Before you begin: Log in to your Education sandbox

You have a shared sandbox environment to learn about, use, and experiment with MicroStrategy Web.

1   In your browser, navigate to **education.microstrategy.com/MicroStrategy/servlet/mstrWeb**.

2   Log in to the sandbox with your **MicroStrategy Account** credentials.

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

4   Click **Go to MicroStrategy Web**.

The Shared Reports folder of the MicroStrategy Tutorial project opens.

In the sandbox environment, you cannot save items in the Shared Reports folder.

Exercise: Merge metric filters and report filters in conditional metrics

In this exercise, you identify the bottom 10 items in terms of revenue and only those items with revenue greater than $15,000. Different results can be obtained depending on the merge filters setting. This exercise helps you select the correct setting for your reporting goal.
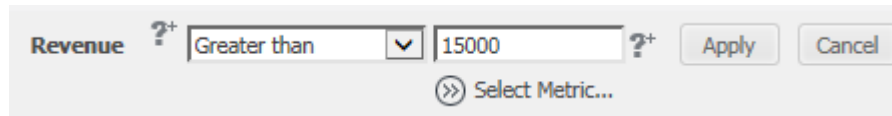
Create a filter for revenue greater than $15,000

1   Access your Education sandbox. For a reminder on how to do this, see *Exercise: Access your Education sandbox*.

2   On the My Reports folder page, click **Create**, and select **New Filter**.

3   In the Object Browser, click **Metrics**, and then the **Sales Metrics** folder.

4   Double-click **Revenue** to add it to the filter.

5   From the first drop-down list in the filter definition pane, select **Greater Than**.

6   Type **15000** in the box.

| Revenue | ?* | Greater than ▾ | 15000 | ?* | Apply | Cancel |

⊘ Select Metric...

7 Click **Apply**.

8 Click **Save** on the toolbar.

9 In the **To the Folder** drop-down list, select **My Reports**.

10 In the **Name** box, type **Revenue Greater Than 15K**.

11 Click **OK**.

12 Click **Close** on the toolbar.

Create a conditional metric for revenue greater than $15,000

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1 On the My Reports folder page, click **Create** and select **New Metric**.

2 In the Functions list on the left, click **Sum** to add it to the metric definition area.

3 Select the Revenue fact:

   a   Click the **Browse** icon 📁 next to the **Search for a fact, metric or attribute** box.

   b   Click the **Facts** folder.

   c   Click **Revenue**.

   Add the filter to the metric

4 Click **Show All** to display the level, condition, and transformation properties.

5 Click the **Browse** icon 📁 next to the **Condition** box.

6 In the Select an Object window, select **My Reports** from the drop-down list.

7 Click **Revenue Greater Than $15K**.

Check the metric merge setting

8 Click **Condition Advanced Options**.

In the Condition Advanced Options window, note that the default interaction is to merge the report filter into the metric filter.
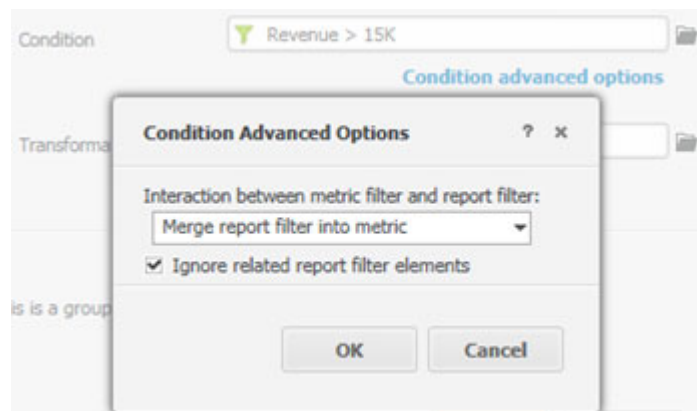
9 Click **OK**.

> **Format the metric values as currency**

10 Click **Format**.

11 From the first drop-down list, select **Metric Values**.

12 Click **Currency**.

13 In the **Decimal Places** box, type **0**.

14 Click **OK**.

> **Save the metric**

15 **Save** the metric in the My Reports folder as **Revenue > $15K (RF 1st)**.

