How-To: Data Model Series (Part 2): Hierarchies and Roll-Ups

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About this series

This series is all about **how to build and use Data Models**. You are in **Part 2**, which provides step-by-step instructions on how to build and manage a Dimension.

This series was designed to be read in order. If you don't have any previous experience with the Data Model tool, we recommend that you follow this approach, starting with Part 1. But if you are already familiar with Vena Data Models and are just looking for a refresher, you can also feel free to dip in anywhere within this series.

Part 1: Building a Data Model

Part 2: Hierarchies and Roll-ups - **you are here**

Part 3: Attributes and Versioning

Part 4: ETL Tool

Before you begin

To follow the instructions in this article, you will need at least **Modeler** access. If Data Permissions are set up in your environment, you will also need the appropriate permissions for the data that you are working with.

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Overview

Hierarchies and Roll-Ups

The dimensions of an OLAP cube are structured into hierarchies. For example, in a database that tracks information for periods, hierarchies may be broken down into:

- All Period (Complete year)
- Halves
- Quarters
- Months

An example of a hierarchy. (Displaying dimensions and dimension members.)

|		A	Dimensions	Display all dimensions created within a data model.
A		Dimensions		Display all dimensions created within a data model.
B		Dimension Members		Dimension member hierarchy.
C		Roll-up		Lower-level members (child members) will "roll-up" under this umbrella.

D	Bottom Level Member	Lower-level dimension member which fits under the parent umbrella dimension members.

