Edge IIoT Example

Deploy a lightweight IIoT solution at the edge.

Download the sample solution: Edge IIoT Example.dbsln

This guide shows how to use the **Edge IIoT Example**, focusing on the built-in **MQTT broker**, data publishing in **SparkplugB**, and how external clients can consume this data.

Configuration workflow

1. Download and open the **Edge IIoT Example** project.
2. Verify the built-in MQTT broker operation.
3. Publish data using **SparkplugB**.
4. Demonstrate how external clients can access the data.

Step 1: Open the Solution

- Download the **Edge IIoT Example** project (link available in the documentation).
- Open the solution in **SolutionCenter**.

Step 2: Built-in MQTT Broker

- The **built-in MQTT broker** is already configured in the example.
- It starts automatically when the solution goes to **Runtime Startup**, and it stops when the solution is shut down.
- This process is controlled by **tasks**, ensuring proper initialization and shutdown.
- You can check these tasks under **ServerStartup** and **ServerShutdown**, where the broker start and stop commands are defined.
- No manual adjustment is required.

Step 3: Publish SparkplugB Data

- Navigate to **Devices Points**.
- Check the configuration for points prepared for publishing using the **SparkplugB protocol**.
- Additionally, you can enable the option in **Runtime Startup** called **Publish to built-in MQTT broker**.

Result: The configured points are published to the built-in broker in **SparkplugB format**.

Step 4: Access Data from External Clients

Data can be accessed in two ways:

1. **Via MQTT Broker (SparkplugB)**
    - Any MQTT client (e.g., *MQTT Explorer*, *Node-RED*) can connect to `mqtt://<server-IP>:1883`.
    - Subscribe to SparkplugB topics, for example:

      ```
      spBv1.0/EdgeNode01/Group01/#
      ```
2. **Via Internal Devices and TagProvider**
    - The same data being published is also available through configured **Devices** inside the solution.
    - A **TagProvider** is also included, allowing internal access to the same values without going through the broker.

Step 5: Test and Monitor

Communication

- Open **Property Watch** to monitor tag values.

- Confirm quality status: `192 = Good`.

External Client

- Connect to the built-in broker using an MQTT client.
- Validate that SparkplugB messages from the configured points are being received.

Expected Result

- Built-in MQTT broker runs automatically.
- SparkplugB data publishing is active.
- Two access modes are available:

    1. External consumption via MQTT clients.
    2. Internal access via Devices and TagProvider.

In this section...