Create a conditional metric to evaluate the metric filter first

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> **Copy the conditional metric**

1 On the My Reports folder page, copy the **Revenue > $15K (RF 1st)** metric, naming it **Revenue > $15K (MF 1st)**. Add the following **Description**:

Metric filter evaluated before the report filter

> **Edit the metric to change the filter interaction**

2 Click the **Revenue > $15K (MF 1st)** metric to edit it.

3 Click **Condition Advanced Options**.

4 From the **Interaction between Metric Filter and Report Filter** drop-down list, select **Merge Metric Condition into Report**.

Create a conditional metric to merge the filters into one

Copy the conditional metric

1 On the My Reports folder page, copy the **Revenue > $15K (RF 1st)** metric, naming it **Revenue > $15K (new)**. Add the following **Description**:
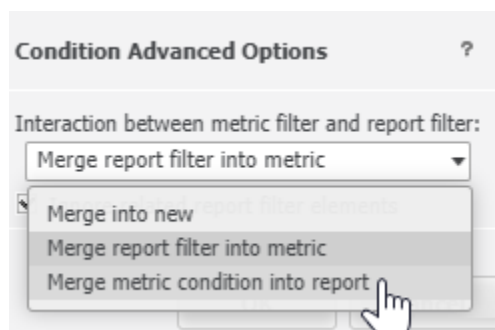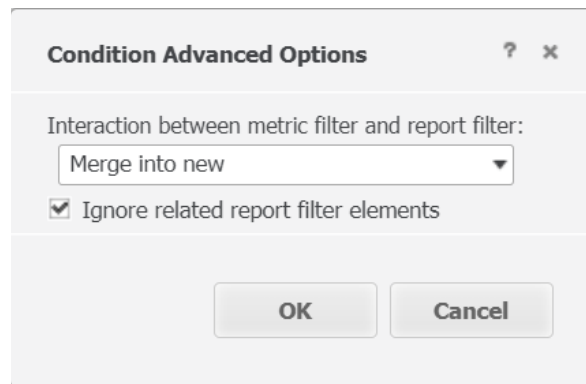
Merge metric and report filters

Edit the metric to change the filter interaction

2 Click the **Revenue > $15K (new)** metric to edit it.

3 Click **Condition Advanced Options**.

4 From the **Interaction between Metric Filter and Report Filter** drop-down list, select **Merge into New**.

5 **Save** the metric.

Create the dossier to display the conditional metrics

1 On the My Reports folder page, click **Create**, and select **New Dossier**.
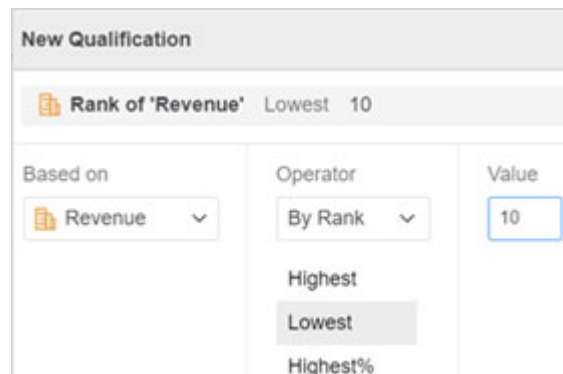
Create a dataset report within the dossier

2 Click **Add Data** and select **Existing Objects**.

3 In the Add Existing Objects window, select **Attributes** from the first drop-down list. Click **Products**.

4 Double-click **Item** to add it to the dataset report.

5 In the first drop-down list, select **My Personal Objects**. Click **My Reports**.

6 Double-click the **Revenue > $15K (RF 1st)** metric to add it to the dataset report.
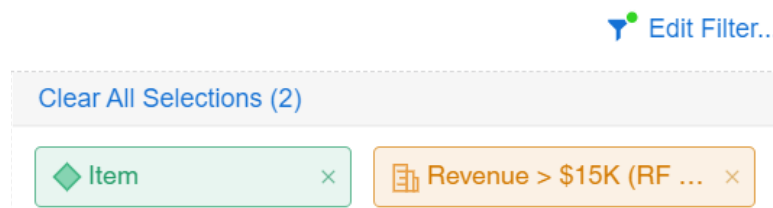
Create the report filter

Filter the dataset report for the lowest 10 revenue-producing items.

7 Click **Add Filter**.

8 In the New Qualification window, double-click **Browse Metadata Objects** because you want to filter on Revenue, which is not in the report.

