Explainer: What Are Unmapped Dimensions and Default Members?

Vena Support Team
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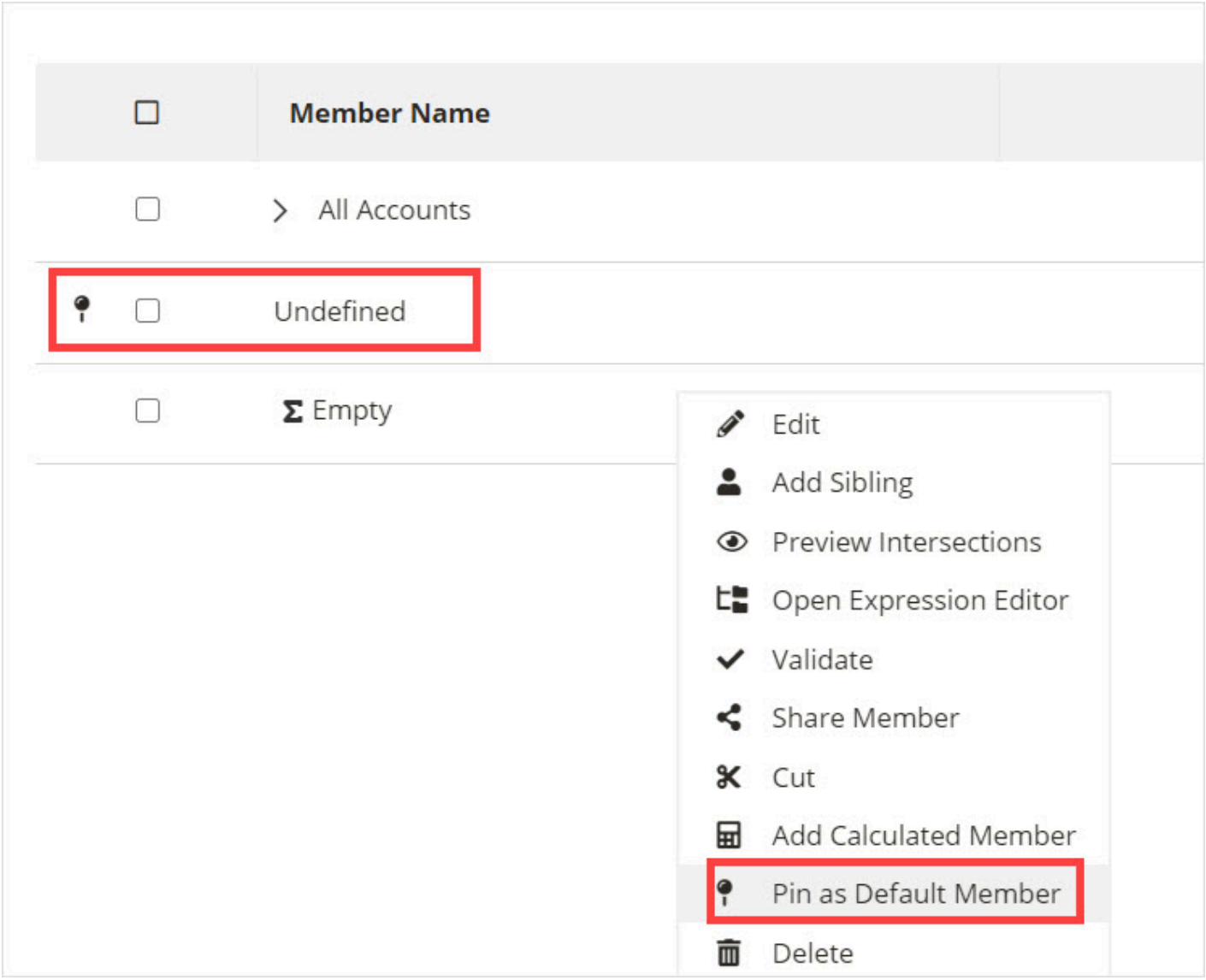
Not sure what an **Unmapped Dimension** or a **Default Member** is, or how to use them? Read on to learn more.

What is the Default Member?

