

Many to Many relations in timeXtender

Scenario

In this scenario we have 3 tables:

	ParentID	Parent
▶	1000	Marge Simpson
	1001	Homer Simpson
	1002	Single Sue
	1003	Remarried René
	1004	Firstwife Fiona
	1005	Secondwife San...

	ChildID	Child
▶	5000	Bart Simpson
	5001	Lisa Simpson
	5002	Maggie Simpson
	5003	Sam Sueson
	5004	Dennis Sueson
	5005	Paul Reneson
	5006	Peter Reneson

	ParentID	ChildID
▶	1000	5000
	1000	5001
	1000	5002
	1001	5000
	1001	5001
	1001	5002
	1002	5003
	1002	5004
	1003	5005
	1003	5006
	1004	5005
	1005	5006

We want to have a cube where we can measure how many children a given parent has and how many parents a child has. Furthermore we would like to have a Parent and a Child dimension where we can see how they are connected.

Concept:

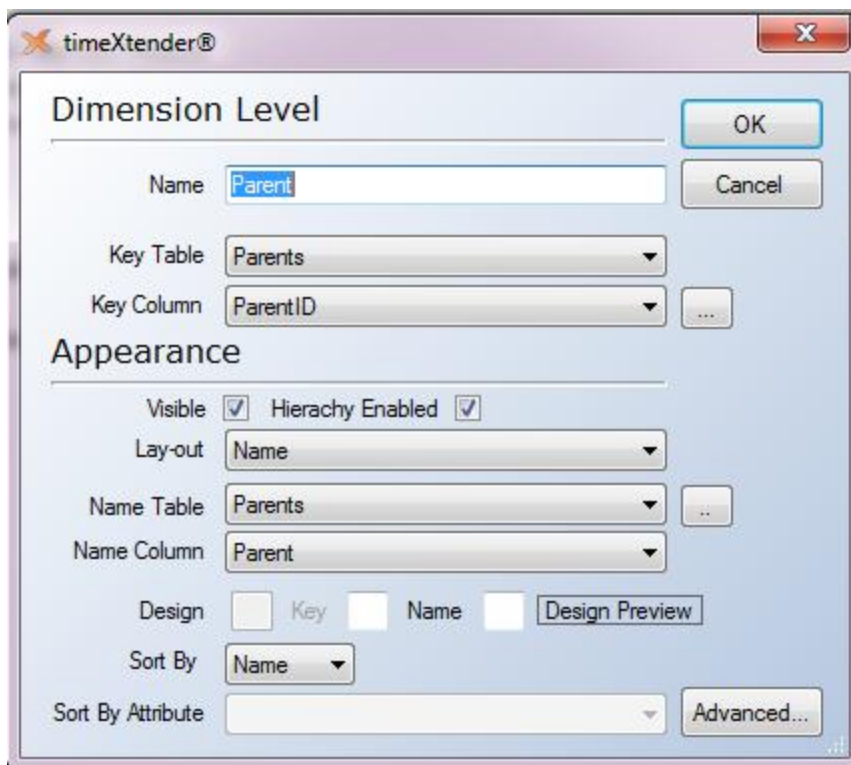
In order to link the parents to the children we need an intermediate fact table containing the relation. In this scenario the intermediate fact table will be "ParentChild".

We will end up having two dimensions, Parents and Children that are both linked directly to the intermediate fact table. Furthermore the dimensions will be related to their own fact table (In this scenario as fact table dimensions, in real life more likely as normal dimensions). Having a dimension related to one of the fact tables and the intermediate fact table opens the option to link the dimension to another fact table, through the intermediate fact table. In this scenario, we can create a relation from the Parents dimension to the Child Fact table, through the ParentChild fact table.

NOTE: You do not need an intermediate fact table if you have a dimension linking the fact tables directly.