9 From the **Select an Object** drop-down list, select **Metrics**. Click **Sales Metrics**.

10 Double-click **Revenue**.

11 From the **Operator** drop-down list, select **By Rank**.

12 In the list of operators, click **Lowest**.

13 In the **Value** box, type **10**.

14 Click **OK** to save the qualification.

15 On the Filter Editor, click **Save** to save the filter.

The dataset report definition looks like the following. Notice that the Add Filter icon has changed and the text now displays as Edit Filter, indicating that you have filtered the dataset report.

Import the data into the dossier

16 Click **Add**.

Create the grid

17 In the Datasets pane, double-click **Item** and then **Revenue > $15K (RF 1st)** to add them to the grid.

The grid resembles the following:

Item	Revenue > $15K (RF 1st)
Jump Start Your Brain	$17,286
The Old Man and the Sea	$17,533
The Rules for Cats	$17,237
Great Comedians Talk about Comedy	$17,396
Games for the Superintelligent	$17,473
The New Fit or Fat	$17,304

Only 6 rows display on the grid, instead of the 10 you expected based on your Bottom 10 filter. Why?

The report filter is applied first, and then the metric filter is applied to those results. This order means that the bottom 10 sales are determined first, and then, of those bottom 10 sales, only those items with revenue greater than $15,000 are included in the dataset. The number of rows on the grid is only 6, since some of the 10 items returned by the report filter have sales less than $15,000.

Save the dossier

**18** **Save** the dossier as **Merge Report Filter** in the **My Reports** folder.

19 Click **Run Newly Saved Dossier**.

Replace the conditional metric to apply the metric filter first

20 In the Datasets pane, click the menu icon ⋮ next to New Dataset 1 and select **Edit Dataset**.

21 In the Edit Dataset window, remove the **Revenue > $15K (RF 1st)** metric (click the **x** next to its name).

Clear All Selections (2)

◆ Item ✕   📊 Revenue > $15K (RF ... ✕
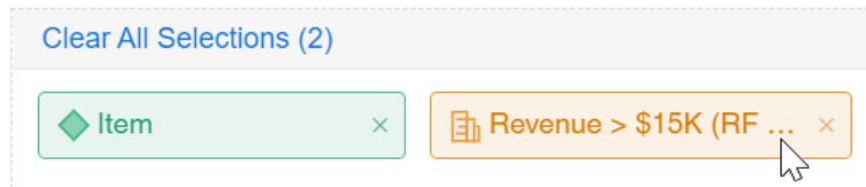
22 In the first drop-down list, select **My Personal Objects**. Click **My Reports**.

23 Double-click the **Revenue > $15K (MF 1st)** metric to add it to the dataset report.

24 Click **Update Dataset**. At the prompt, click **Update**.

The new metric displays in the Datasets pane, but the grid contains only items (since the metric on the grid was removed from the dataset). Even before you place the metric on the grid, you can see that 10 rows (or items) display, as you expected with the first grid.

Item
Cabin Fever : Rustic Style Comes Home
Don't Step in the Leadership
Jump Start Your Brain
The Fountainhead
The Old Man and the Sea
Brave New World
The Rules for Cats
Great Comedians Talk about Comedy
Games for the Superintelligent
The New Fit or Fat

If the grid still has only 6 rows, you did not remove the Revenue > $15K (RF 1st) metric from the dataset report. Keeping the original metric on the dataset report affects the calculation of the new metric because of how the metrics are joined. Repeat the steps in *Replace the conditional metric to apply the metric filter first,* ensuring that you remove the Revenue > $15K (RF 1st) metric from the dataset.

25 In the Datasets pane, double-click **Revenue > $15K (MF 1st)** to add it to the grid.

The grid looks like the following:

Item	Revenue > $15K (MF 1st)
Cabin Fever : Rustic Style Comes Home	$17,571
Don't Step in the Leadership	$17,711
Jump Start Your Brain	$17,286
The Fountainhead	$17,585
The Old Man and the Sea	$17,533
Brave New World	$17,600
The Rules for Cats	$17,237
Great Comedians Talk about Comedy	$17,396
Games for the Superintelligent	$17,473
The New Fit or Fat	$17,304

The grid contains 10 rows, as expected, and all items have a revenue higher than $15,000. Since the metric filter is applied first, all items with revenue greater than $15,000 are selected first. Then the report filter is applied to those results. The bottom 10 revenue items are selected, so the dataset includes only these 10 items. Notice that the revenue values calculated for the six items that appeared on the first are the same between the two grids. The merge setting does not affect the metric calculation, only which items are included in the dataset.