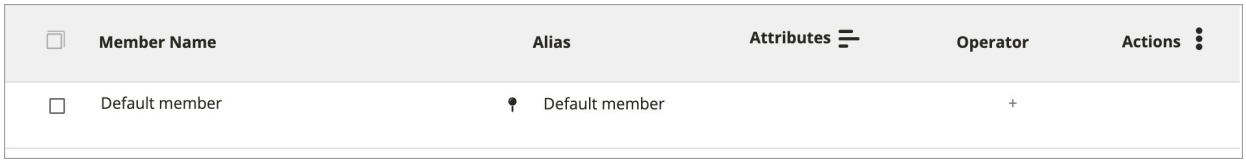
While using the Data Modeler, you might have noticed a member—probably named *Default member*—with an  icon next to it. You've may have seen the same icon appear next to a *Pin as Default Member* option in the menu that appears when you right-click on any member:



The icon indicates that this member is the current Default Member for this dimension. *Pin as Default Member* gives you the option of changing that designation to any other member. But what does this mean? To understand what the Default Member is, we first have to look at the Unmapped Dimension feature, and the mechanics of mapping a Vena template.

The "Default Member" vs. The "Default member" member

In the screenshot below, there is a member *named* "Default member", and it also *is the* Default Member for its dimension. They're not the same thing, so don't confuse them!



A member named "Default member" is created whenever you set up a new dimension. While it is also automatically the Default Member for a newly created dimension, they are not always one and the same. Because you can use *Pin as Default Member* to make any member the Default Member, it's possible to have a member named "Default member" that is not actually the Default Member. Throughout this article, whenever

'Default Member' is mentioned, it refers to the *concept*, not the member with that name.

Also, don't worry if you don't have any member named "Default member" in your data model. This is common because, historically, many Modelers would often delete this member right after creating a dimension. Likewise, it's fairly likely that *none* of your members is currently set as the Default Member (i.e., no member has the  icon). Read on below to learn why.

What is an Unmapped Dimension?

In the past, whenever you mapped a Vena template, you had to make sure to map at least one member from every dimension manually. This is because mappings point at specific data intersections in your Vena database, and you can only successfully describe an intersection if you reference all of the dimensions in the data model.

Think of this as being like sending a letter: even if you included the recipient's name, street, city, state and zip code on the address label, the delivery fails if you leave out the house number. It's the same way with intersections in your database, as Vena Desktop needs details from *every* dimension in your data model to "deliver" the data you want.

Filling unmapped dimensions on Vena Desktop

Vena Desktop's **Unmapped Dimension** feature relaxes this requirement. While it's still true that every intersection must be described by using a member from every dimension, you no longer have to map each of those members manually.

Benefits:

- Speeds up template creation, especially for A**d Hoc reports**.
- Simplifies **data model updates**—adding a new dimension won't break old templates, since it's auto-filled with a Default Member.
- When you don't explicitly map a dimension, the Unmapped Dimension feature automatically fills in a member for you to create a valid (complete) mapping. The member it uses for this purpose is the **Default Member**.

Mapping with Unmapped Dimension

With Unmapped Dimension, you can leave *any* dimension unmapped while building a template, in any section or block, and the template will still work. Keep in mind that you

must still map at least one dimension to each row and column, as this defines where the intersections are located on the template. If you don't do this, Vena Desktop won't know where to place the data.

What is the *Pin as Default* option used for?

Now that you know how Unmapped Dimension works, it's logical to conclude that this is where *Pin as Default Member* comes in. Is it used to tell Vena Desktop which member to use as the Default Member?

The answer is both yes and no, because it depends on when the dimension was created. For any dimension that was created after the Default Member feature first entered beta (March 26, 2018), the automatically created first member (the one named *Default member*) will also be set as the Default Member, so there is no need to set it as such (see note).

However, for dimensions that existed before these features became available, none of the members in the dimension are automatically set as the Default Member. For these dimensions where no Default Member exists, Unmapped Dimension simply uses a fallback in its place: this "Default Member by default" is the *All Member*, a virtual member that represents a parent of all members in the dimension (it's a "virtual" member because it's an abstraction, rather than a real member that is listed in the Data Modeler).

This *All Member* fallback allows Unmapped Dimension to work with all pre-existing dimensions, but there is an important consideration to bear in mind when you leave a dimension unmapped that has no set Default Member. Since the *All Member* will be used in place of the Default Member in this case, the resulting template can't be used to save data. This is because the *All Member* is a parent member, but intersections on an input template must be comprised solely of members that are at the bottom-level of the member hierarchy.

Therefore, the *Pin as Default Member* option actually functions as an override:

- For old dimensions without a set Default Member, it allows you to specify a bottom-level member to be used as the Default Member in place of the *All Member*. This enables input templates to be created using Unmapped Dimensions.
- For new dimensions, it allows you to set a Default Member other than the one that was automatically set when you created the dimension. This is useful if there is another member that you would rather use.