Solution

Build a standard Parent dimension:

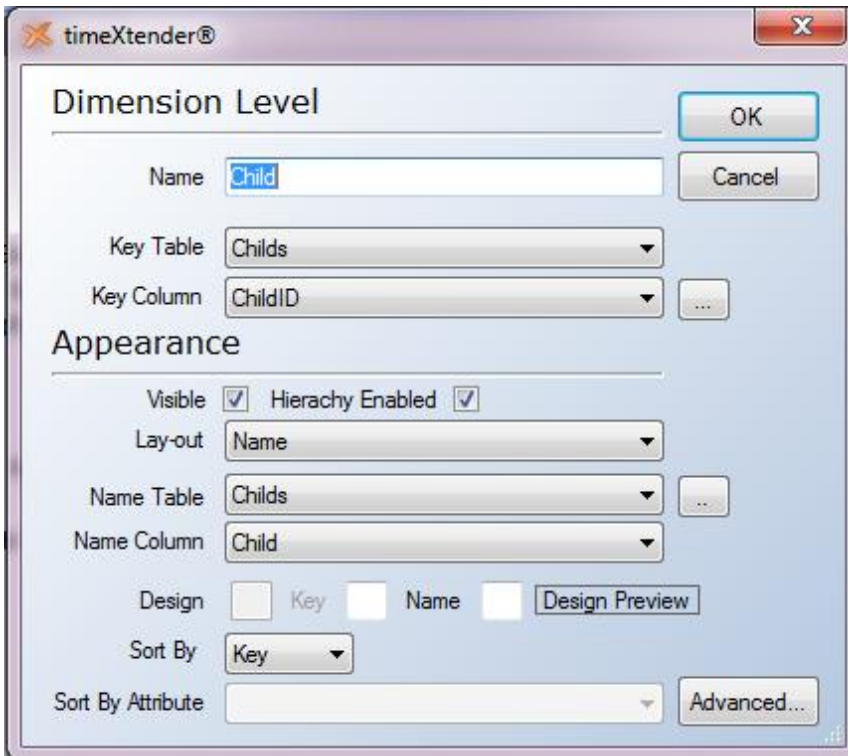


The screenshot shows the 'Dimension Level' dialog box in the timeXtender software. The dialog is titled 'Dimension Level' and has an 'OK' button in the top right corner. Below the title bar, there are several fields and options:

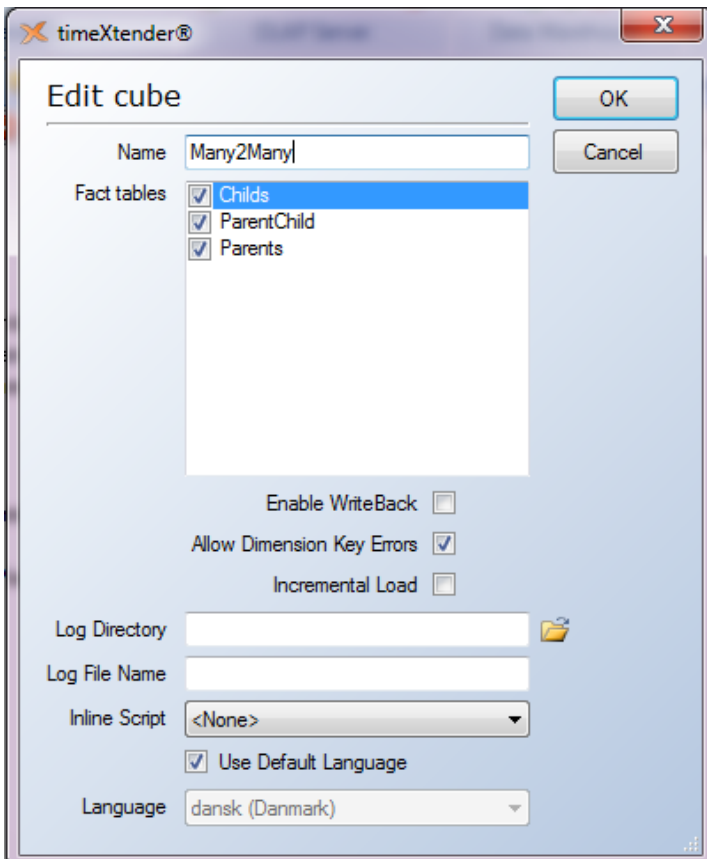
- Name:** A text box containing the word 'Parent'.
- Key Table:** A dropdown menu set to 'Parents'.
- Key Column:** A dropdown menu set to 'ParentID'.
- Appearance:** A section with several options:
 - Visible:** A checked checkbox.
 - Hierarchy Enabled:** A checked checkbox.
 - Lay-out:** A dropdown menu set to 'Name'.
 - Name Table:** A dropdown menu set to 'Parents'.
 - Name Column:** A dropdown menu set to 'Parent'.
 - Design:** Three checkboxes labeled 'Key', 'Name', and 'Design Preview', all of which are unchecked.
 - Sort By:** A dropdown menu set to 'Name'.
 - Sort By Attribute:** An empty dropdown menu.