Dimension/Dimension Member tools

Leverage the available tools on the *Members* page to build your hierarchy.
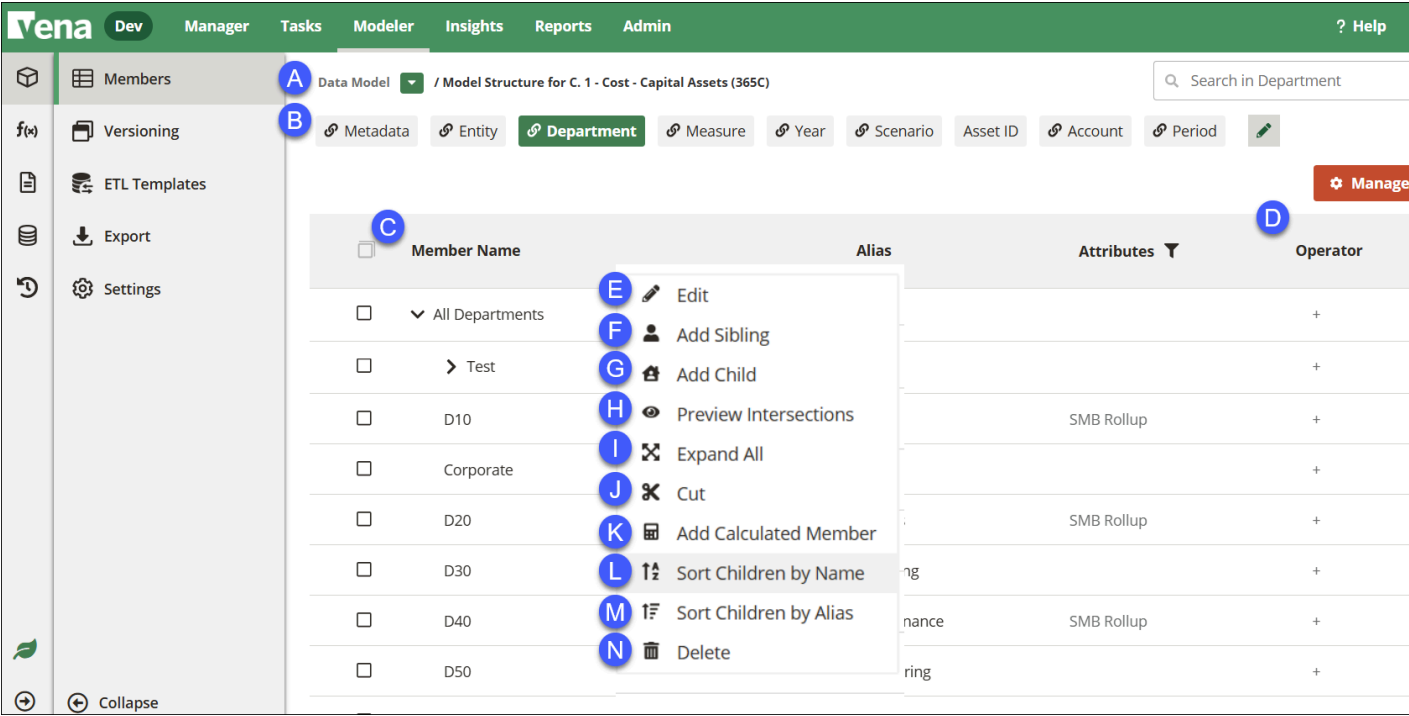
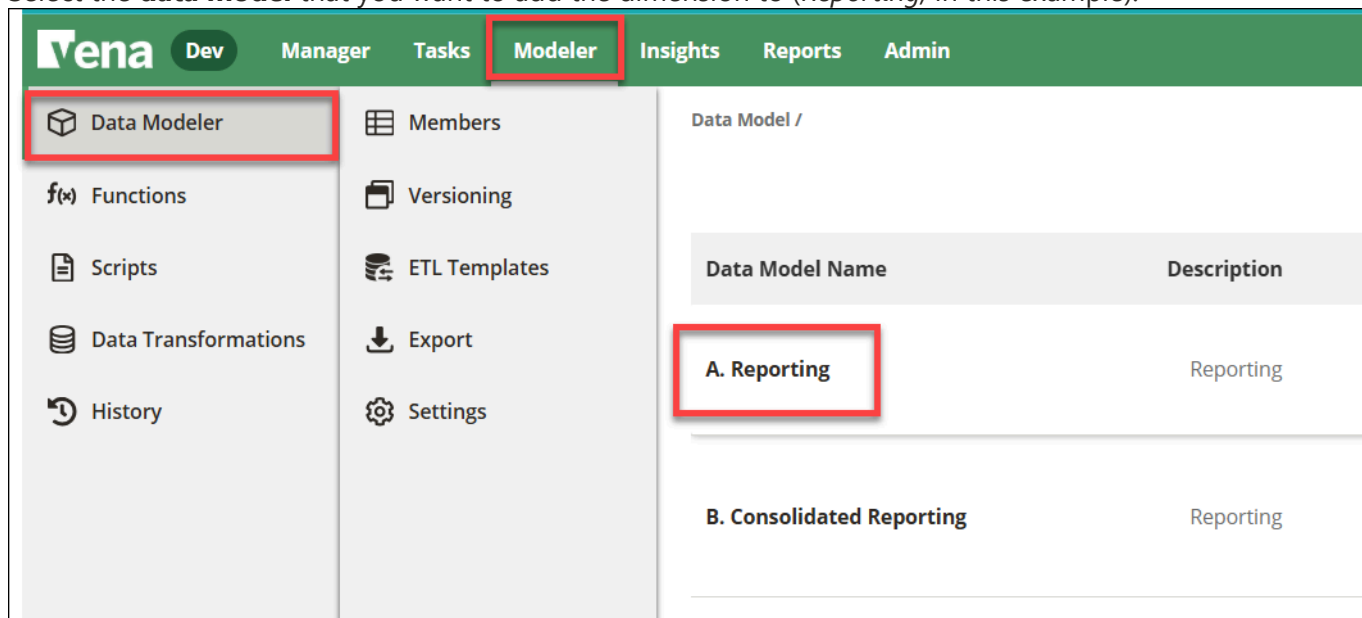| A	Choose Data Model	Select the drop-down menu, and then select from the available data models.
B	Dimensions	A list of dimensions of the selected data model.
C	Dimension Member	Selected dimension member.
D	Operator	Aggregation method used for roll-up dimension member: • (~) No Aggregation • (+) Add • (-) Subtract
E	Edit	Allows you to rename the member, add/edit an alias, add/edit attributes and add/edit an operator.
F	Sibling Member	Create a new sibling of the selected member.

|		
G	Child Member	Create a new child (subordinate) member of the selected member.
H	Preview Intersections	Preview all data intersections for selected member with the option to export to a CSV file.
I	Expand All	Display all levels of the hierarchy.
J	Cut	Cut the selected member.
K	Add Calculated Member	Add a calculated member to this dimension member. Learn more about Calculated Members.
L	Sort Children by Name	Option to sort children alphabetically by name.
M	Sort Children by Alias	Option to sort children alphabetically by alias.
N	Pin as Default Member	Allows you to manually select a specific member as the Default Member. Learn more about Default Members.
O	Delete	Allows you to delete a dimension member.

