- 7 Click the **Editor** icon  to display the Editor panel, if not already displayed.
- 8 From the Store Details dataset, double-click the **Aisle** attribute to add it to the **Horizontal** drop zone. Aisles display on the horizontal axis with a label for each aisle number.
- 9 From the Store Details dataset, double-click the **On Hand Quantity** metric to add it to the **Vertical** drop zone. The On Hand Quantity displays on the vertical axis. A bar displays for each aisle, representing its on-hand quantity.



By default, the waterfall chart displays in Show Difference mode, with each bar showing the difference in on hand quantity from the previous aisle. For example, when you hover over Aisle 6, you can see that its on-hand quantity is

610. t displays in red because this is less than Aisle 5's on-hand quantity of 1,128.



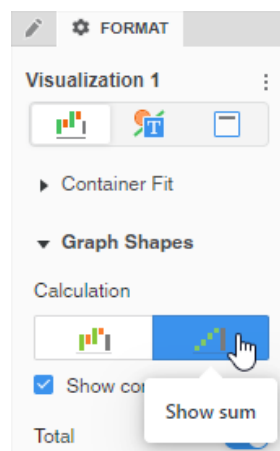
The total bar at the right of the chart represents the on-hand quantity of the last aisle, in this case, Aisle 11.

Switch to Show Sum mode

Rather than displaying the difference in on-hand quantity between each aisle, you want to add up the on-hand quantity of each aisle to a final total value. Change the waterfall chart from Show Difference mode to Show Sum mode.

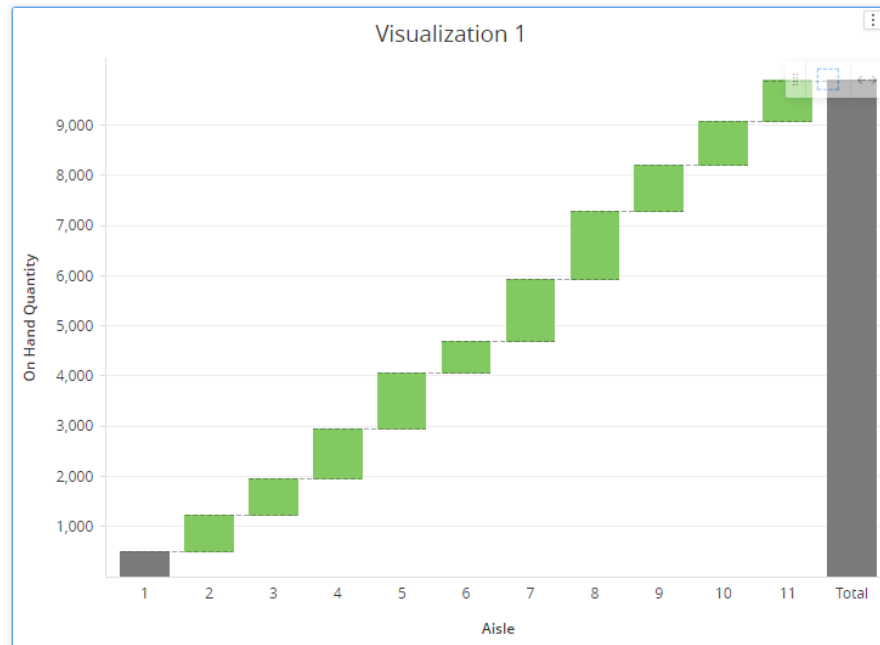
10 Click the **Format** icon  to display the Format panel.

11 Expand **Graph Shapes**, and under Calculation, click the **Show Sum** icon.



The waterfall chart adjusts to show the sum of on-hand quantities. It now represents how much on-hand quantity each aisle added to the total on-hand

quantity, calculating to a total across all aisles. The floating bars are each aisle's on-hand quantity, rather than the difference from the previous aisle.




- Aisle 1 displays as a gray bar, representing the starting on-hand quantity.
- Aisles 2-11 display as green bars, representing their contribution to an increase in total on-hand quantity.

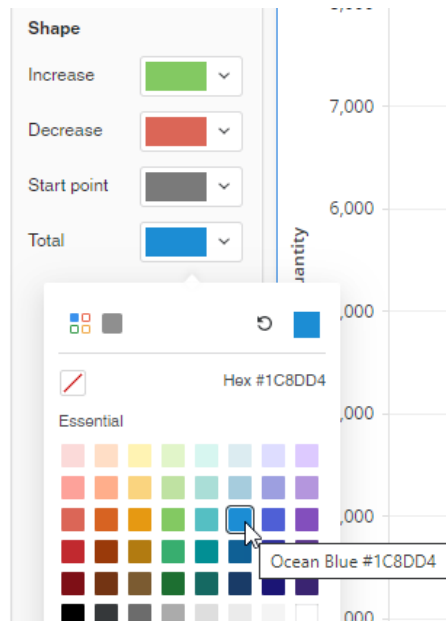
If an aisle contributed to a decrease in total on-hand quantity, it displays in red. However, since you cannot have a negative on-hand quantity in an aisle, there are zero red bars.

- The total bar displays in gray, representing the cumulative on-hand quantity across all 11 aisles.

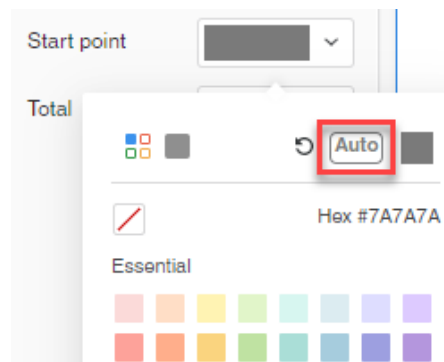
Format the waterfall chart

- 12** You want the Total bar to display in blue instead of gray. In the Format panel, click **Text and Form** .

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- 13** Under **Shape**, from the **Total** color drop-down, select **Ocean Blue #1C8DD4** in the Essential area (a shade of blue).



- 14** To match the color scheme of the other bars, you want the color of the starting bar to automatically reflect whether its value represents an increase or decrease. Under **Shape**, from the **Start Point** color drop-down list, select **Auto**.



The starting bar, representing Aisle 1, is now colored green to reflect that Aisle 1 contributes to an increase in on-hand quantity.

- 15** Rename the visualization by double-clicking **Visualization 1** in the title bar and typing **On Hand Quantity By Aisle**.

Your waterfall chart now looks like *Sample waterfall chart*.

- 16** Click **Save** in the upper right of the dossier toolbar.
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Analyze the waterfall chart

1 Interact with the waterfall chart to answer the following questions:

- What is the total quantity of items on hand?

The blue bar at the far right is a combination of the smaller bars to its left. Hover over the blue bar to see the total quantity.

- Are there any item quantity counts that are very different from the others?

Examine the relative size of each green bar. From a quick glance, it looks like most aisles contain 500 to 1,500 items. There do not appear to be any aisle quantity counts that are significantly smaller or larger than this range.

- How quickly can you determine which aisle contributed the most to the total on-hand quantity? What characteristics of the waterfall chart make it easy or difficult to complete this analysis?
 - What other insights can you obtain from the waterfall chart?
 - Would you adjust any colors or labels to ease the analysis?
 - Do you think you can better present this analysis in either a ring chart or pie chart? Why or why not?
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