

How-To: Adjusting How Vena Treats Zero Values in the Database



Vena Support Team
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In most databases, blanks and zeros are functionally identical, and Vena treats them as equivalent for performance reasons. But in some specific cases, it's important to make a distinction between a zero value and a blank value.

Why use this feature?

In most databases, blank intersections and zero values are treated the same way. Removing zeros and leaving intersections blank typically has no practical impact.

However, Vena processes zeros like any other data, while blank intersections are ignored. Replacing zeros with blanks can improve template performance by reducing template load times, so Vena replaces zeros with blanks by default.

In some industries, especially those with regulatory requirements (e.g., CCAR), it is essential to retain zero values. In such cases, you may need to adjust how Vena handles zero values to ensure they remain intact.

This guide explains how to configure your data model to modify Vena's treatment of zeros and how to replace existing zeros with blanks if needed.

Before you begin

In order to complete the steps described in this article, you will require at least **Modeler** access. You will also need the necessary Application Permissions to read and update the data model you will be working with.

How to

Basic Functionality

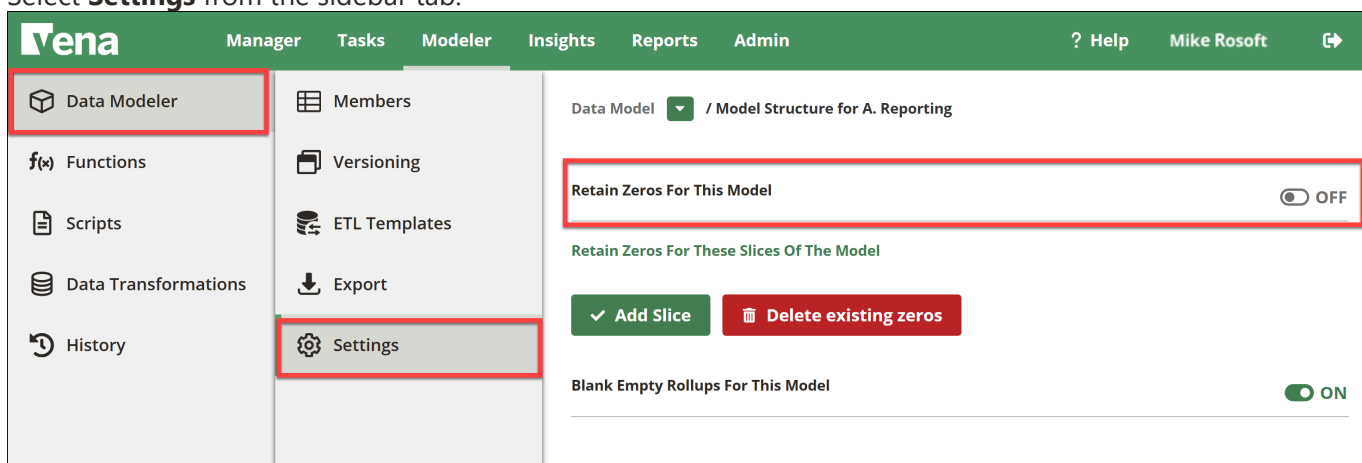
You can turn ON/OFF the feature that retains zeros in your data model. By default, it is OFF, meaning zeros are saved as blanks. If turned ON, Vena will keep zeros and not replace them with blanks. This setting applies to the entire data model but only affects new data inputs after the change.

Note

Changing this setting affects only standalone zero values which are exactly zero. It will not affect any values that greater or lesser than zero (e.g., 0.1, etc.), nor will it remove zeros from values containing them (e.g., 10.05 will not become 1.5).

To change how Vena handles zero values:

1. Navigate to the **Modeler** tab.
2. Select **Data Modeler** from the sidebar.
3. Select **Settings** from the sidebar tab.