How to

Add a Dimension

1. Navigate to the **Modeler** tab. The **Data Modeler** window should open automatically.

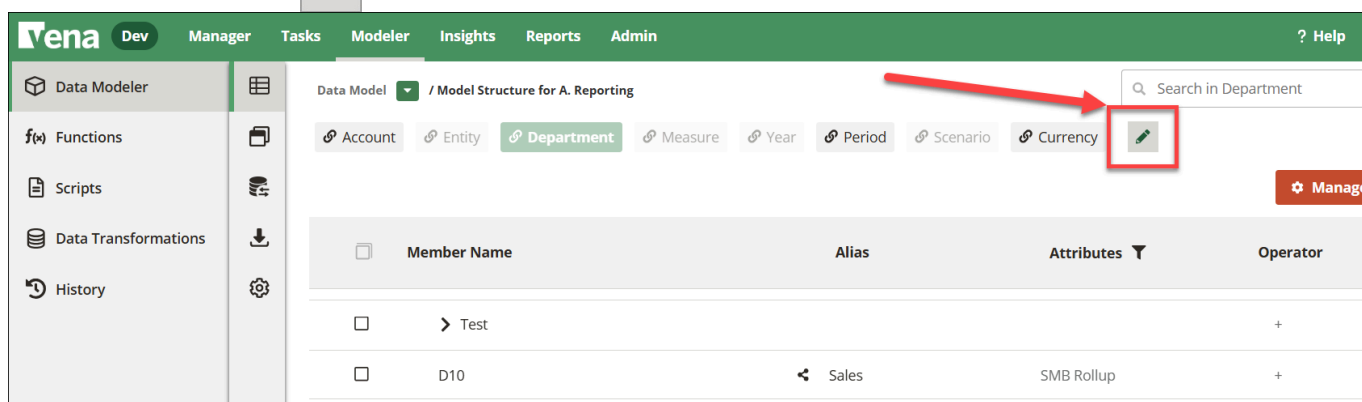2. Select the **data model** that you want to add the dimension to (*Reporting,* in this example).
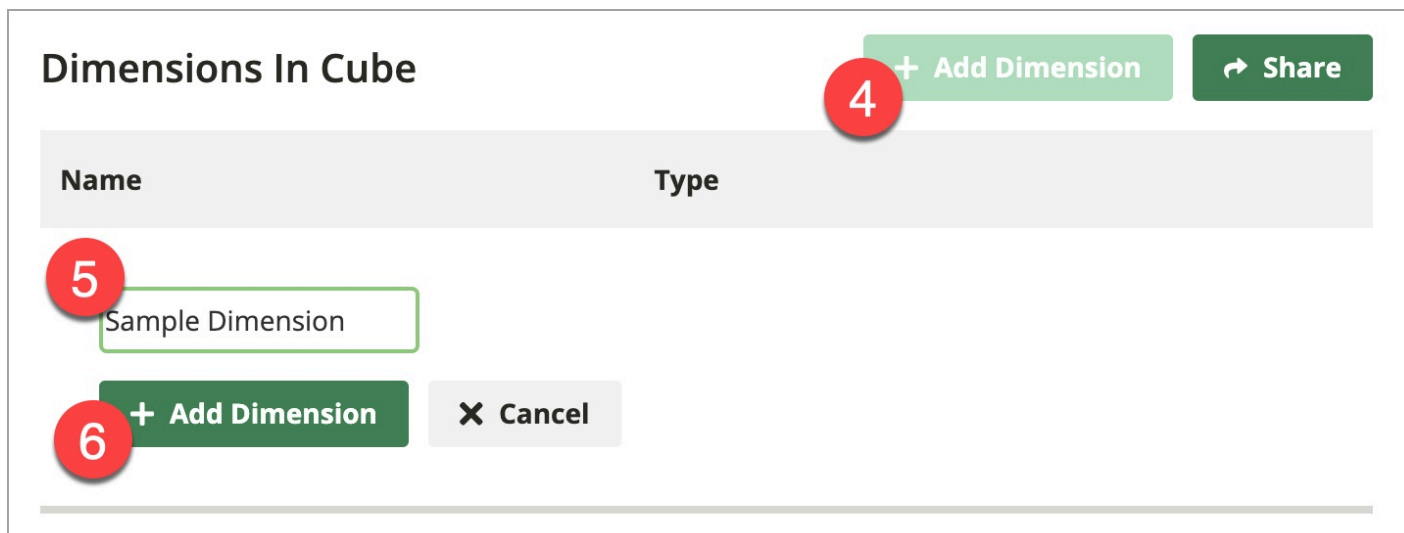

