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How to Configure edgeGate for Azure IoT Hub

data  **FEED®**

How to Configure *edgeGate* for Azure IoT Hub

1. Download *Device Explorer*

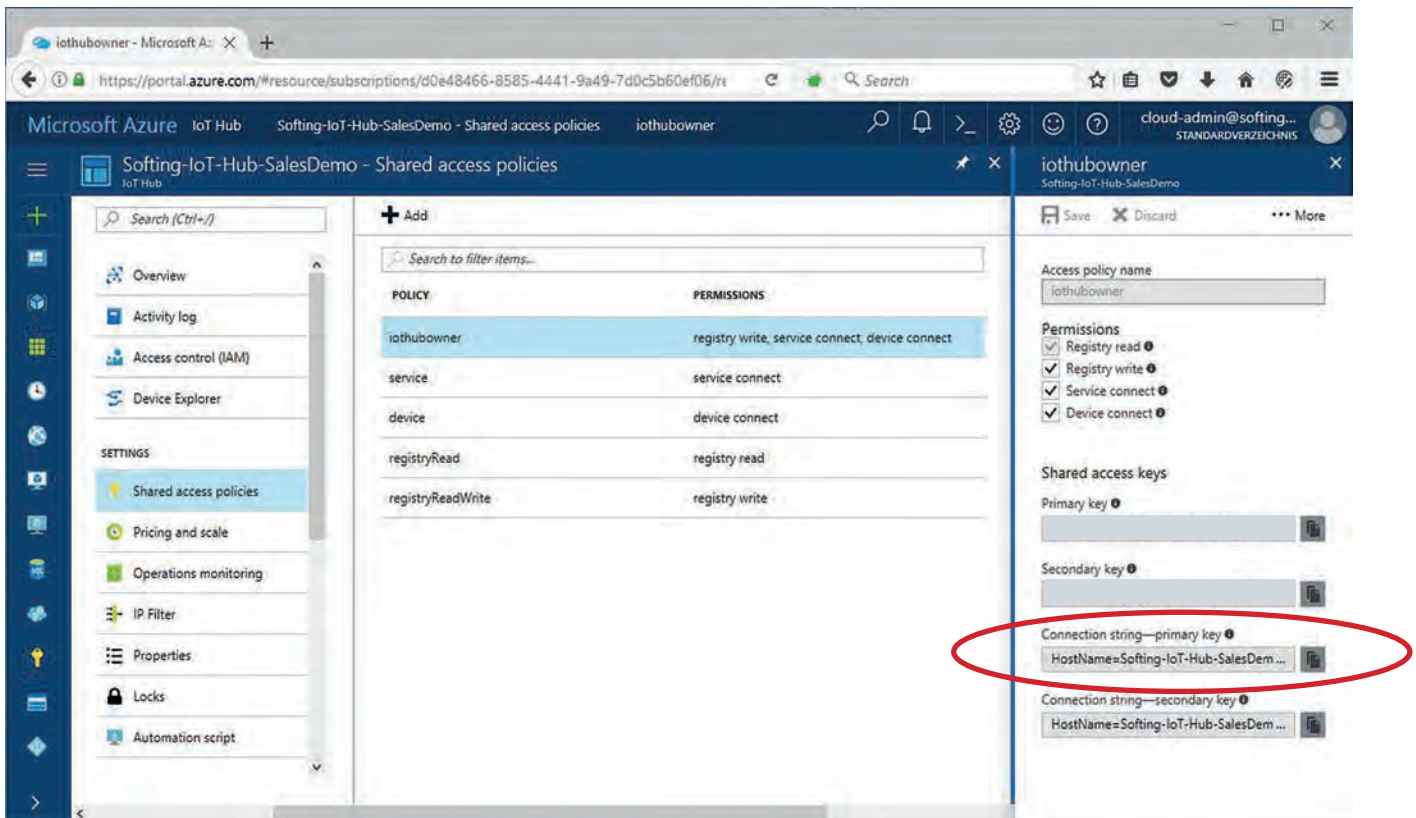
If not available yet, download latest *Device Explorer* version from