4. Select the **toggle** next to *Retain zeros for this model*:
 - **ON** will save any zero input into the database as a value.
 - **OFF** will discard any zero input into the database and keep that intersection blank.
5. Any changes you make take effect immediately; there is no need to save.

Advanced functionality

Add Slice

For more specific control, use the Add Slice feature to retain zeros in select parts of the data model. This feature works only to retain zeros for specified slices, not to discard them selectively.

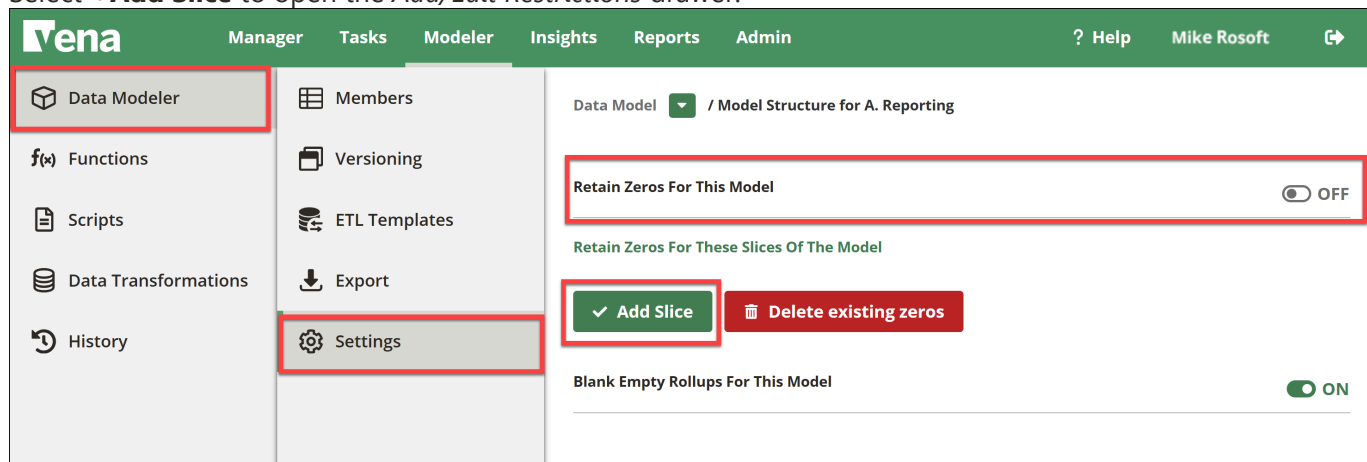
With Add Slice, you can target single members, multiple members or dynamic groups (e.g., bottom-level, IDescendants). If you leave any dimensions unconfigured, Vena treats them as if all members in those dimensions are selected (e.g., IDescendants).

Caution

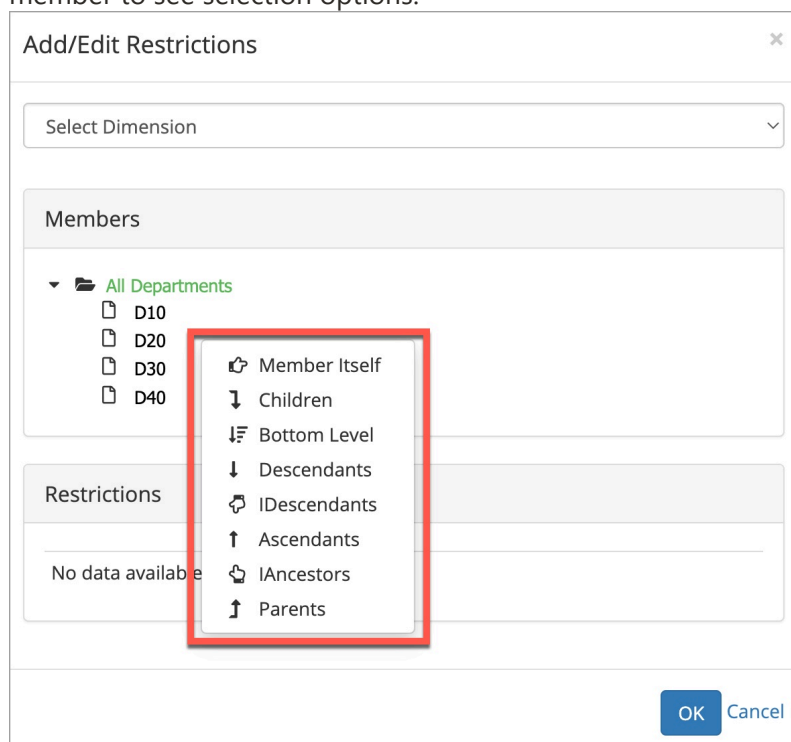
Zeros will only be retained for the configured slices if the **ON/OFF** toggle is set to **ON**. If the **ON/OFF** toggle is in the **OFF** position, zeros will not be retained for any slices listed under *Retain zeros for these slices of the model*.

