
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.

- 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

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: Change the attributes on a report to understand the report level

Metrics calculate at the report level, which is the lowest-level (least-inclusive) attribute on the report. In this exercise, you change the attributes on a report to understand how this affects the metric calculation.

Calculate Cost at the report level of Region

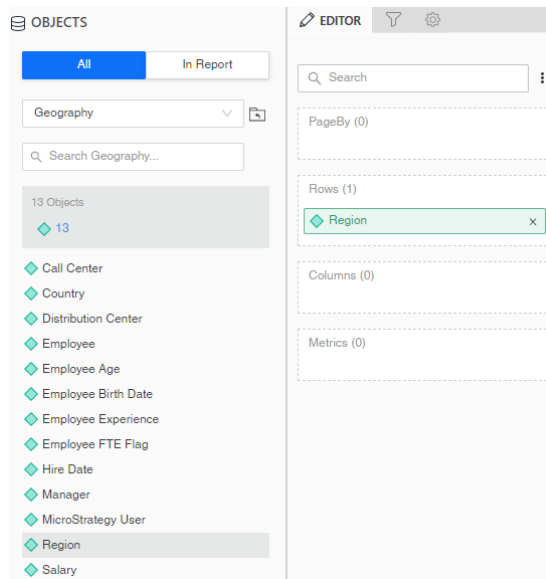
You want to calculate the cost value for each region. To achieve this, you create a report that includes the Region attribute and the Cost metric.

- 1 Access Library. For a reminder on how to do this, see *Exercise: Access Library in the Education sandbox*.
 - 2 In the Library toolbar, click the **Create New** icon , and then select **Report**.
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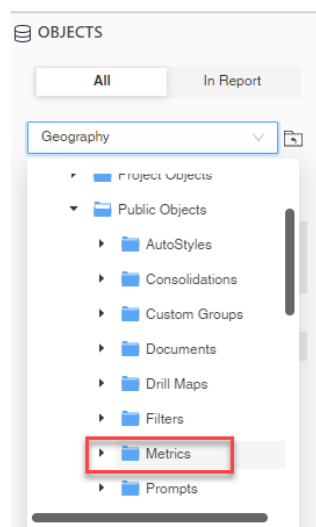
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- 3 In the Select Project window, select **MicroStrategy Tutorial**, and then select the check box for **Remember Selected Project**. Click **OK**.

A blank report displays in Edit mode, with data retrieval paused.

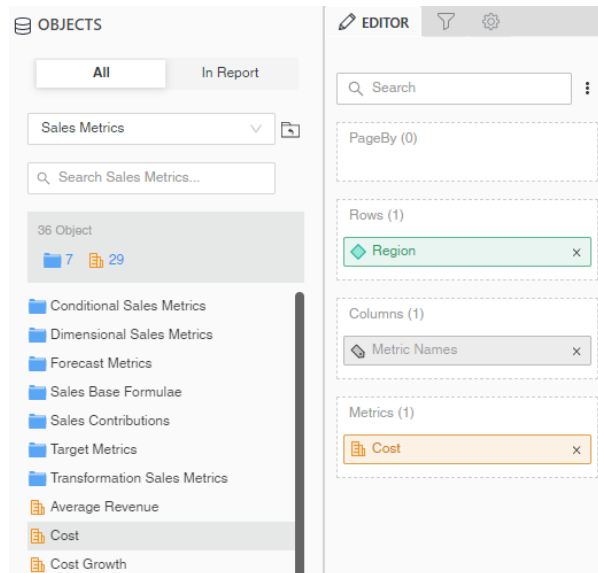
- 4 In the Objects panel, click the **Schema Objects** folder, then **Attributes**, and then **Geography**.
- 5 Double-click **Region** to add it to the **Rows** drop zone in the Editor panel.




- 6 From the drop-down list in the Objects panel, expand **Public Objects**, and then select **Metrics**.



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- 7 Click the **Sales Metrics** folder, and then double-click the **Cost** metric to add it to the Metrics drop zone.



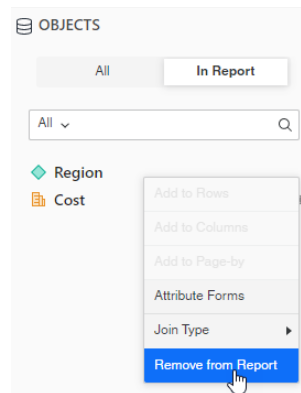
- 8 To see the report results, in the toolbar, click the **Resume Data Retrieval** icon . The Cost value calculates for each region.

Region	Cost
Central	\$4,265,043
Mid-Atlantic	\$3,779,531
Northeast	\$7,253,683
Northwest	\$1,494,202
South	\$4,582,324
Southeast	\$1,903,276
Southwest	\$3,132,800
Web	\$3,319,225

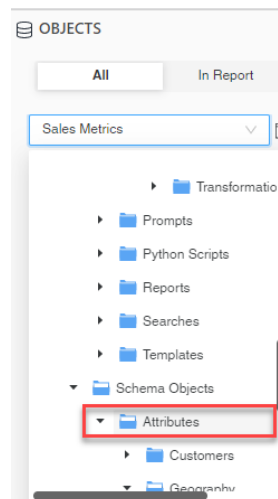
Calculate Cost at the report level of Category

You also want to calculate the cost value for each category. To achieve this, you edit the report so that it contains Category rather than Region.

- 1 In the Objects panel, click **In Report**. Right-click **Region**, and select **Remove from Report**.



- 2 In the Objects panel, click **All**. In the first drop-down list, expand the **Schema Objects** folder, and then click **Attributes**.



- 3 Click **Products**, and then double-click **Category** to add it to the Rows drop zone. The Cost value displays for each category.

