Troubleshooting GE Historian Connections

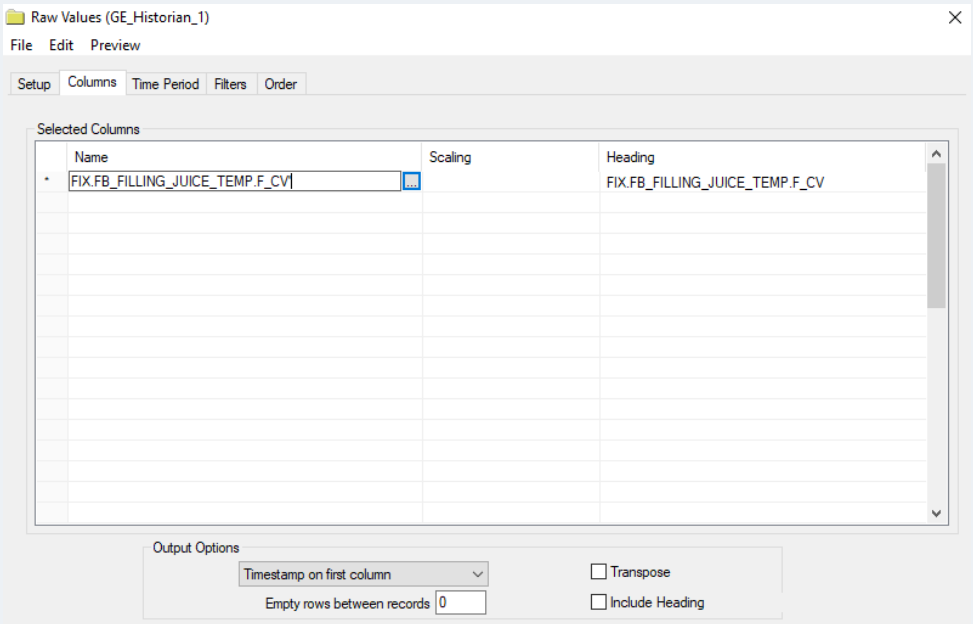
Overview

XLReporter supports connections to the GE Historian and GE Historian Plus(local installations). The following document details some of the common issues that can come about when utilizing these interfaces with XLReporter.

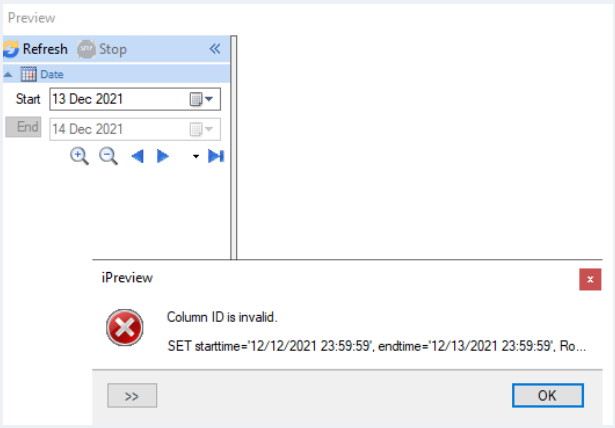
Common Issues

OPC Server Fails to Connect

When querying the historian for a specific date, no data or unexpected data is returned. To troubleshoot this issue, the underlying query needs to be extracted. On the **Columns** tab of the GE Historian data group, append a single quote(') to the first tag listed under the **Name** column.

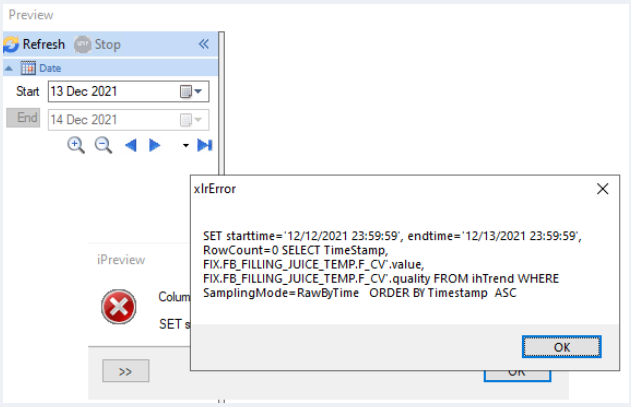


Select **Preview**. In the **Preview** window, specify the date in question and click **Refresh**.