- <https://github.com/Azure/azure-iot-sdk-csharp/releases>

2. Copy Connection String from *Azure IoT Hub* to *Device Explorer*

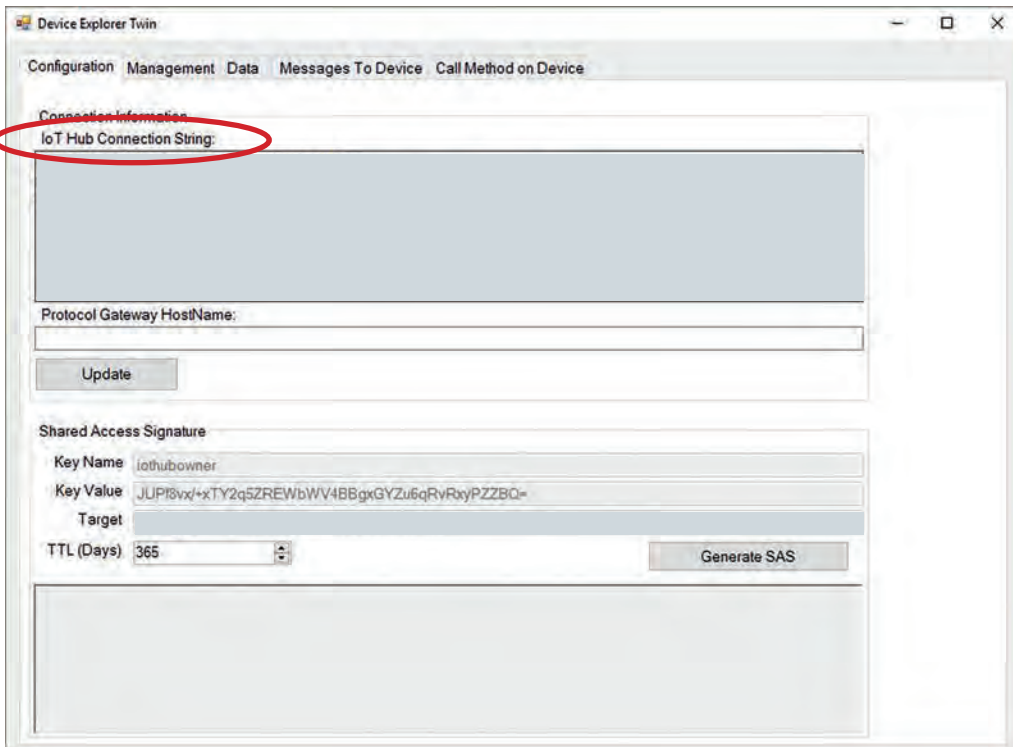
In *Azure IoT Hub*:

- Copy connection string in *Connection string – primary key* field



In **Device Explorer**:

- Paste connection string to **IoT Hub Connection String** field

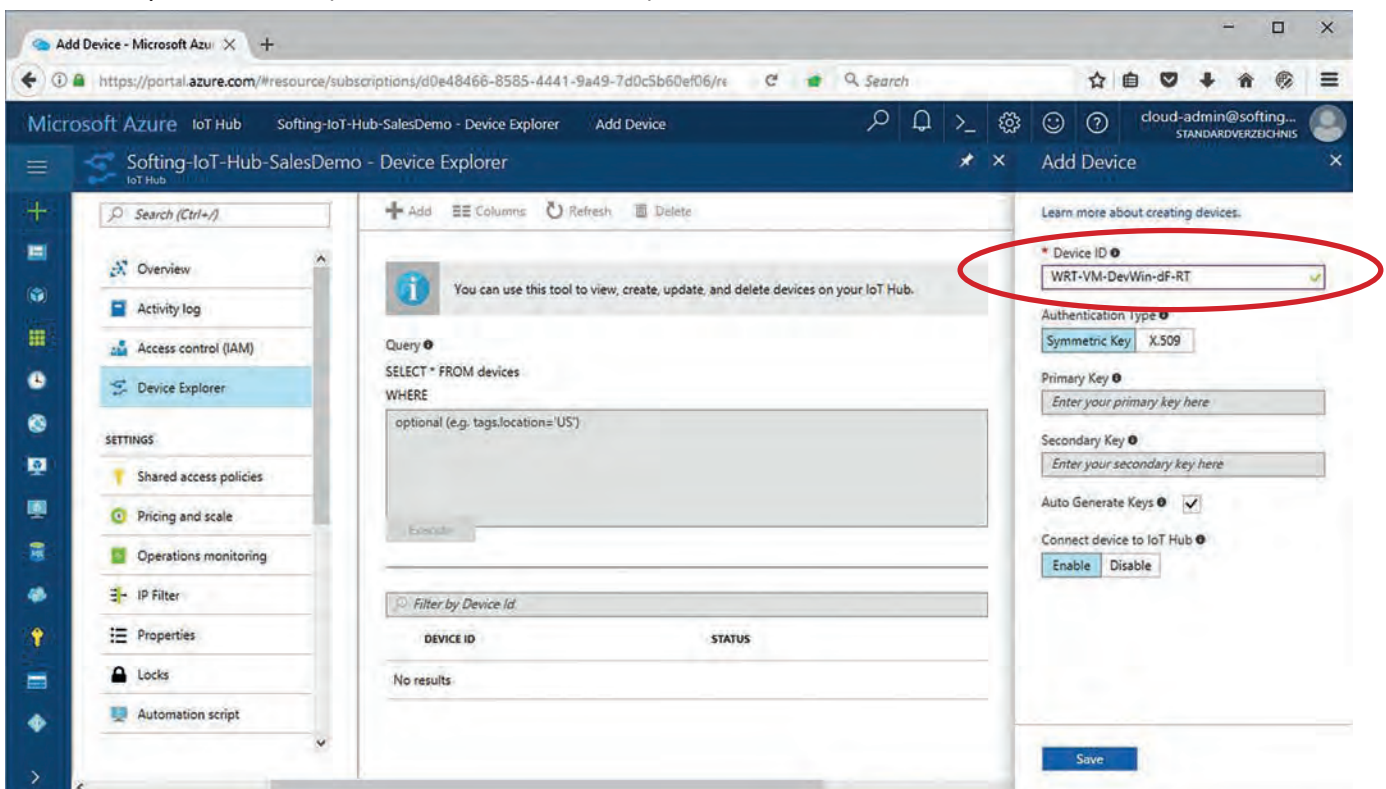


- Press **Update** button

3. Create MQTT Connection in Azure IoT Hub

In **Azure IoT Hub**:

- Define unique **Device ID** (23 characters maximum)

