

Using XLReporter with FactoryTalk Historian SE - OLEDB

Overview

XLReporter takes historical values from the FactoryTalk Historian SE to populate reports, periodically, on event, or on demand. The award-winning reporting software turns raw data into industrial metrics which are used for compliance, regulatory, improvements and operations.

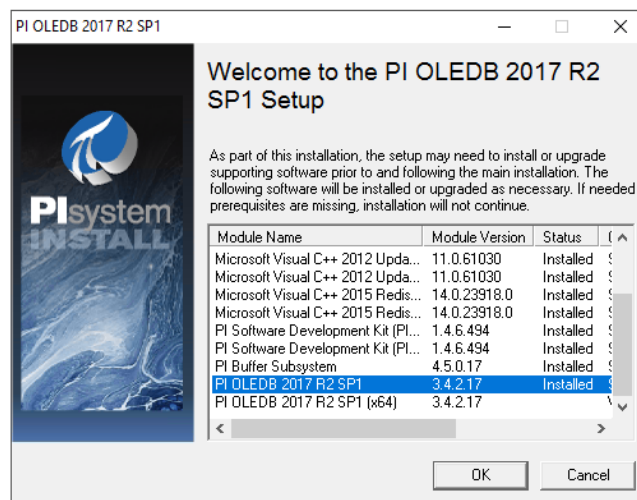
Complete reports are distributed automatically by email, FTP, file server and printers. With the Web Portal, reports are viewed or produced on-demand from any device supporting a web browser such as a mobile phone, tablet, desktop or FactoryTalk ViewPoint.

XLReporter connects to the Historian through the PI OLEDB Provider. This driver requires an OLEDB client license (Rockwell Catalog number 9518-HSEOLEDB) or an Advanced Server license from Rockwell Automation.

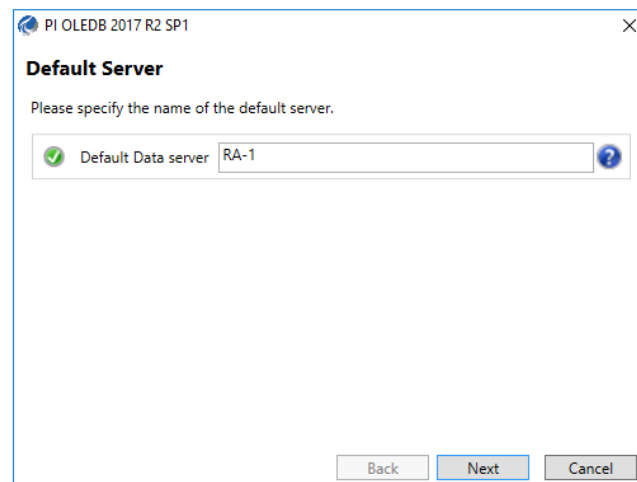
Set up PI OLE DB Provider

Installation

The PI OLE DB Provider has to be installed on the same machine as **XLReporter**. The installation is found on the Historian installation media under *Advanced Server Options\PI DASSetup\OLEDB Provider\setup.exe*.



Click **OK** to proceed.

