

Halogen

An opensource slicer/dicer leveraging the power of the new olap4j standard.

Halogen is a project envisioned by a small group of Pentaho engineers. Prototype work was finished and it was decided to allow it out into the "wild" of opensource. It is designed to fill a void in the availability of web based olap tools and as such was written in gwt.

Getting Stared

Currently Halogen exists only as an SVN project project. You can use your favorite svn tool to connect using the following location <http://code.google.com/p/halogen/source/halogen-read-only>. The project as it exists in svn is set up as a Eclipse project.

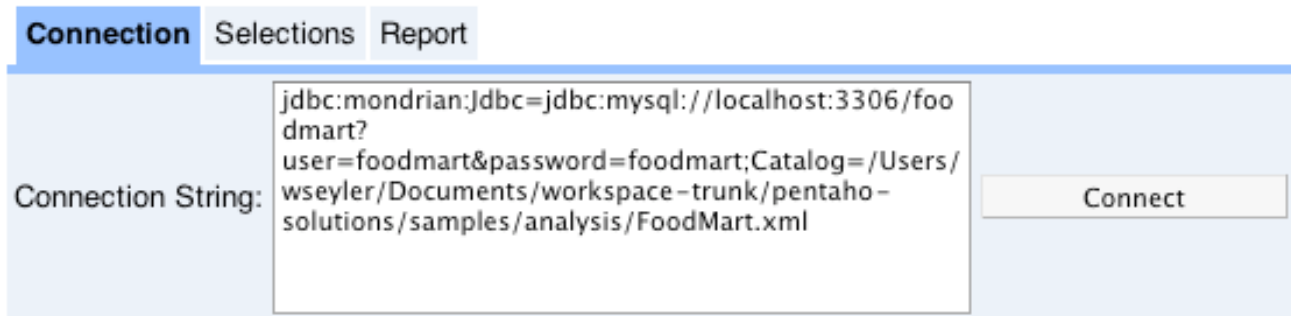
When you first bring down the project you're likely to have some link errors. This will probably be related to gwt. You'll need to have an installation of gwt installed so that you can point to it's .jars. They weren't included with the source since there are different gwt .jars for different platforms. If you don't have gwt already it can be downloaded from <http://code.google.com/webtoolkit/>.

If you don't have a mondrian cube and it's associated databases then you will need to create something to test with. I recommend the FoodMart demo. You can find mondrian and the foodmart cube definition on at mondrian.pentaho.org. Follow the instructions found there to load the foodmart demo.

Running Halogen

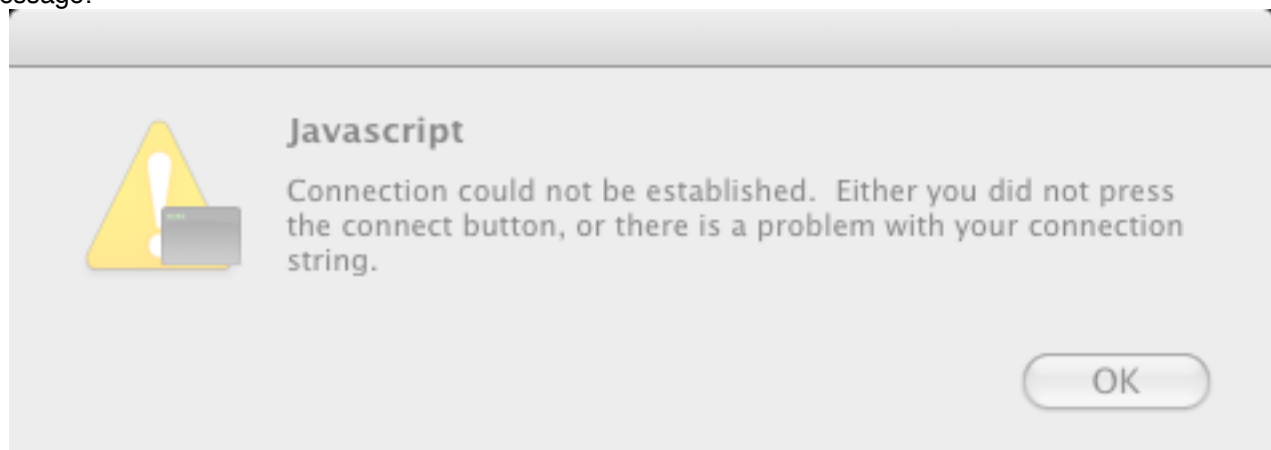
You can either start Halogen from within eclipse using the "Halogen" run configuration or by executing Halogen-shell.

When the system starts up you should see a dialog like this:



This dialog allows entry of the connection information required by olap4j. You can find more about this on the olap4j web site. To get you started it is filled in with the live information I use on my machine to connect with olap4j. Edit this for your installation as appropriate and then press the "Connect" button.

If all goes well nothing will appear to happen but it will allow you to go to the other tabs without seeing this message:



If you didn't get the above error then the connection was established. At this point you can activate any of the other tabs. Lets start with the "Selections" tab. When you click on it you should see something like this:

Connection **Selections** Report

Select Cube: Sales

Dimensions: Measures, Store, Store Size in SQFT, Store Type, Time, Product, Promotion Media, Promotions, Customers, Education Level, Gender, Marital Status, Yearly Income

Row Dimensions: (Empty)

Column Dimensions: (Empty)

Filter Dimensions: (Empty)

Move To Row (Disabled) Move To Column (Disabled) Move To Filter (Disabled)

The "Select Cube" dropdown allow you to select any of the cubes defined by the mondrian schema. If you manipulate this selection you will notice that the available dimensions with adjust accordingly.