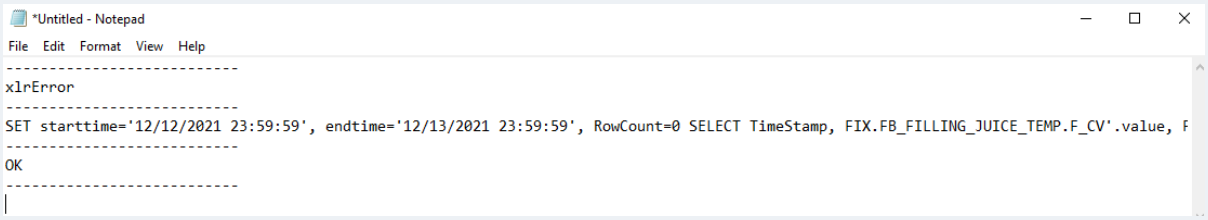


The error message "Column ID is invalid." Appears. Beneath that is the query that is submitted to the GE Historian.

Double-click the beginning of the query in the message window to display the full query.

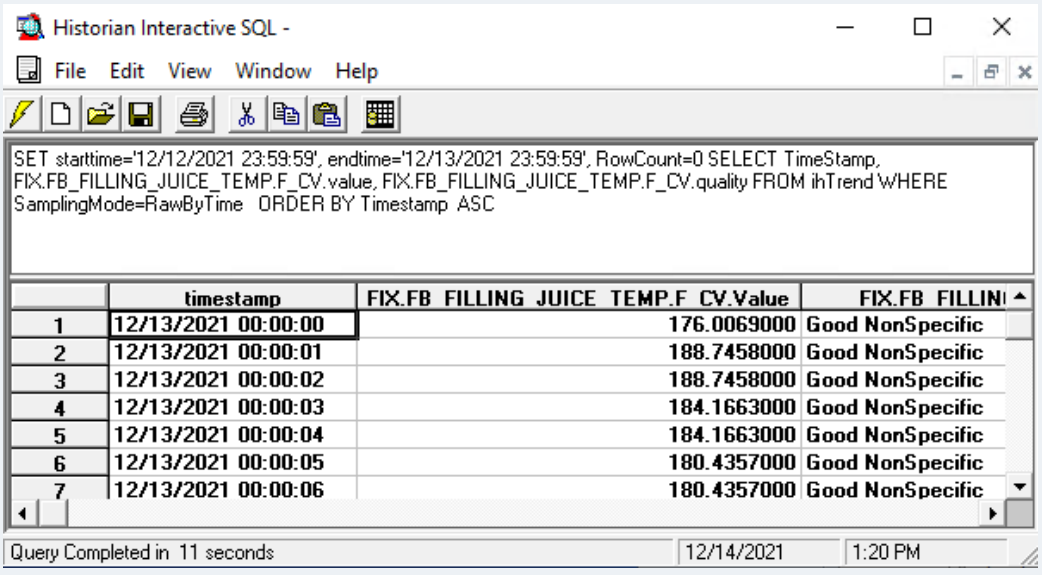


Click inside this window and press *Ctrl*+C to copy the contents. Paste the contents into a notepad document.



Remove the dashed lines *xlrError* before the SET and remove the dashed lines *OK* at the end of the query. Remove the single quote (') after the tag name in the two locations it appears in the query.

Copy the entire query and open the **Historian Interactive SQL** (**iSQL**) application from the **Proficy Historian** program group.



Connect to the Historian and paste the query into the application.

Click the  button to execute the query. The results are returned in the grid below the query. Compare these results with the results returned from XLReporter.