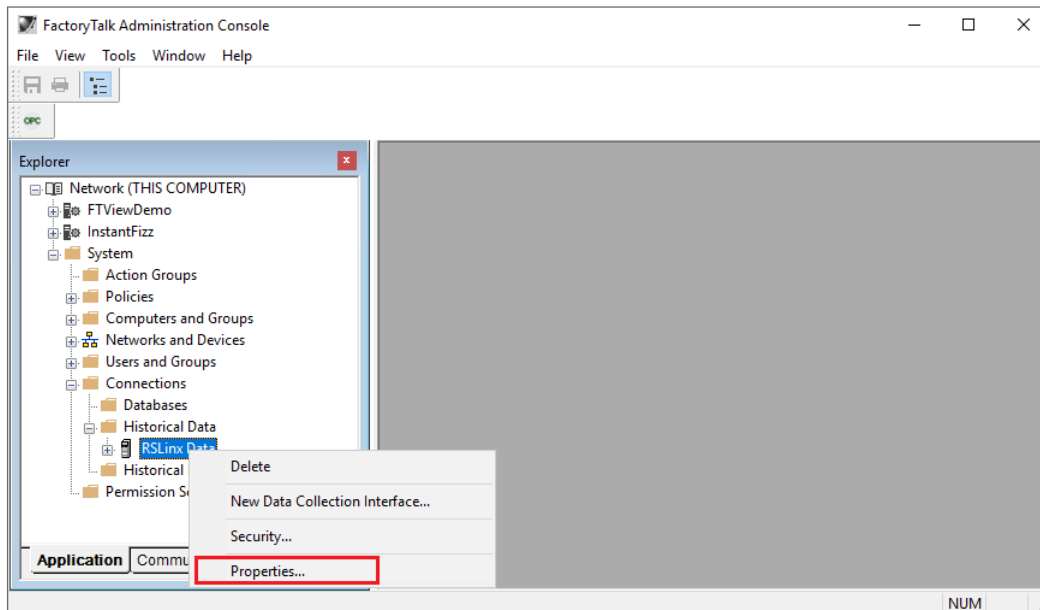


If the Historian is running on a remote machine, specify the **Default Data server** to the name of this machine.

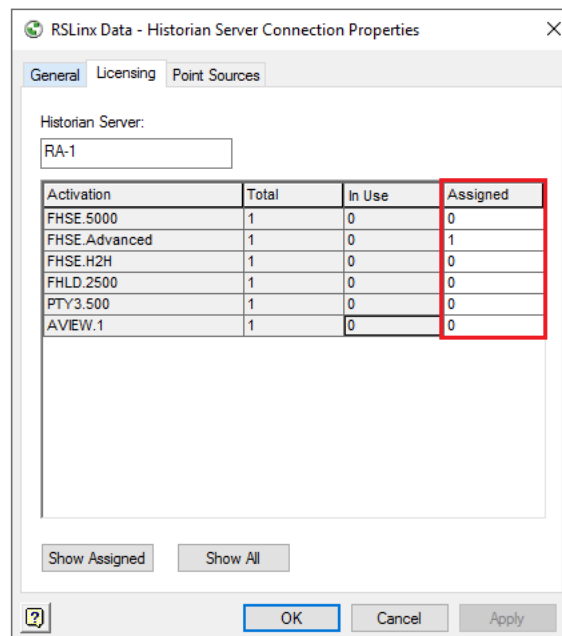
Licensing

A license must be assigned to the Historian to allow access via OLE DB.

Open **FactoryTalk Administration Console** from the Rockwell Software program group and select the appropriate FactoryTalk Directory.



- In the **Explorer**, expand **Network, System, Connections**.
- Expand **Historical Data**, select the Data Collection Interface configured, right-click and select **Properties**.



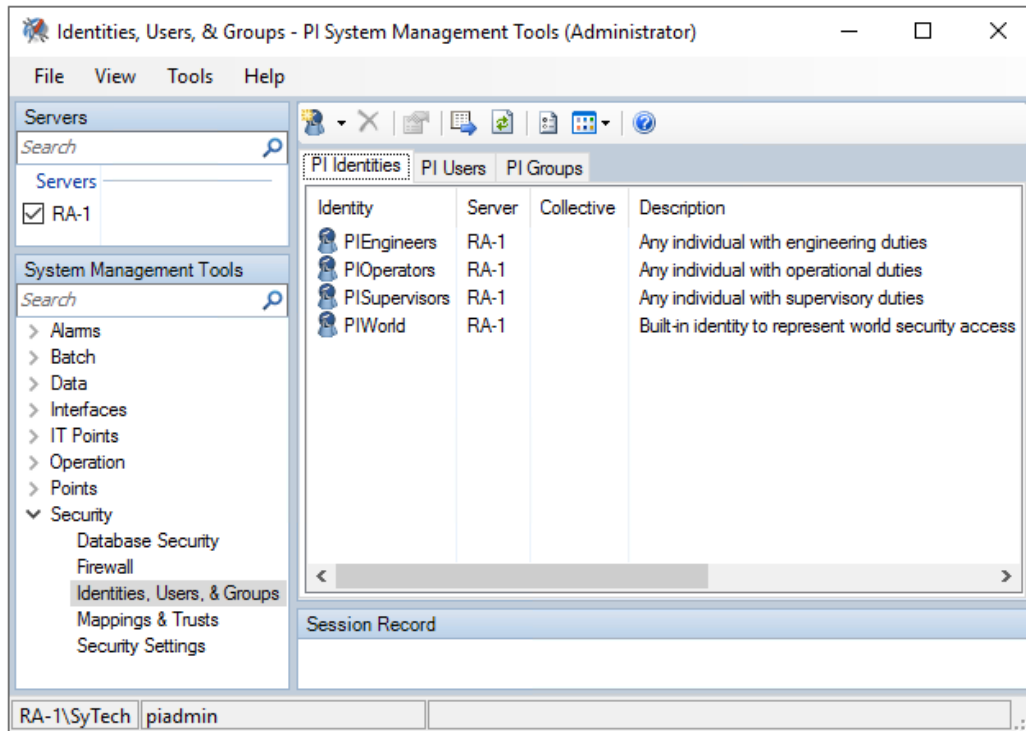
Under the **Licensing** tab assign the OLE DB or Advanced Historian license under the **Assigned** column by setting the value to 1.