Or, if you are in the *Members* section, choose your **data model** from the **drop-down menu:**
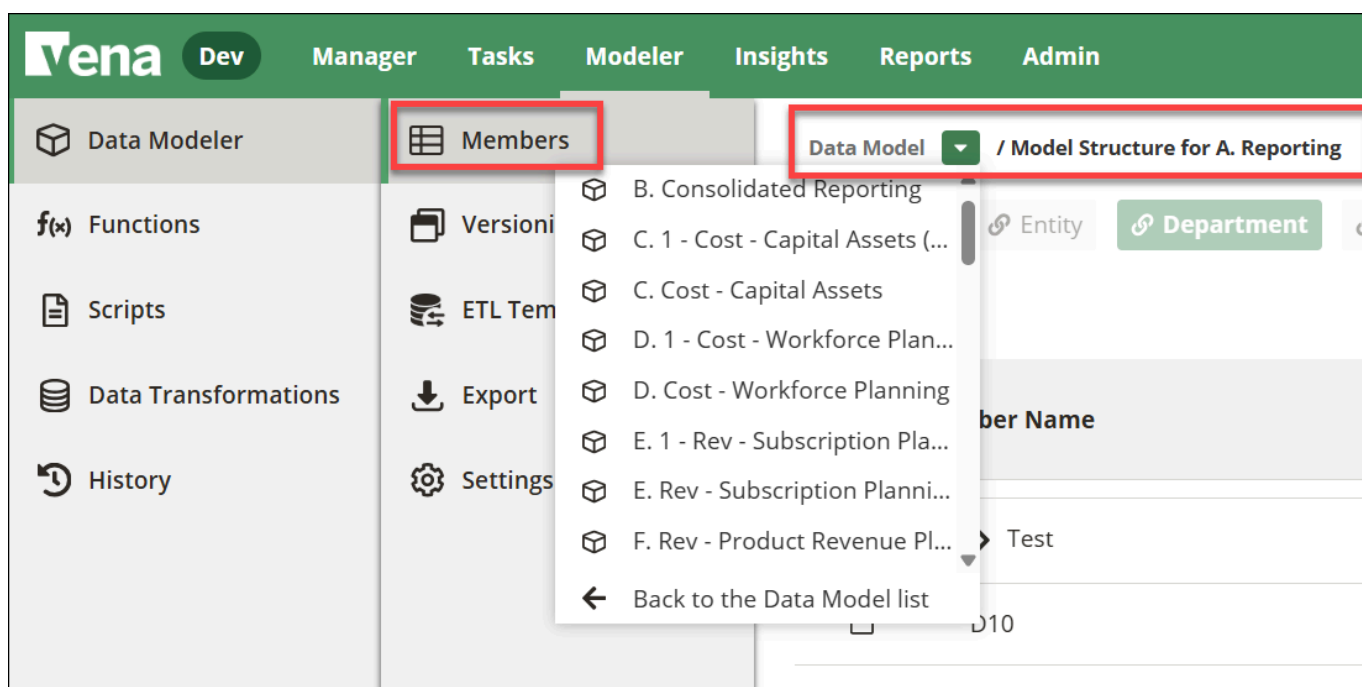
3. Select the **pencil icon** (🖉) at the end of the Dimensions list.

4. Select **+ Add Dimension**.
5. Enter a name for the new Dimension in the textbox.
6. Select **+ Add Dimension** to save the dimension.

Dimensions In Cube

(4) **+ Add Dimension**   **→ Share**

Name	Type	🗑

(5) Sample Dimension

(6) **+ Add Dimension**   **✕ Cancel**

🖼 **Note_Icon_Small.png** **Note**

Be aware that if you add a new Dimension, any previously mapped templates will have to be updated to map the new Dimension.

Edit a Dimension name

Editing a dimension name after it has been created will impact existing data records but will not impact (break) reports that display the data from a specific data model.