Save the dossier

26 Click **Save as**.

27 From the **Save In** drop-down list, select **My Reports**.

28 Name the dossier **Merge Metric Filter** and click **OK**.

29 Click **Run Newly Saved Dossier**.

Replace the conditional metric to merge the filters

30 In the Datasets pane, click the menu icon ⋮ next to New Dataset 1 and select **Edit Dataset**.

31 In the Edit Dataset window, remove the **Revenue > $15K (MF 1st)** metric.

32 In the first drop-down list, select **My Personal Objects**. Click **My Reports**.

33 Double-click the **Revenue > $15K (new)** metric to add it to the dataset report.

34 Click **Update Dataset**. At the prompt, click **Update**.

The new metric displays in the Datasets pane, but the grid contains only items. Even before you place the metric on the grid, you can see that the grid contains so many items that you have to scroll to see all the results.

35 In the Datasets pane, double-click **Revenue > $15K (new)** to add it to the grid.

The grid resembles the following:

Item	Revenue > $15K (new)
100 Places to Go While Still Young at Heart	$67,993
Art As Experience	$23,733
The Painted Word	$22,323
Hirschfeld on Line	$50,442
Adirondack Style	$39,101
Architecture : Form, Space, & Order	$41,378
50 Favorite Rooms	$26,502
500 Best Vacation Home Plans	$17,729
Blue & White Living	$24,669
Ways of Seeing	$23,777
Gonzo, the Art	$41,469
Cabin Fever : Rustic Style Comes Home	$17,571
American Bungalow Style	$40,985

In total, 356 rows display instead of the expected 10. Why?

The metric filter and the report filter are merged into a new filter, and the intersection of the two filters is used. Only those items that are in the bottom 10 in terms of revenue and have revenue greater than $15,000 are included. The results are the same as the first report, with six rows of data.

It seems as though the report filter is ignored, so that 10 items are not selected for display. Why?

This scenario is an example of how the metric merge and ignore related report filter elements work together to affect how the report filter and the metric filter interact. By default, related report filter elements are ignored. In this example, the filters use the same element (Item), so the report filter is ignored. Only the metric filter, for revenue greater than $15,000, is applied.

Save the report

36 Save the dossier as **New Filter** in the **My Reports** folder, then close the dossier.

Create a conditional metric to use the report filter's related elements

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Copy the conditional metric

1 On the My Reports folder page, copy the **Revenue > $15K (new)** metric, naming it **Revenue > $15K (new + related)**.

Edit the metric to change the report filter setting

2 Double-click the **Revenue > $15K (new + related)** metric to edit it.

3 Click **Condition Advanced Options**.

4 Clear the **Ignore Related Report Filter Elements** check box.

5 Click **OK**.

6 **Save** the metric.

Add the new metric to the dossier

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1 On the My Reports folder page, click the **New Filter** dossier.

Replace the conditional metric to use the report filter's related elements

2   In the Datasets pane, click the menu icon ⋮ next to New Dataset 1 and select **Edit Dataset**.

3   In the Edit Dataset window, remove the **Revenue > $15K (new)** metric.

4   In the first drop-down list, select **My Personal Objects**. Click **My Reports**.

5   Double-click the **Revenue > $15K (new + related)** metric to add it to the dataset report.

6   Click **Update Dataset**. At the prompt, click **Update**.

     The new metric displays in the Datasets pane, but the grid contains only items. Even before you place the metric on the grid, you can see that the grid contains only six items.

7   In the Datasets pane, double-click **Revenue > $15K (new + related)** to add it to the grid.

     The grid resembles the following:

Item	Revenue > $15K (new + related)
Jump Start Your Brain	$17,286
The Old Man and the Sea	$17,533
The Rules for Cats	$17,237
Great Comedians Talk about Comedy	$17,396
Games for the Superintelligent	$17,473
The New Fit or Fat	$17,304

     The results are the same as the first grid, with six rows of data, because the report filter is now being applied.

Save the dossier

8   Save the dossier as **New Filter + Related** in the **My Reports** folder.

9   Click **Run Newly Saved Dossier**.

10 **Close** the dossier.