Please note that if the query is returning calculated values like *averages* or *maximums*, the timestamps between the 2 applications will not agree. This is because the timestamps shown by XLReporter for calculated values represent the start of the interval whereas the timestamps shown by Historian Interactive SQL represent the end of the interval. As a simple example, if the query is set up to return the average of a single tag for every 8 hours over the day, XLReporter would show this as:

Timestamp	Value
12/13/2021 00:00:00	25.65
12/13/2021 08:00:00	28.25
12/13/2021 16:00:00	29.87

Historian Interactive SQL would show the results for this same query as:

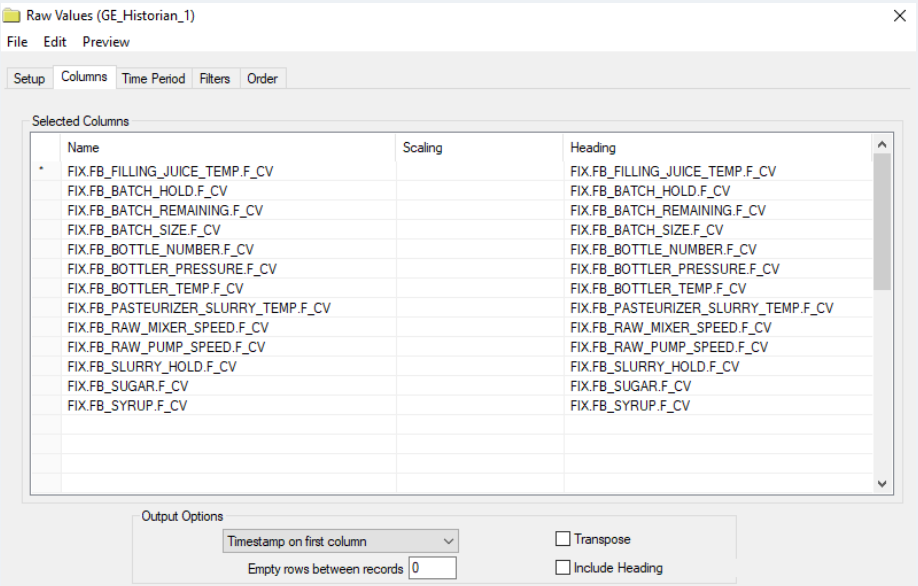
Timestamp	Value
12/13/2021 08:00:00	25.65
12/13/2021 16:00:00	28.25
12/14/2021 00:00:00	29.87

If results are the same between the 2 applications, and the data is still in dispute, contact GE support to troubleshoot further.