At the bottom right of the dialog, there is an 'Advanced...' button.

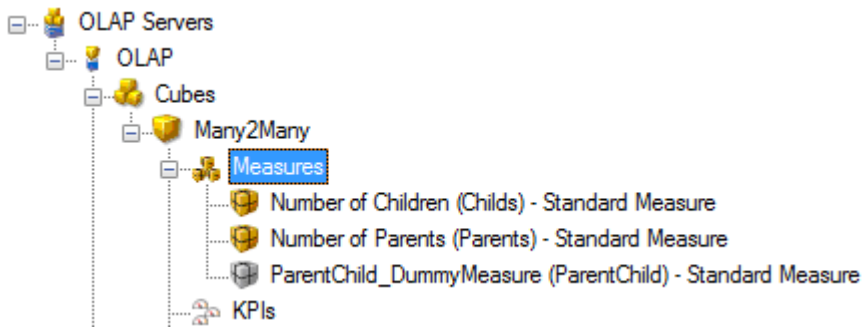
Build a standard Child dimension:



Create a cube using all 3 tables as fact tables:



Create a standard measure (using Count) on each of the 3 fact tables:



Edit Measure OK Cancel

Name:

Fact table:

Field:

Type: Visible:

Format string:

Edit Measure OK Cancel

Name:

Fact table:

Field:

Type: Visible:

Format string:

Edit Measure OK Cancel

Name:

Fact table:

Field:

Type: Visible:

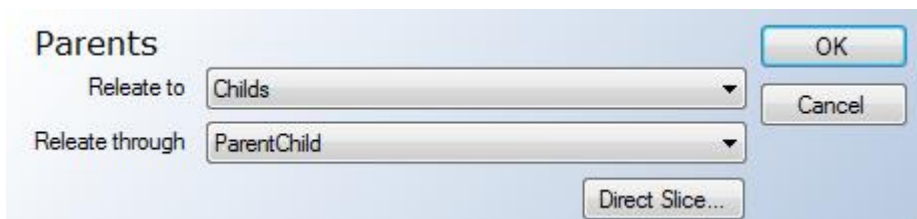
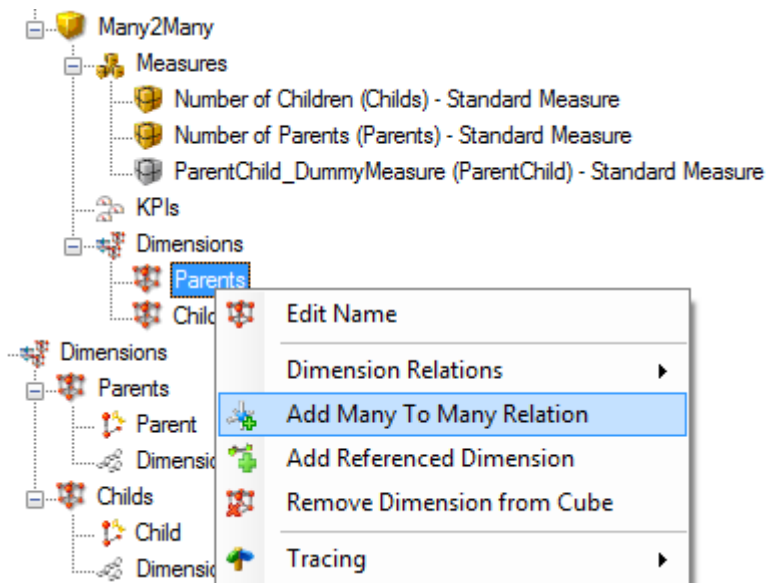
Format string:

Add the Parent and the Child dimension to the cube, and set up the relations:

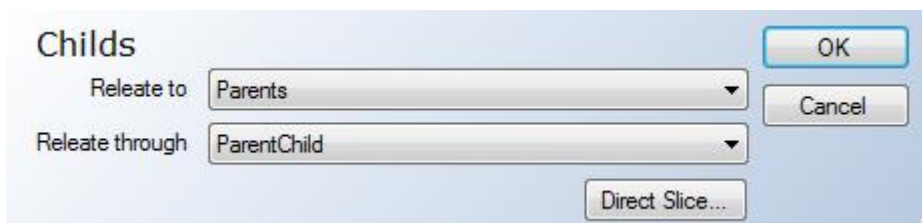
Dimension Relations :

Dimensions	Dimension Level	Key Column	Childs	ParentChild	Parents
Childs	Child (KEY)	ChildID	Facttable_Dimension	ChildID	
Parents	Parent (KEY)	ParentID		ParentID	Facttable_Dimension

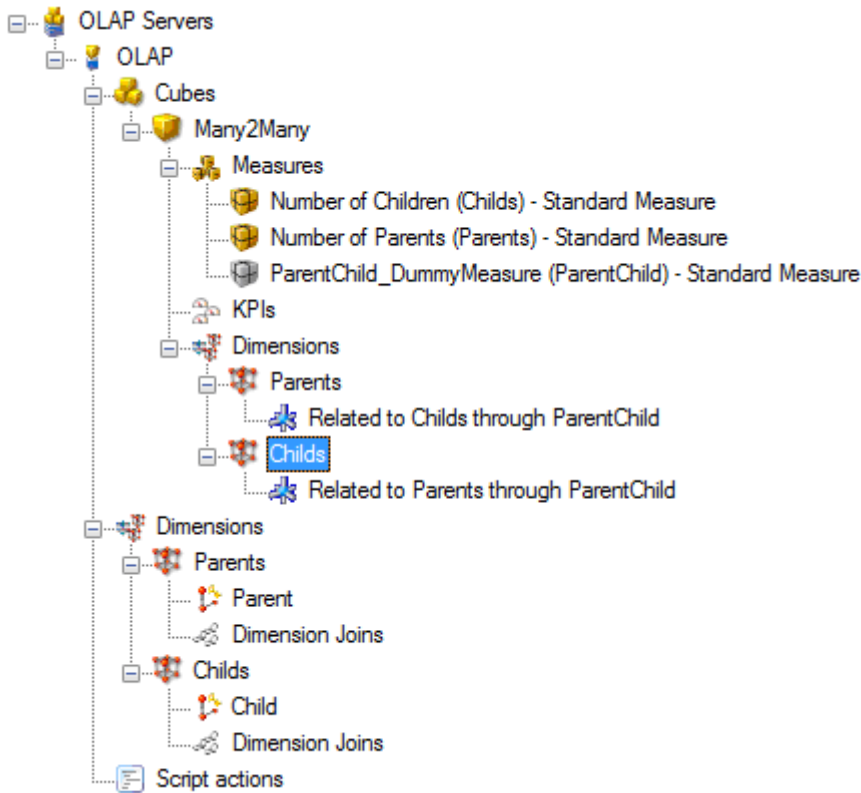
Right click the Parent dimension on the cube and Setup the many to many relationship between the Parent dimension and the Child Fact:



Set up the Many to Many relation between the Child dimension and the Parent Fact:



The project:



The result, viewed in excel:

	A	B	C
1	Row Labels	Number of Parents	Number of Children
2	Firstwife Fiona	1	1
3	Paul Reneson	1	1
4	Homer Simpson	1	3
5	Bart Simpson	1	1
6	Lisa Simpson	1	1
7	Maggie Simpson	1	1
8	Marge Simpson	1	3
9	Bart Simpson	1	1
10	Lisa Simpson	1	1
11	Maggie Simpson	1	1
12	Remarried René	1	2
13	Paul Reneson	1	1
14	Peter Reneson	1	1
15	Secondwife Sandra	1	1
16	Peter Reneson	1	1
17	Single Sue	1	2
18	Sam Sueson	1	1
19	Dennis Sueson	1	1
20	Grand Total	6	7