If you select a dimension from the "Dimensions" list you'll notice that the three "Move to..." buttons become enabled. Clicking on one of these buttons will cause the dimension to be moved to the corresponding axis and remove it from the "Dimensions" list:

Connection **Selections** Report

Select Cube: Sales

Dimensions: Measures, Store Size in SQFT, Store Type, Time, Product, Promotion Media, Promotions, Customers, Education Level, Gender, Marital Status, Yearly Income

Row Dimensions: + Store

Column Dimensions: (Empty)

Filter Dimensions: (Empty)

Move To Row (Enabled) Move To Column (Enabled) Move To Filter (Enabled)

The dimension in play on an axis will behave as a tree and allow selection of the members. If you expand the dimension you can click on a leaf and make a specific member selection:

Connection **Selections** Report

Select Cube Sales

Dimensions	Row Dimensions	Column Dimensions	Filter Dimensions
Measures Store Size in SQFT Store Type Time Product Promotion Media Promotions Customers Education Level Gender Marital Status Yearly Income	<ul style="list-style-type: none">[-] Store<ul style="list-style-type: none">[-] All Stores<ul style="list-style-type: none">+ Canada+ Mexico<ul style="list-style-type: none">+ MemberChildrenInclude ChildrenSiblings		
	Move To Row	Move To Column	Move To Filter

Once a member selection has been made a small icon will be displayed next to the member as an annotation of what selection was made on it:

Connection **Selections** Report

Select Cube Sales

Dimensions	Row Dimensions	Column Dimensions	Filter Dimensions
Measures Store Size in SQFT Store Type Time Product Promotion Media Promotions Customers Education Level Gender Marital Status Yearly Income	<ul style="list-style-type: none">[-] Store<ul style="list-style-type: none">[-] All Stores<ul style="list-style-type: none">+ Canada+ Mexico+ USA ≡		
	Move To Row	Move To Column	Move To Filter

Continue making dimension and member selections until you have at least one in each of the row and column axis:

Connection **Selections** Report

Select Cube: Sales

Dimensions: Measures, Store Size in SQFT, Store Type, Time, Promotion Media, Promotions, Customers, Education Level, Gender, Marital Status, Yearly Income

Row Dimensions: Store

- All Stores
 - Canada
 - Mexico
 - USA

Column Dimensions: Product

- All Products
 - Drink
 - Food
 - Baked Goods
 - Baking Goods
 - Breakfast Foods
 - Canned Foods
 - Canned Products

Filter Dimensions: (Empty)

Buttons: Move To Row, Move To Column, Move To Filter

When you're satisfied with your dimension/member selections click over to the "Report" tab:

There are three options available on the report tab. You can execute a query model (the one defined on the "Selections" tab). You can execute random MDX typed into the "MDX Query:" text box. And (if a table is being currently displayed) you can swap the selection on the row and column axis. For now let's execute the query model:

Connection Selections **Report**

MDX Query: WITH MEMBER [Measures].[Profit] AS '([Measures].[Store Sales] - [Measures].[Store Cost])', FORMAT_STRING = 'if([Measures].[Profit] < 100000, '#|style=green', '#|style=red')SELECT {[Measures].[Store Sales], [Measures].[Profit]} ON COLUMNS, {[Product].CurrentMember.Children} ON ROWS FROM [Sales]

	Baked Goods	Baking Goods	Breakfast Foods	Canned Foods	Canned Products	Dairy	Deli	Eggs	Frozen Foods	Meat	Produce	Seafood	Snack Foods	Snacks	Starchy Foods
CA	2,150	5,799	938	5,268	448	3,534	3,393	1,116	7,505	527	10,588	441	8,543	1,958	1,448
OR	2,013	4,810	862	4,889	464	3,131	3,038	1,119	6,575	469	9,744	451	7,789	1,831	1,352
WA	3,707	9,636	1,517	8,869	900	6,220	5,606	1,897	12,575	718	17,460	872	14,213	3,095	2,462

Buttons: Execute MDX, Execute Query Model, Swap Axis

If you decide to execute the MDX simply type your arbitrary (valid) mdx into the text box and hit the "Execute MDX" button. If you are connected to foodmart and execute the predefined MDX you will see the following:

Connection Selections **Report**

MDX Query: WITH MEMBER [Measures].[Profit] AS '([Measures].[Store Sales] - [Measures].[Store Cost])', FORMAT_STRING = 'if([Measures].[Profit] < 100000, '#|style=green', '#|style=red')SELECT {[Measures].[Store Sales], [Measures].[Profit]} ON COLUMNS, {[Product].CurrentMember.Children} ON ROWS FROM [Sales]

	Store Sales	Profit
Drink	48,836.21	29359
Food	409,035.59	245765
Non-Consumable	107,366.33	64487

Buttons: Execute MDX, Execute Query Model, Swap Axis

Notice that the profit column is picking up the traffic lighting defined in the above query. Currently the olap data grid can display "style" colors and any numeric formatting defined in the MDX.