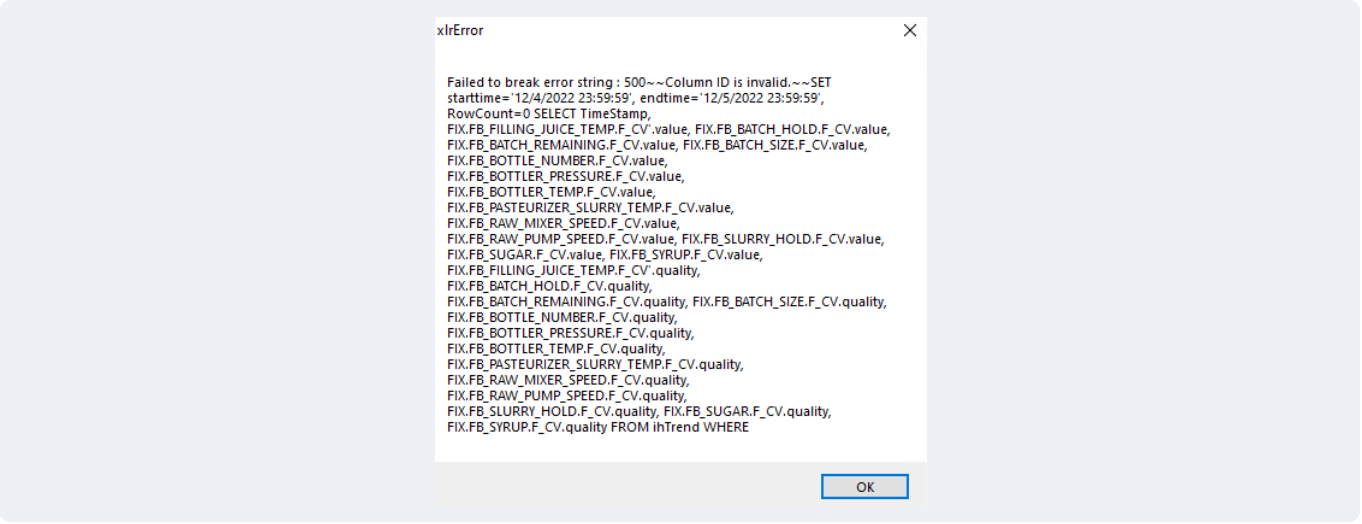
Data Group Considerations

If the group in question has a large number of tags or calculations configured, it can prevent the full query from displaying correctly.

For example, consider the group below:



When attempting to corrupt the query, the error returned from preview is as follows:



With the complete query, Historian Interactive SQL can be used to verify the records returned.

Column ID is Invalid

This error indicates that one or more of the tags specified in a History Data Group are invalid (e.g., the tag as specified is not available in the server).

If this error occurs on a template that has multiple History Data Groups configured, start by identifying which one caused the error.

To do that, open the template in the **Design Studio** and open **Data Connections**.

For each connection configured for the GE Historian connector, double-click the row in the grid to open the group. Then select **Preview** and **Refresh** the group to see if the error occurs or not.

Once the group or groups are identified, in each group identify the invalid tags. If there are only a few tags, on the **Columns** tab, under the **Name** column, click the browse pushbutton [...] and verify those tags exist in the browser.

If there are many tags in the group, it may be easier to determine which ones are invalid through process of elimination. To do so, start by selecting **File, Save As** and give the group a different name. This preserves the original group as is.

Now, on the **Columns** tab, select the row that is about half-way down the list of configured tags. Click the *Delete* key repeatedly under all the tags beneath the row selected are removed. Select **Preview** and **Refresh**. If this succeeds, the invalid tag(s) are in the bottom half of the list, otherwise the are in the top half.

Continue this "bifurcation" process until the group previews successfully. Return to the original group and update or eliminate the invalid tags so that group runs successfully. Note, if a row is left empty in the group, that corresponds to an empty column in the report so this can be used to preserve the location of the valid tags in the original group.

API Timeout

When retrieving data from the Historian, the request can time out if it takes too long to get the data. By default, the timeout setting is *60* seconds. To change this setting, in the **Historian Administrator** click the **Data Stores** link at the top. Under the **Global Options** tab, in the **Data Queries** section, change **Maximum Query Time (seconds)**. Click **Update** when finished.

API Data Retrieval Count Exceeded

When retrieving calculated or sampled values from Historian there is a limit to the number of values that can be returned. By default, this is *100,000*. To change this setting, in the **Historian Administrator** click the **Data Stores** link at the top. Under the **Global Options** tab, in the **Data Queries** section, change **Maximum Query Intervals**. Click **Update** when finished.

Note that this is a value count and not a row count. For example, to retrieve 1 second values for 2 tags, 172,800 values are retrieved (86,400 * 2) so just for this request; the default limit would have to be increased.

Values Appear as Blank or ???

If values from a History Data Group appear as blanks or ??? in the report, this indicates that the quality of the value returned is not good quality. When tags are queried from the GE Historian, the value and quality are requested for each tag.

To verify, use the process described above to get the query that is submitted to GE Historian and then run that query in the Historian Interactive SQL and observe the quality.

For **Raw Value** groups, if the quality is not "good", it is considered bad quality and the value is not shown in the report.

For **Summary** and **Samples** groups, if the quality is not *100*, it is considered bad quality and the value is not shown in the report. The quality value here is a percentage from *0-100*.