Edge SQL-PLC Example

Integrate SQL and PLC data at the edge.

Download the sample solution: Edge SQL-PLC Example.dbsln

This guide shows how to configure the **Devices** module to read data from a field device and write it to a **Historian** SQL database.

Configuration workflow

1. **Create Tags** – Define the tags to store values.
2. **Create Devices** – Set up a PLC/value simulator (or a real connector).
3. **Create Historian** – Configure the connection to your SQL database.

Step 1: Create the Tags

- In **Unified Namespace** **UserTypes**, create a template named **PVs** with 10 members.
- In **Unified Namespace** **Tags**, create a tag named **PVs** using the **PVs** template.

> *Result: one tag (**PVs**) containing 10 members.*

Step 2: Create Communication

For this example, we use the **Value Simulator Connector** to generate test values:
Value Simulator Connector - FrameworX 10.1 - Tatsoft LLC

You can substitute any supported connector for a real device. See the Devices Module How-to Guide for connection details:
Devices Module How-to Guide - FrameworX 10.1 - Tatsoft LLC

Devices/Points table

The **Devices/Points** table lists all created tags. The **Address** column indicates where each point reads from in the configured connection. For the Value Simulator driver, it also defines how the random value is generated.

TagName	Node	Address
Tag.PVs.Vibration	Node.ValueSimulatorNode	FLOAT:0;100
Tag.PVs.Torque	Node.ValueSimulatorNode	INTEGER:0;100
Tag.PVs.Temperature	Node.ValueSimulatorNode	FLOAT:20;120
Tag.PVs.Speed	Node.ValueSimulatorNode	INTEGER:0;3600
Tag.PVs.Valve_Open	Node.ValueSimulatorNode	BOOL:0;1
Tag.PVs.pH	Node.ValueSimulatorNode	INTEGER:2;12
Tag.PVs.Level	Node.ValueSimulatorNode	SINE:0;30
Tag.PVs.Humidity	Node.ValueSimulatorNode	INTEGER:0;100
Tag.PVs.Flow_Rate	Node.ValueSimulatorNode	FLOAT:0;1000
Tag.PVs.Current	Node.ValueSimulatorNode	FLOAT:0;50

Step 3: Create a Historian connection

In **Historian Historian Tags**, add the tag created earlier and configure the settings as follows:

TagName	DeviationDeadBandType	HistorianTable
Tag.PVs	Percentage	Historian.Table.TableIndustrial

The table used is pre created in the solution and uses SQLite, if you wish use another database provider, check the link below:

Historian Module How-to Guide - FrameworX 10.1 - Tatsoft LLC

Step 4: Test and Monitor

Go to Runtime / Startup and Run Startup

Communication Testing

1. Open **Property Watch**
2. Monitor tag values:
    - Check Quality (192 = Good)
    - Verify values update

Data Collection Testing

1. Go to **Historian Monitor**
2. **Verify Archiving**:
    - Check RowCount increasing
    - Monitor LastStoredTimeStamp
    - Review ErrorCount
3. **Test Retrieval**:
    - Open the SQLite database in Datasets / DBs and “SQLite Admin…” button and see the data.

In this section...