Remote Communication

When connecting remotely to the historian via ODBC, credentials must be provided to the server. If the XLReporter and the Historian are on the same domain or if the user accounts where they are both installed match, Windows authentication can be used.

If the above conditions cannot be met, a PI user account must be used to authenticate. If a user account is not already set up, use the following steps to create one:

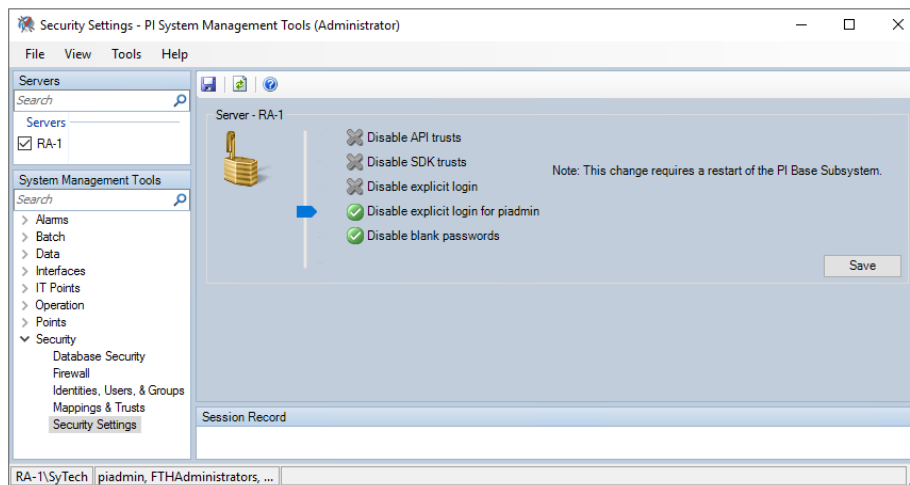
- Open the **PI System Management Tools** and select **Security, Identities, Users, & Groups**.



- Select the **PI Users** tab and click **New** (person icon in top header).
- Add a **Username** and password if required.

Security Settings

In order to connect using a PI user account, explicit login must be enabled.



- In the **PI System Management Tools** expand **Security** and select **Security Settings**.
- On the right, move the slider bar down so that **Disable explicit login** is not checked.
- Click **Save**.

In order for this change to take effect, the PI Base Subsystem must be restarted. To do so,

