Connect to a MQTT broker Tutorial

Connect to a MQTT broker and map points.

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This Tutorial Teaches how to:

- Configure MQTT client
- Subscribe to topics
- Publish tag values using Sparkplug B
- Map topics to tags

This Tutorial Teaches how to:
1. Set Up the MQTT Broker and Simulator
2. Configure MQTT Client
3. Create Points
4. Test Connection

Prerequisites:

- Add Tags to UNS (Tutorial)

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1. Set Up the MQTT Broker and Simulator

Start the Built-in Broker

1. Navigate to **Data Explorer MQTT Tools**
2. Click **Run Local Built-in Broker** to start the broker
3. Connect to the broker (connection will show as established)

Run the MQTT Publisher Simulator

1. Start the **MQTT Publisher Simulator**
2. Verify data is publishing - you'll see:
    - Cities (e.g., Barcelona)
    - Solar panels with properties:
        - Name
        - Power
        - Temperature
        - Real-time changing values

2. Configure MQTT Client

1. Navigate to **Devices Protocols**
2. Select MQTT Message Queuing Telemetry Transport
3. Create channel:
    - Name: `MQTTClient`
    - Protocol: `MQTT Client`
4. Go to **Device Nodes**
    a. Name: `IoT_Sensors`
5. Open PrimaryStation and configure:
    a. BrokerURL: 127.0.0.1
    b. Port: 1883
    c. ClientID: FrameworX

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3. Create Points

1. Navigate to **Devices Points**
2. Add points for each expected topic:

Temperature Tank 1 Sensor:

- TagName: `TankFarm/Tank1/Temp`
- Node: `IoT_Sensors`
- Topic: `TankFarm/Tank1/temperature`
- AccessType: Read

Temperature Tank 2 Sensor:

- TagName: `TankFarm/Tank2/Temp`

- Node: `IoT_Sensors`
- Topic: `TankFarm/Tank2/temperature`
- AccessType: Read

Temperature Tank 3 Sensor (write):

- TagName: `TankFarm/Tank3/Temp`
- Node: `IoT_Sensors`
- Topic: `TankFarm/Tank3/temperature`
- AccessType: Write

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4. Test Connection

1. Start Runtime
2. Open **Devices Devices Monitor**
3. Use MQTT client tool (like MQTT Explorer) to:
    - Publish test messages
    - Verify FrameworX publishes

In this section...