Category	Cost
Books	\$2,070,816
Electronics	\$20,101,700
Movies	\$3,844,245
Music	\$3,713,323

Add an attribute from the same hierarchy

How does including more than one attribute from the same hierarchy affect the Cost metric calculation? Add the Subcategory attribute to the report, which is in the same hierarchy (Products) as the Category attribute.

- 1 In the Objects panel, double-click **Subcategory** to add it to the report rows.

Category	Subcategory	Cost
Books	Art & Architecture	\$370,161
	Business	\$311,597
	Literature	\$238,242
	Books - Miscellaneous	\$262,922
	Science & Technology	\$627,512
	Sports & Health	\$260,381
Electronics	Audio Equipment	\$3,149,663
	Cameras	\$4,160,318
	Computers	\$1,590,413
	Electronics - Miscellaneous	\$3,861,533
	TV's	\$3,158,512
	Video Equipment	\$4,181,261

This sample displays only a portion of the complete report.

Subcategory is now the least-inclusive attribute on the report, so it is now the report level. The Cost metric calculates by Subcategory rather than Category.

- 2 On the report, drag **Subcategory** to the left of **Category**. The Cost values remain the same. When attributes are from the same hierarchy (in this case,

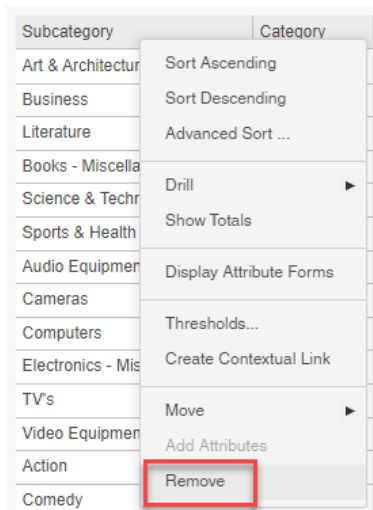
the Product hierarchy)), the order of the attributes on the report does not affect the metric calculation.

Subcategory	Category	Cost
Art & Architecture	Books	\$370,161
Business	Books	\$311,597
Literature	Books	\$238,242
Books - Miscellaneous	Books	\$262,922
Science & Technology	Books	\$627,512
Sports & Health	Books	\$260,381
Audio Equipment	Electronics	\$3,149,663
Cameras	Electronics	\$4,160,318
Computers	Electronics	\$1,590,413
Electronics - Miscellaneous	Electronics	\$3,861,533
TV's	Electronics	\$3,158,512
Video Equipment	Electronics	\$4,181,261

Add an attribute from a different hierarchy

When the report includes attributes from different hierarchies, the report level is determined by a combination of attributes rather than a single attribute. The order of the attributes on the report determines how the metric values display, as you explore in the following steps.

- 1 In the report, right-click **Subcategory**, and then select **Remove**.



- 2 In the Objects panel, next to the drop-down list, click the up one level icon  to navigate back to the Attributes folder, and then click **Geography**.

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- 3 Drag **Region** to the left of **Category** on the report.

Category	Cost
Region	0,816
Electronics	\$20,101,700
Movies	\$3,844,245
Music	\$3,713,323

The Cost values are calculated at the Category level within each region.

Region	Category	Cost
Central	Books	\$295,505
	Electronics	\$2,886,348
	Movies	\$552,348
	Music	\$530,843
Mid-Atlantic	Books	\$264,862
	Electronics	\$2,561,247
	Movies	\$486,674
	Music	\$466,749

- 4 Double-click **Call Center** to add it to the report, to the right of Category. The Cost values now display for each call center, within each category, within each region.


Region	Category	Call Center	Cost
Central	Books	Milwaukee	\$245,475
		Fargo	\$50,030
	Electronics	Milwaukee	\$2,399,751
		Fargo	\$486,598
	Movies	Milwaukee	\$457,465
		Fargo	\$94,883
	Music	Milwaukee	\$441,905
		Fargo	\$88,938
Mid-Atlantic	Books	Washington, DC	\$184,865
		Charleston	\$79,997
	Electronics	Washington, DC	\$1,809,051
		Charleston	\$752,196
	Movies	Washington, DC	\$341,167
		Charleston	\$145,507
	Music	Washington, DC	\$327,000
		Charleston	\$139,748

Take note of the Cost value for Central, Electronics, Fargo (\$486,598); you compare it to a cost value in the next step.

- 5 The order of the attributes on the report determines how the Cost values are displayed. Drag **Call Center** to the left of **Category** on the report. The Cost values now display for each category, within each call center, within each region.

Region	Call Center	Category	Cost
Central	Milwaukee	Books	\$245,475
		Electronics	\$2,399,751
		Movies	\$457,465
		Music	\$441,905
	Fargo	Books	\$50,030
		Electronics	\$486,598
		Movies	\$94,883
		Music	\$88,938
Mid-Atlantic	Washington, DC	Books	\$184,865
		Electronics	\$1,809,051
		Movies	\$341,167
		Music	\$327,000
	Charleston	Books	\$79,997
		Electronics	\$752,196
		Movies	\$145,507
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Notice that the calculations are the same as before you moved Call Center, but they display in a different order because of the placement of the attributes on the report. For example, you can see that the Cost value for Central, Fargo, Electronics is \$486,598, which is the same as the Cost value for Central, Electronics, Fargo in the previous step.

- 6 From the **File** menu, select **Save**.
- 7 In the **Name** box, type **Attributes and Levels**.
- 8 In the **Save in** drop-down list, select **My Reports**. Then click **Save**.
- In the sandbox environment, you cannot save items in the Shared Reports folder.*
- 9 To return to your Library home page, click the **Library** icon  in the left of the toolbar.
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