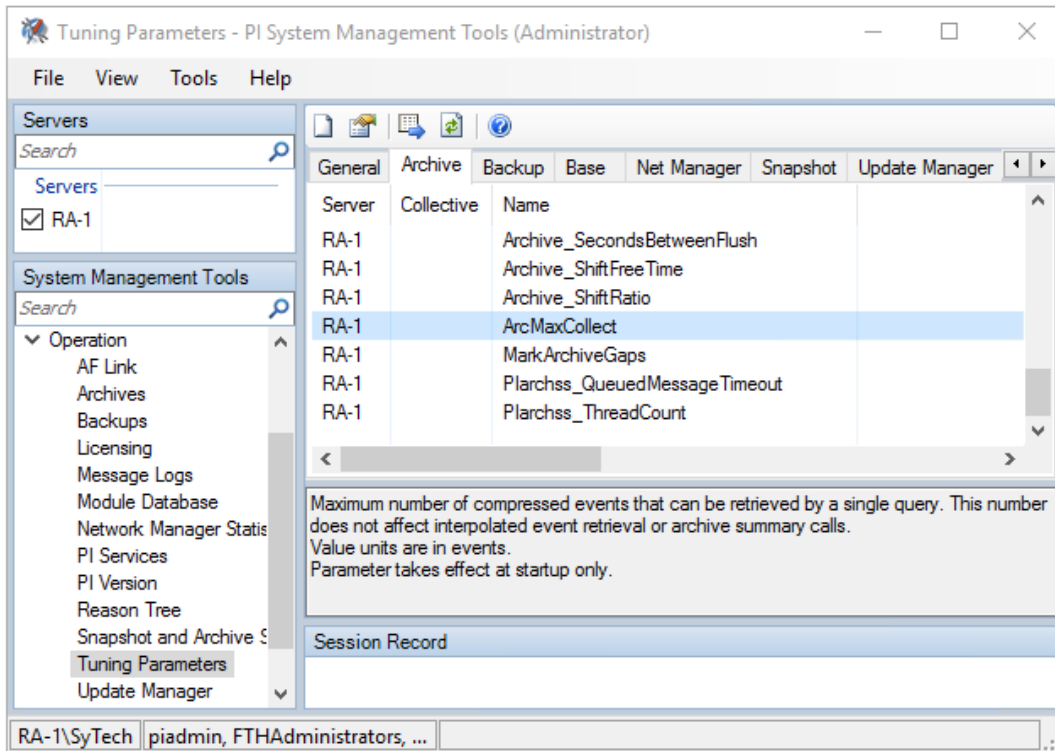
- In the **System Management Tools**, expand **Operation** and select **PI Services**.
- On the right, select the **PI Base Subsystem**, right click and select **Stop Service**.
- Right click again and select **Start Service**.

PI OLE DB Tuning for Automation

Queries that return large data sets from the PI Server can return the error message:

“Failed to retrieve events from server. [-11091] Event collection exceeded the maximum allowed”

To increase the data limitation,



- Open the **PI System Management Tools** and select **Operation, Tuning Parameters**.
- On the **Archive** tab, right click **ArcMaxCollect** and edit the value.
- Open **Windows Services** and restart the **PI Archive subsystem**.
- If the issue still occurs, repeat the process and increase the **Value** again.

For more information, see **OSIsoft** Knowledge Base article KB00646.

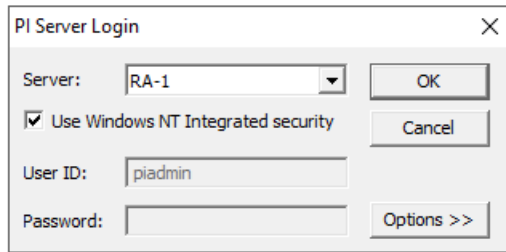
Validate PI OLE DB Configuration

To validate the PI OLEDB provider can connect and retrieve data, run `PIOLEDBTester.exe`. If the OLE DB provider is installed on the machine with the historian, this can be found from:

C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian\PIPC\OLEDB\Tools\PIOLEDBTester.exe

If the OLE DB provider is installed on a remote machine without the historian, this can be found from:

C:\Program Files (x86)\PIPC\OLEDB\Tools\PIOLEDBTester.exe

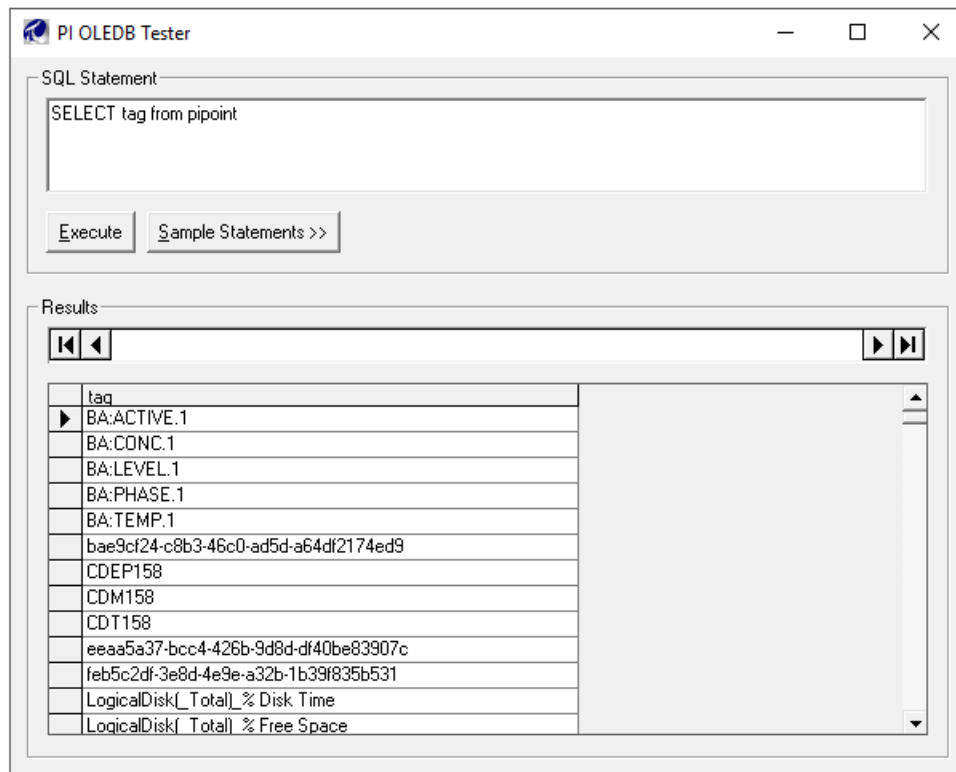


If the following error appears:

[PI SDK] Registry item not found in the collection

This can indicate that either a license for the OLE DB provider is not installed on the historian or that there is an issue with the PI SDK installation on the machine.

If the license is installed and the PI SDK is installed correctly, contact Rockwell Automation support to correct the issue.



- Enter the following SQL statement:
SELECT tag from pipoint
- Click **Execute**.

If there are any errors or nothing is returned, contact Rockwell Automation technical support to resolve the issue.

Create a Project

From the **XLReporter Project Explorer** select **File, New** to start the **Project Wizard**. This will give step-by-step instructions on creating a project.

Step 1

- Enter a **Project Name** and **Description** (optional).

The screenshot shows the 'New Project' dialog box with the following fields and options:

- Project Name:** XLR_Project
- Project Off Line
- Description:** Customer or Site name
- Project Location:** c:\XLRprojects

Buttons at the bottom: < Back, Next >, Finish, Cancel

Step 2

- Configure the data connector, click **Add**

The screenshot shows the 'New Project' dialog box with the following elements:

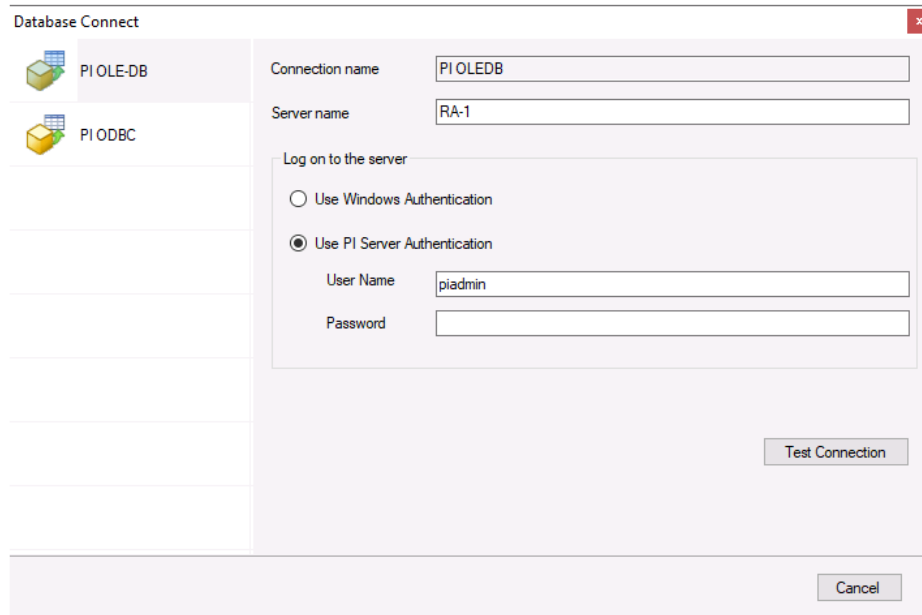
- Step 2 : Configure the Connectors (data sources) of the Project.**
- Buttons: + Add, Modify, X Delete, Catalog
- Table with columns: Name, Provider, Description
- Table content: * (in Name column)