1. Navigate to the **Modeler** tab.
2. Select the **Data Modeler** sidebar.
3. Select the 🖊 (**pencil**) icon at the end of all the dimension names. This opens the drawer showing existing dimensions in the model.
4. Hover over the dimension you want to rename and select the 🖊 (**pencil**) icon.
5. Type in the new dimension name and select **+ Update** to save the change.

Delete a Dimension

It is rare that you would need to delete a dimension after setting up a data model. However, in the event that you have made an error or need to re-order members, then you can delete a dimension by following these steps.
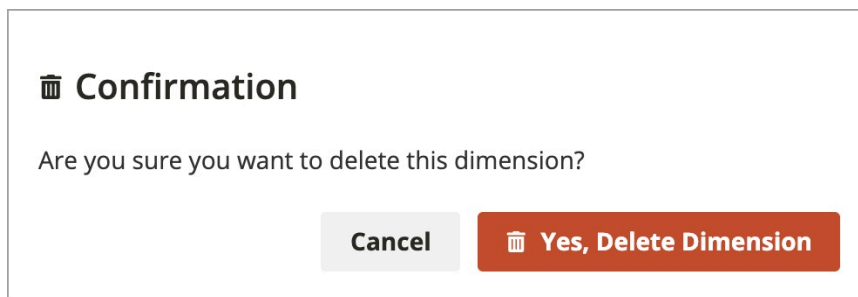
1. Navigate to the **Modeler** tab.
2. Select the **Data Modeler** sidebar.
3. Select the 🖊 (**pencil**) icon at the end of all the dimension names. This opens the drawer showing existing dimensions in the model.
4. Hover over the dimension you want to delete and select the 🗑 (**trash**) icon.

5. Select **Yes, Delete Dimension** in the confirmation pop-up to delete the dimension.

🗑 **Confirmation**

Are you sure you want to delete this dimension?

Cancel   🗑 **Yes, Delete Dimension**

 Caution

Be aware that if you delete a dimension, all dependent mappings will lose access to related members and data.

Create a Member

1. Navigate to the **Modeler** tab.
2. Navigate to the **Data Modeler** page.
3. Navigate to the **Members** sidebar tab.
4. Select the **data model** from the drop-down menu.
5. Select the targeted **dimension**.
6. Right-click a **dimension member**.
7. Select either **Add Sibling** or **Add Child** as your new member.
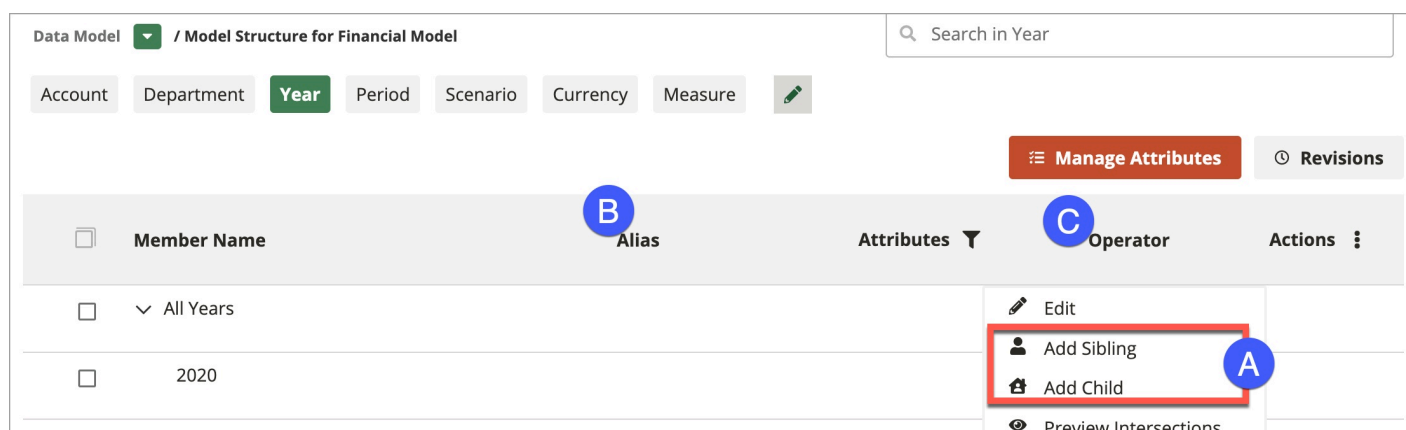
| A	Available **Dimension Members**	• Sibling - **Sibling** members are members on the same hierarchical level under the same parent member. • Child - A **Child** member is a sub-member (descendant) of a Parent/Sibling member.
B **Alias**		An alternative description used to reference a Dimension Member.
C **Operator**		Aggregation method used for Dimension Members. • (~) No Aggregation • (+) Add • (-) Subtract
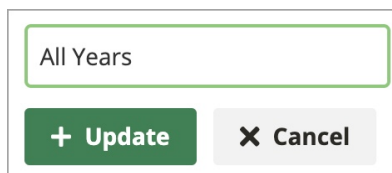
Rename a Member

