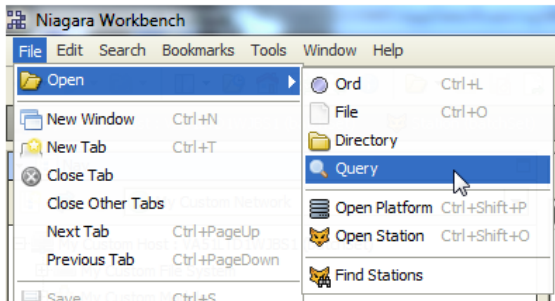


AX BQL Search Overview

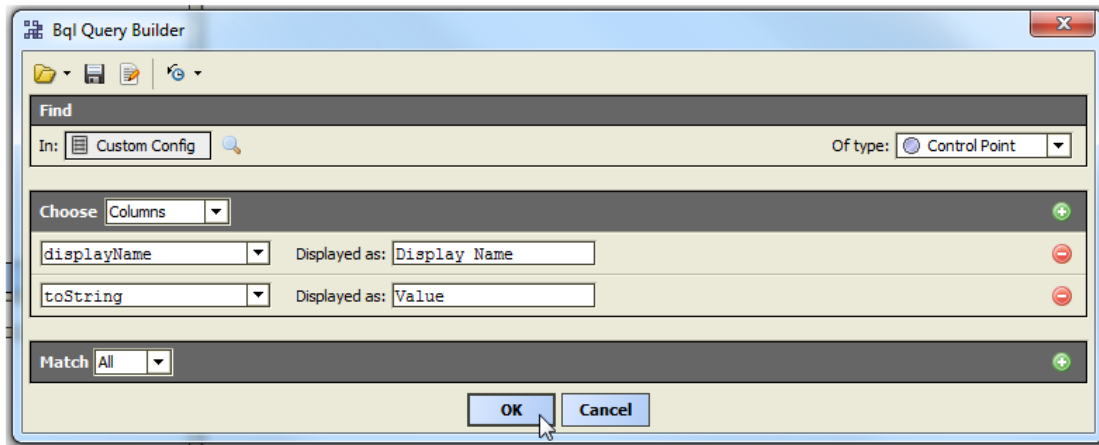
Created by Scott Hoye on Dec 19, 2013

In Niagara AX, searching was done using BQL (Baja Query Language), which allows single station, single space queries. BQL is often used programmatically as a way to find objects in a station that match certain criteria. It is similar in format to SQL, but not exactly the same (also offers much more limited functionality). For a user in Workbench, below are a few examples of how BQL is utilized:

- For a connected station in Workbench, a user can invoke a query on that station from the File -> Open -> Query menu option:



That would bring up the Bql Query Builder dialog which would allow users to define criteria for the BQL search:



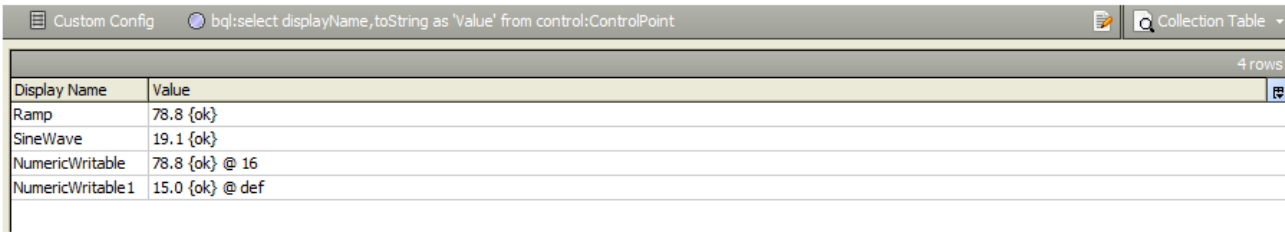
The "In:" selection allows the user to specify the scope of the search (although a search cannot span multiple spaces within the station - ie. you can't query both the component space and the history space, just one of them at a time).

The "Of type:" selection allows the user to specify the extent of the BQL query. It translates to a Niagara type spec which filters the results (results must match the type, or be a subclass of that type).

The "Choose Columns" area lets the user specify the projection of the BQL query. It typically translates to the columns of the table of results.

The "Match" area lets the user specify the predicate of the BQL query. It allows for further filtering of the results, in addition to the type declared in the query's extent.

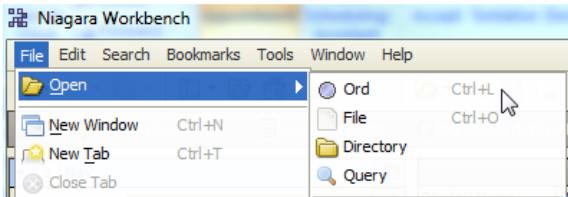
Once submitted, the query would run on the station and the results would be presented in a generic collection table view:



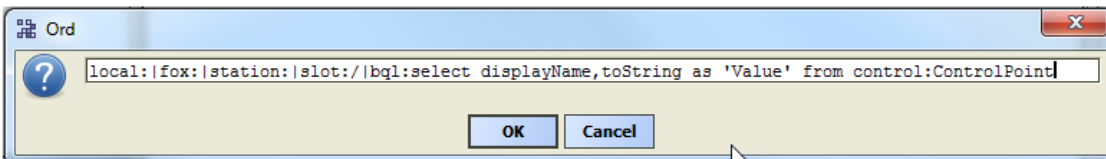
The screenshot shows a window titled 'Collection Table' with a toolbar and a table. The toolbar includes a 'Custom Config' button and a text field containing the BQL query: `bql:select displayName,toString as 'Value' from control:ControlPoint`. The table has two columns: 'Display Name' and 'Value'. It contains four rows of data.

Display Name	Value
Ramp	78.8 {ok}
SineWave	19.1 {ok}
NumericWritable	78.8 {ok} @ 16
NumericWritable1	15.0 {ok} @ def

In the path bar above the table, you can see the actual BQL query string that was generated by the Bql Query Builder and submitted to the station. Alternatively, you can directly enter a BQL query in string form by resolving an ORD using the File -> Open -> Ord menu command (or use the CTRL-L hot key):



which opens this dialog to let the user directly enter the BQL query as part of an ORD string:



- The BQL query itself determines the columns in the result table (based on the query's projection). The columns are sortable, but otherwise the collection table view doesn't provide much more. You cannot hyperlink to a row's source object, you cannot get "live updates" of cell values (ie. no subscription). So it is pretty raw in nature, but BQL is the basis for other features/views in Niagara.