- Select **Rockwell Automation, FactoryTalk Historian SE (OLE DB/ODBC)**

The screenshot shows the 'FactoryTalk Historian SE (OLE DB/ODBC)' dialog box with the following fields and options:

- Connector Name:** FactoryTalk_HistorianSE
- Description:** RA-1
- Primary Server:**
 - Name:** RA-1
 - User:**
- Secondary Server:**
 - Name:**
 - User:**
- Buttons: Settings, OK, Cancel

- Under **Primary Server**, click the browse button ([...]) for **Name**.

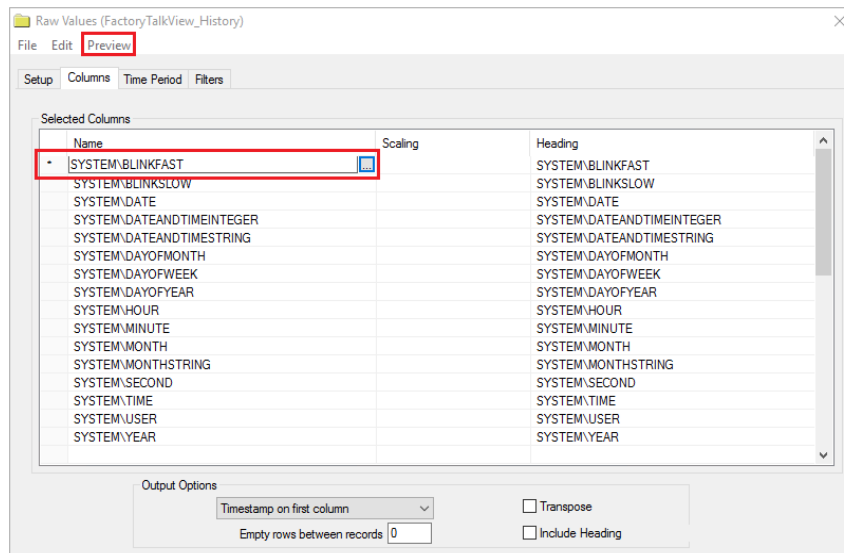


- On the left, select **PI OLE-DB**.
- Set **Server name** to the name of the machine where the historian is running.
- Under **Log on to the server**, select the option that best fits the configuration of the system.
- Click **Test Connection** to verify.

Verify the Data Connector

XLReporter retrieves data for a report using a **History Group**. A quick way to create a History Group is from the **XLReporter Project Explorer**.

- Select, **Tools, Connector Groups**
- Select the connector
- Select **Add**.
- Set the Type *Raw Values* and click OK.



On the **Columns** tab of the group, select the tag **Name(s)**.

From the menu bar

- Click **Preview**
- Enter a *Start* date
- Click **Refresh**.

Preview

Refresh Stop

Date

Start 08 Jan 2020

End 09 Jan 2020

Date	SYSTEM\BLINKFAST	SYSTEM\BLINKSLOW
1/8/2020 1:45:09 PM	0	0
1/8/2020 1:46:09 PM	1	1
1/8/2020 1:47:09 PM	1	0
1/8/2020 1:48:09 PM	1	1
1/8/2020 1:49:09 PM	0	1
1/8/2020 1:50:09 PM	1	1
1/8/2020 1:51:09 PM	1	0
1/8/2020 1:52:09 PM	1	0
1/8/2020 1:53:09 PM	0	1
1/8/2020 1:54:09 PM	1	1
1/8/2020 1:55:09 PM	1	0
1/8/2020 1:56:09 PM	0	0

Rows 60