Like dimensions, editing a member name after it has been created will impact existing data records but will not impact (break) reports that display the data from a specific data model.

1. Locate the member you want to rename from the member list.
2. Hover over the member and select the [pencil icon] (**pencil**) icon.

▷ ☐	2020	+	[pencil]	+	⋮
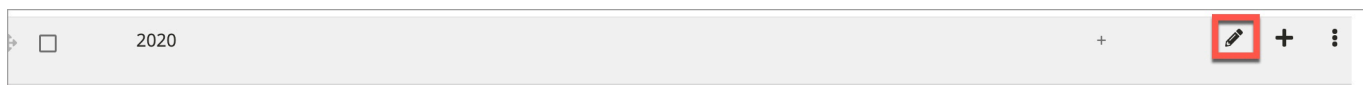
3. Rename your member.
4. Select **+ Update** to save the change.

All Years

+ Update   **✕ Cancel**

Add a Dimension Member Alias

An **Alias** is an alternative descriptive handle used to reference the dimension member. An alias can be referenced when applying data mappings. It is useful as dimension members can have long or complex names, and aliases provide the ability to use alternate names.

1. Locate the member you want to add an alias for.

2. Hover over the member and select the [✏] (**pencil**) icon.

◈ ☐	2020		+	[✏]	＋ ⋮

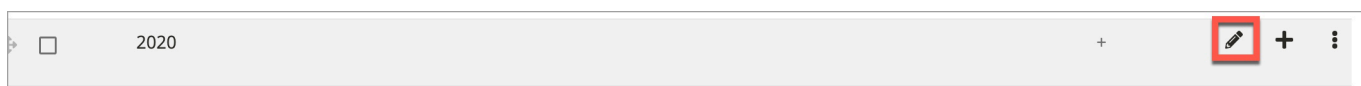3. Add a name under the *Alias* textbox.
4. Select **+ Update** to save the change.

☐	**Member Name**	**Alias**
	All Years	Sample Alias
	+ Update **✕ Cancel**	

Cut/Paste a Dimension Member

Re-ordering dimension members often occurs as a result of organizational changes, such as the reduction or reallocation or cost centers. In this event, easily move a dimension member to a different location by following these steps.

1. Select the appropriate **data model**.
2. Right-click anywhere in line with the **dimension member** you wish to modify.
3. Select **cut**.

☐	**Member Name**	**Alias**	**Attri**
☐	⌄ All Departments	📍	
☐	D10	Sales and Marketing	
	✏ Edit		
☐	D20 👤 Add Sibling	IT and Operations	
	🏠 Add Child		
☐	D30 👁 Preview Intersections	Product	
	◁ Share Member		
☐	D40 ✂ Cut	Finance and Administration	
☐	Internal Departments 🔢 Add Calculated Member		

4. Navigate to the dimension member location you wish to paste.
5. Right-click the dimension and select **Paste**.

		Preview Intersections	
✥ ☐	D30	📋 Paste	Product
		✕ Cancel	
☐	D40	🔢 Add Calculated Member	Finance and Administration
		📍 Pin as Default Member	
☐	Internal Departments	🗑 Delete	

6. This will deposit the member in the new position in the hierarchy. Select **Cancel** if you no longer wish to move the member.

Share a Dimension Member

The **Shared Members** functionality allows Modelers to create alternate hierarchies within a dimension. Shared members make aggregated reporting of collected data in a number of ways possible. For example, within the Period dimension, Month members can be shared to allow for the aggregation of quarter-to-date and year-to-date values. To share a dimension, follow these steps:

1. Select the **data model**.
2. Select the **dimension** from the *Member Name* list you wish to share.
3. Right-click the dimension member from the *Member Name* list.
4. Select the **Share** button. A pop-up window notifies you that the member can now be shared.