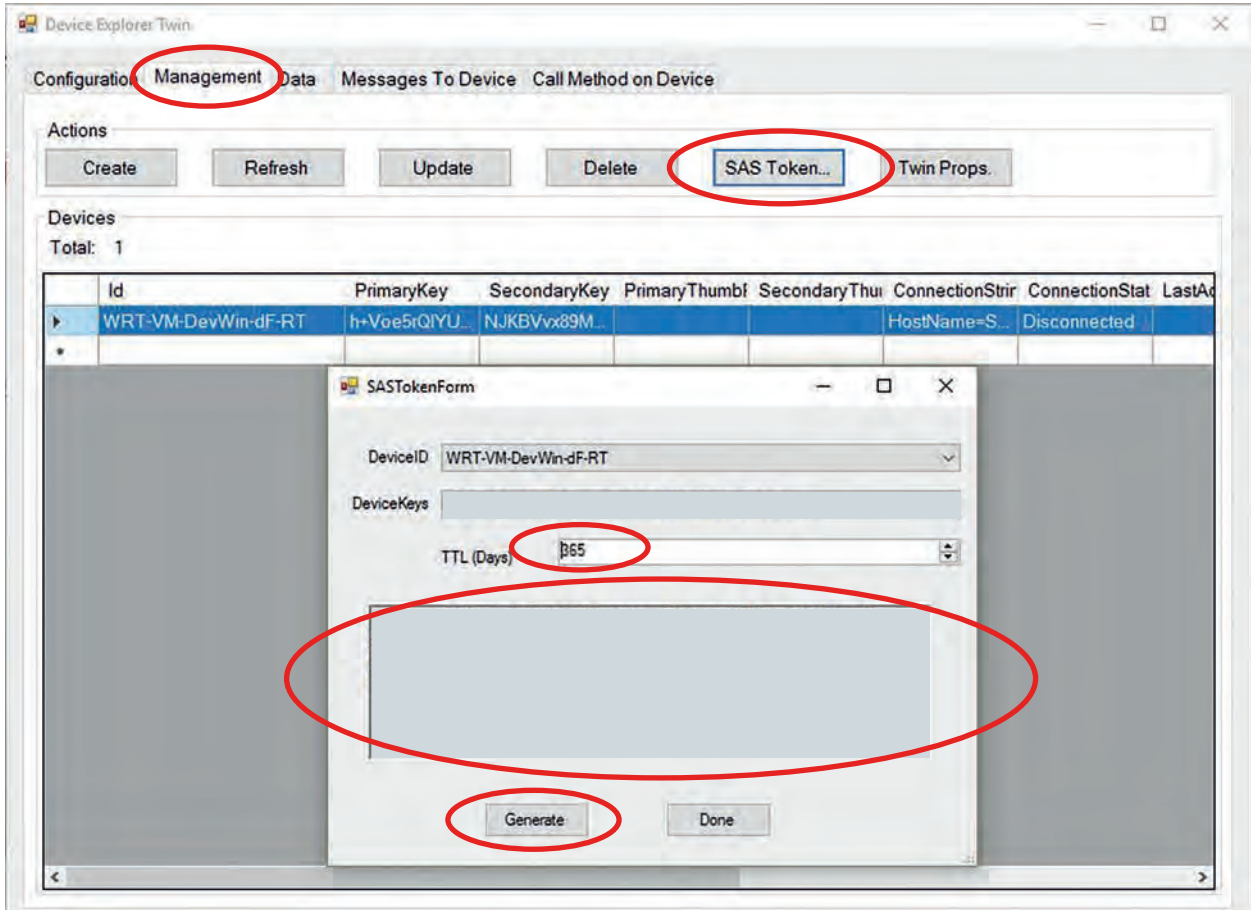


- Do not modify default settings for rest of the fields
- Press **Save** button

4. Create SAS for Device in *Device Explorer*

In *Device Explorer*:

- Select **Management** tab.

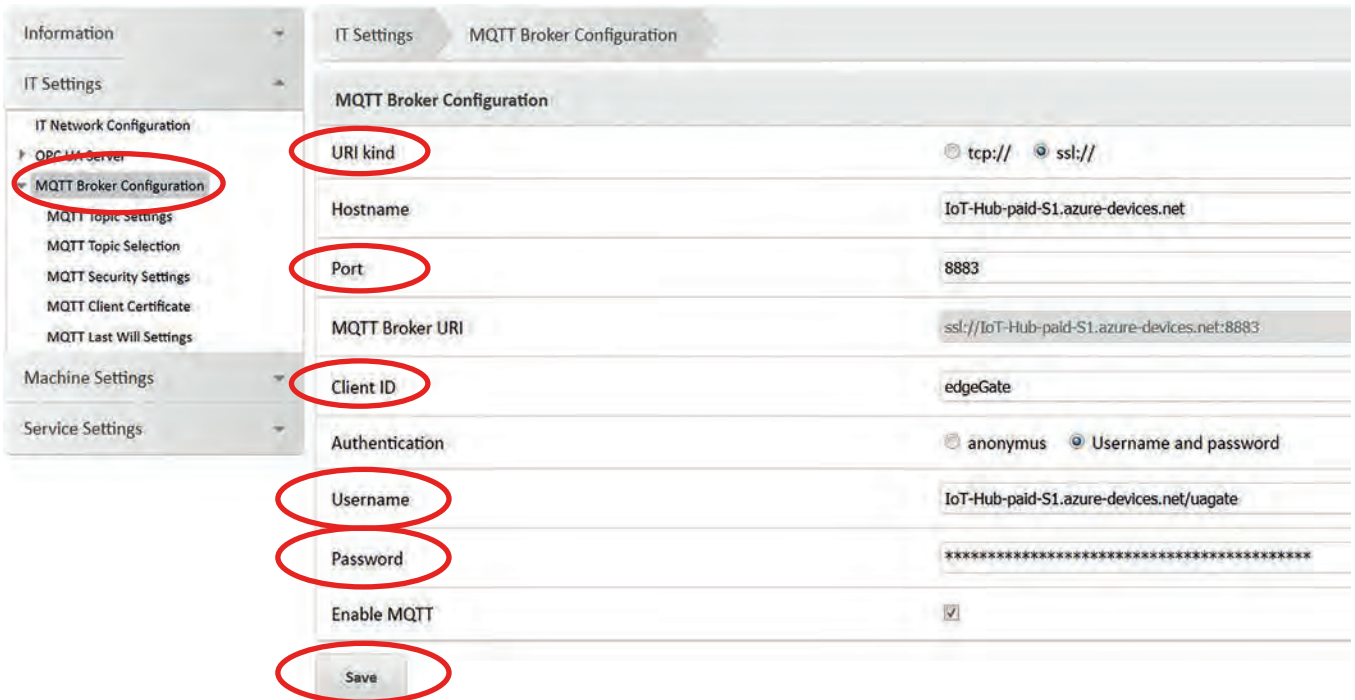


- Press **SAS Token...** button
- Define SAS duration in **TTL (Days)** field (e.g. to 365 days)
- Copy generated SAS token string for later use
- Press **Generate** button