You can use *Pin as Default Member* to make *any* other member in a dimension the Default Member, whenever you like. One thing to keep in mind is that, if you make any parent member the Default Member, you will not be able to create input templates with Unmapped Dimension, for the reason outlined above.

Important Note

For dimensions created after March 26, 2018 (when the Default Member feature entered beta), the first member (usually named *"Default member")* is automatically set as the Default Member. There's no need for any manual action. (see note).

For dimensions created before March 26, 2018, no Default Member is automatically set.

If you created a new dimension between March 26, 2018, and May 16, 2018, you should check the dimension to see if any member that you are using for another purpose (i.e., as a "real" dimension member) may be unexpectedly set as the Default Member. If this is the case, we recommend that you unset it (see the note below for more information).

What happens if I change or delete the member that is currently set as the Default Member?

At any time, you can select another member and make it the Default Member using *Pin as Default Member*. You can also delete the member that is currently designated as the Default Member, which will, of course, also unset it as the Default Member as a consequence.

General rules:

- If you delete the Default Member and do not set a new Default Member, then the All Member will become the *de facto* Default Member.
- If you change the member designated as the Default Member, this will take effect immediately.
  - All templates will automatically use the new Default Member anytime the relevant dimension is left unmapped.

If the current Default Member has ever been used to "fill in" for an unmapped dimension on an input template, and that template has been used to input and save data, then the Default Member will be associated with intersection values. This means that changing the Default Member in this case will affect any templates and reports that relied on the old Default Member.

Example 1: a data model with four dimensions

If you map a template using this data model, every intersection would have to be defined by all four of these dimensions. Now, consider a template on which you mapped dimensions 1, 2 and 3 with specific members, but left dimension 4 unmapped. The Default Member would be used to complete the mapping. If you now use this template to input and save data, each value you save will be defined by a set of four members, one of which is always the dimension 4 Default Member, like this:

Dim 1	Dim 2	Dim 3	Dim 4 (unmapped)	Value
Widget 1.0	January	Sales	*Default Member*	15,000

Widget XL	January	Sales	*Default Member*	7,200

These values are now tied to these specific sets of members. As long as you don't change either the mapping of the template or dimension 4's Default Member, these same values will appear every time you open the template.

However, if you change the Default Member in dimension 4 to a different member and then open up the same template again, the values you saved previously will no longer appear. Why? Since dimension 4 now has a *new* Default Member, all of the intersections on the template will automatically be defined using that member, like this:

Dim 1	Dim 2	Dim 3	Dim 4 (unmapped)	Value
Widget 1.0	January	Sales	***New** Default Member*	
Widget XL	January	Sales	***New** Default Member*	

The only way to retrieve the previous values would be to add a mapping to the template for dimension 4, setting it to the member that was previously the Default Member.

Changing the Default Member can be problematic, but more importantly, deleting a Default Member associated with intersection values will also destroy the relevant intersections, resulting in the loss of that data. As a result, you should always be careful if you're thinking about changing or deleting a Default Member.

❗ Best Practices for using the Default Member

Given the potential risks of setting, changing or deleting the Default Member, here are some recommendations for using this feature:

- In general, you should only set a Default Member if not doing so would break existing templates. The most common case for this would be adding a new dimension in an existing Vena environment. Here, adding the dimension will automatically set a Default Member as well. This allows all existing input templates to keep working without needing to be remapped with the new dimension (and means you don't have to remember to set a Default Member on the new dimension).
- If you rely on a Default Member to enable input templates when expanding a data model, we recommend that you do NOT change it to another member at any point.

- You should only change or delete a Default Member if absolutely necessary, and if you are confident that it is not associated with any intersection values. This will typically be the case only if you have just created a new dimension, and the automatically set Default Member is brand new (and therefore hasn't been used on a template yet).
- For existing dimensions created prior to March 26, 2018, no Default Member will be set. We recommend not setting a Default Member on these dimensions and therefore relying on the *All Member* when using the Unmapped Dimension feature on a template. This will reduce the risk of associating intersection values with a Default Member, at the expense of not being able to leave these dimensions unmapped on input templates (only reports can be created if you leave a dimension unmapped that defaults to the All Member).
- Templates that rely on Unmapped Dimension are not compatible with the Contributor Connector Add-In for Mac and Office 365, Report Books or Template Automation.