☐	Member Name	✎ Edit	Alias	Attributes ▼
☐	⌄ All Years	👤 Add Sibling		
☐	2020	🏠 Add Child		
		👁 Preview Intersections		
☐	2021	⌸ Share Member		
		✄ Cut		
☐	2022	🖩 Add Calculated Member		
		📍 Pin as Default Member		
☐	2023	🗑 Delete		

5. Navigate to, then right-click on the destination umbrella dimension member you wish to share with. Right-click on the member and select **Complete Share** button. Select **Cancel** if you no longer wish to share the member.

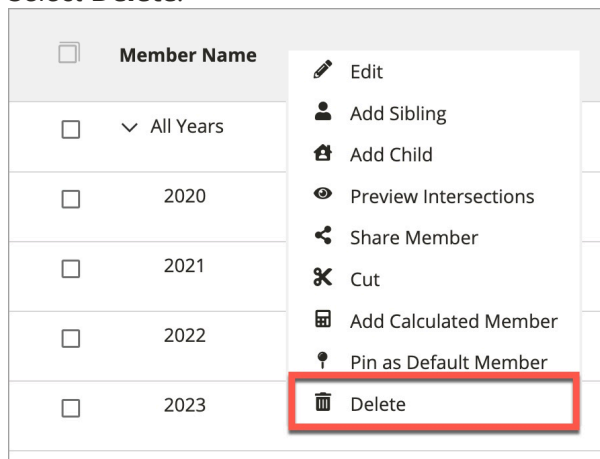| ☐	Member Name	✎ Edit	lias	Attributes ▼
		👤 Add Sibling		
☐	⌄ All Years	🏠 Add Child		
		👁 Preview Intersections		
☐	2020	📑 Complete Share		
		✗ Cancel		
☐	2021	🖩 Add Calculated Member		
		📍 Pin as Default Member		
☐	2022	🗑 Delete		

6. The shared member will appear in the hierarchy with a Share symbol next to it.

2023	⌸

Delete a Dimension Member

In order to preserve historical reporting, any member with data attached to it should not be deleted. Deleting a member will also delete all associated data. It should be noted that unused members may be excluded from a report without being deleted.

1. Navigate to the desired data model.
2. Right-click the dimension member from the *Member Name* list that you want to delete.

3. Select **Delete**.

	Member Name	
☐		
☐	⌄ All Years	
☐	2020	
☐	2021	
☐	2022	
☐	2023	

Context menu:
- ✏ Edit
- 👤 Add Sibling
- 🏠 Add Child
- 👁 Preview Intersections
- ⤴ Share Member
- ✂ Cut
- 🖩 Add Calculated Member
- 📍 Pin as Default Member
- 🗑 **Delete**

4. If you are sure you want to delete the member, select **Delete** in the confirmation pop-up window.

Confirm Member Deletion

If you delete this member, all its intersections will also be deleted. Are you sure you want to delete member 2023?

Cancel   **Delete**
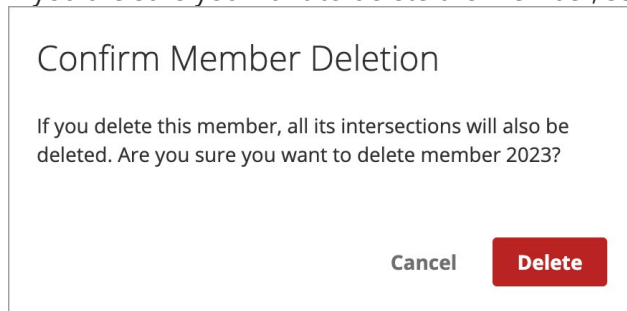
Related Topics

- To learn how to **clone and view a data model:** How-To: Creating a Testing Environment by Cloning a Data Model (Clone & Remap).
- To learn about how to **export a subset of a data model:** How-To: Exporting Subset of Data From Your Data Model or Cube.
- To learn how to **create and manage a data model hierarchy using ETL Import:** How-To: Create and Manage a Data Model Hierarchy Using ETL Import.
- To learn how to map from **multiple data models to a single template:** How-To: Mapping Data From Multiple Data Models on a Single Template.
- To learn about how to **link dimensions:** Explainer: What Are Linked Dimensions?
- To learn about how to create a **custom roll-up without creating alternate hierarchies:** How-To: Building a Custom Roll-up Using Calculated Members.