To only retain zeros for specific parts of the Data Model:

1. Navigate to the **Modeler** tab.
2. Select **Data Modeler** from the sidebar.
3. Select **Settings** from the sidebar tab.
4. Ensure that *Retain zeros for this model* is set to **ON**.
5. Select **+Add Slice** to open the *Add/Edit Restrictions* drawer.




6. Use the *Select Dimension* drop-down menu to choose the **dimension** to define your slice.
7. In the *Members* section, navigate to the member you would like to use to define the slice. Right-click on the member to see selection options.



8. Select the option that describes the slice (or part of the slice) you want. The corresponding members will be added to the *Restrictions* section. This is a preview string of all configured restrictions in the green-colored

panel below.

Restrictions

IAscendants('All Departments')

Department.[IAscendants('All Departments')]

OK

Cancel

- To make changes to the restrictions you've configured so far, select the trash can icon next to the item you'd like to remove in the *Restrictions* section.
9. Select **Save Changes** once you have finished configuring the slice.
 10. You will return to the main *Settings* screen, where your configured slice is added under *Retain zeros for these slices of the model*. To modify or remove an existing slice, select the slice under *Retain zeros for this model*, select either the **Edit** or **Delete** button.

Delete Existing Zeros

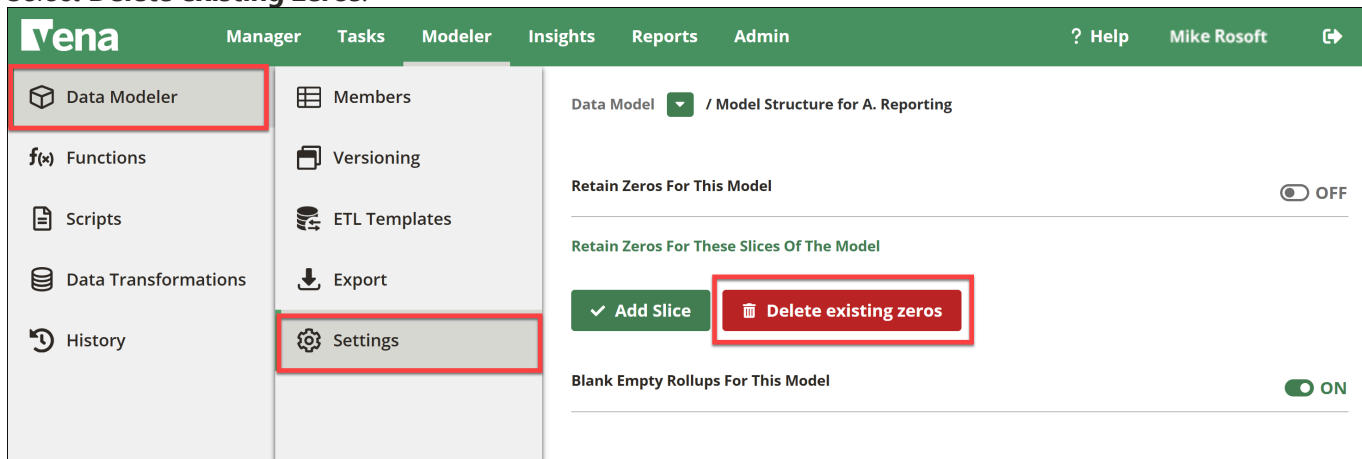
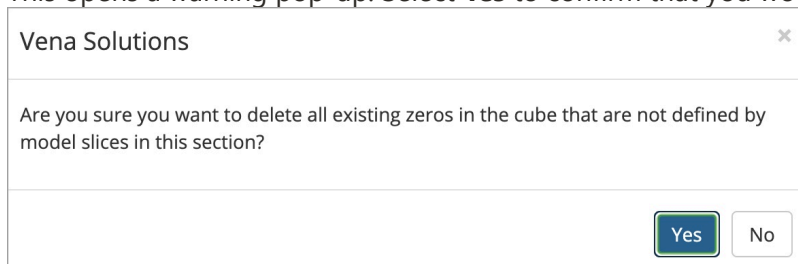
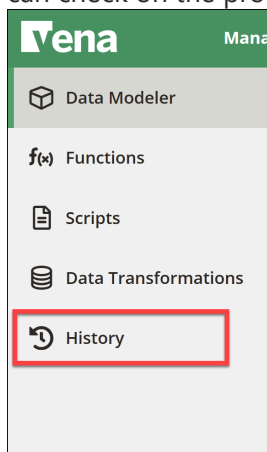
As noted above, modifying the *Retain zeros for this model* setting only affects zeros that are entered into the database going forward, after the change is made. If you already have zeros in your database (either because they were input manually or from ETL loads) and you would like to replace them with nulls/blanks to improve performance, you can do this with the *Delete Existing Zeros* function.

This finds and removes all existing zeros from your database upon activation. How this works depends on how you have configured the *Retain zeros for this model* setting:

Retain Zeros Setting	Data Model Slices	Delete Existing Zeros Behavior
OFF	No	Clears all zeros from entire database
ON	No	Will not clear any zeros
ON or OFF	Yes	Clears all zeros except from the slices

To delete any existing zero values from your database and replace them with blanks:

1. Navigate to the **Modeler** tab.
2. Select **Data Modeler** from the sidebar.
3. Select **Settings** from the sidebar tab.
4. Verify your *Retain zeros for this model* setting and whether you have configured any slices to determine what will happen when you use *Delete Existing Zeros* (refer to the table above).

5. Select **Delete existing zeros**.6. This opens a warning pop-up. Select **Yes** to confirm that you would like to delete zeros.7. A confirmation lets you know that a delete zeros job was scheduled and added to your ETL jobs queue. You can check on the progress of this job by selecting **History** in the Modeler sidebar menu.

8. Once the ETL job finishes, all zeros will be removed from your database and replaced with blanks.

Blank empty rollups for this model

When enabled, the *Blank Empty Rollups* setting changes how Vena handles parent-level rollups if child intersections are blank or contain non-numeric values (e.g., text). If ON, parent rollups without numerical data at the child level appear as blanks. If OFF, they display as zeros.

The screenshot shows the Vena Data Modeler interface. The left sidebar contains a menu with the following items: Data Modeler (highlighted with a red box), Functions, Scripts, Data Transformations, and History. The main panel displays the 'Data Model' structure for 'A. Reporting'. It includes a toggle for 'Retain Zeros For This Model' which is currently OFF. Below this, there are buttons for 'Add Slice' and 'Delete existing zeros'. At the bottom, there is a toggle for 'Blank Empty Rollups For This Model' which is currently ON (highlighted with a red box).

Caution

This is a compatibility setting for users migrating to Vena Cloud from Vena OnSite. If you are not migrating from Vena OnSite, we strongly recommend that you do **not** change this setting.