5. Create MQTT Broker Connection in edgeGate

In **Internet Browser**:

- Connect to **edgeGate** configuration webpage
- Login as **Administrator** or **ITAdmin**
- Navigate to **MQTT Broker Configuration** page

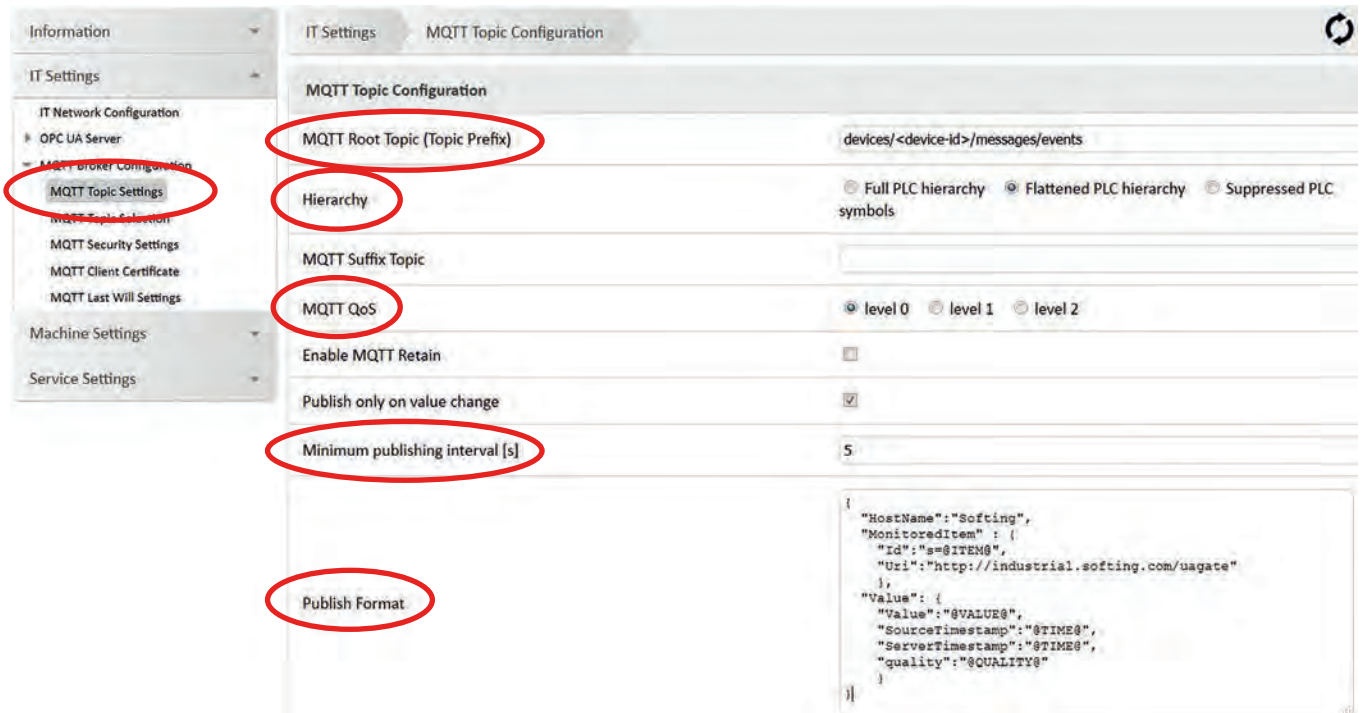


The screenshot shows the 'MQTT Broker Configuration' page. The left sidebar has 'MQTT Broker Configuration' selected. The main content area contains the following fields:

- URI kind:** Radio buttons for 'tcp://' and 'ssl://'. 'ssl://' is selected.
- Hostname:** Text input field containing 'IoT-Hub-paid-S1.azure-devices.net'.
- Port:** Text input field containing '8883'.
- MQTT Broker URI:** Text input field containing 'ssl://IoT-Hub-paid-S1.azure-devices.net:8883'.
- Client ID:** Text input field containing 'edgeGate'.
- Authentication:** Radio buttons for 'anonymus' and 'Username and password'. 'Username and password' is selected.
- Username:** Text input field containing 'IoT-Hub-paid-S1.azure-devices.net/uagate'.
- Password:** Password input field with masked characters '*****'.
- Enable MQTT:** Checkmark is checked.
- Save:** A button at the bottom of the form.

- Select appropriate **URI kind** for MQTT connections of **Azure IoT Hub**
- Define **Port** number for secure MQTT connections (port 8883 is standard SSL port)
- Enter **Client ID** of **Azure IoT Hub** device (as generated in **Device Explorer**, see 4.)
- Enter **Azure IoT Hub** name plus string **".azure-devices.net/"** plus device ID in **Username** field
- Enter SAS token in **Password** field
(as generated in **Device Explorer**, see 4., just part after string **"SharedAccessSignature="** is required)
- Write configuration changes to device using **Save** button

- Navigate to **MQTT Topic Settings** page



- Define **MQTT Root Topic (Topic Prefix)** as ***“devices/<device-id>/messages/events”***
- Set **Hierarchy** to ***Flattened PLC hierarchy***
- Set **MQTT QoS** to ***level 0*** or ***level 1***
- Define **Minimum publishing interval [s]** by sampling interval as needed by application

ATTENTION:

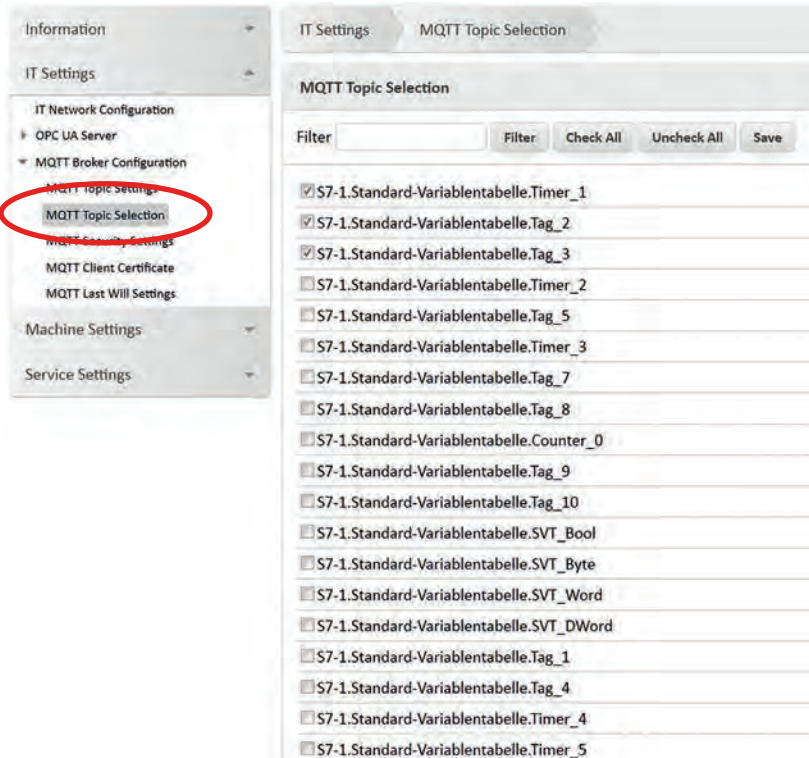
Sampling the PLC data with the defined rate may cause huge amount of messages sent to **Azure IoT Hub**

- Define **Publish Format** field as

```
{
  "HostName": "Softing",
  "MonitoredItem": {
    "Id": "s=@ITEM@",
    "Uri": "http://industrial.softing.com/uagate"
  },
  "Value": {
    "Value": "@VALUE@",
    "SourceTimestamp": "@TIME@",
    "ServerTimestamp": "@TIME@",
    "quality": "@QUALITY@"
  }
}
```

- Write configuration changes to device using **Save** button

- Navigate to **MQTT Topic Seection** page



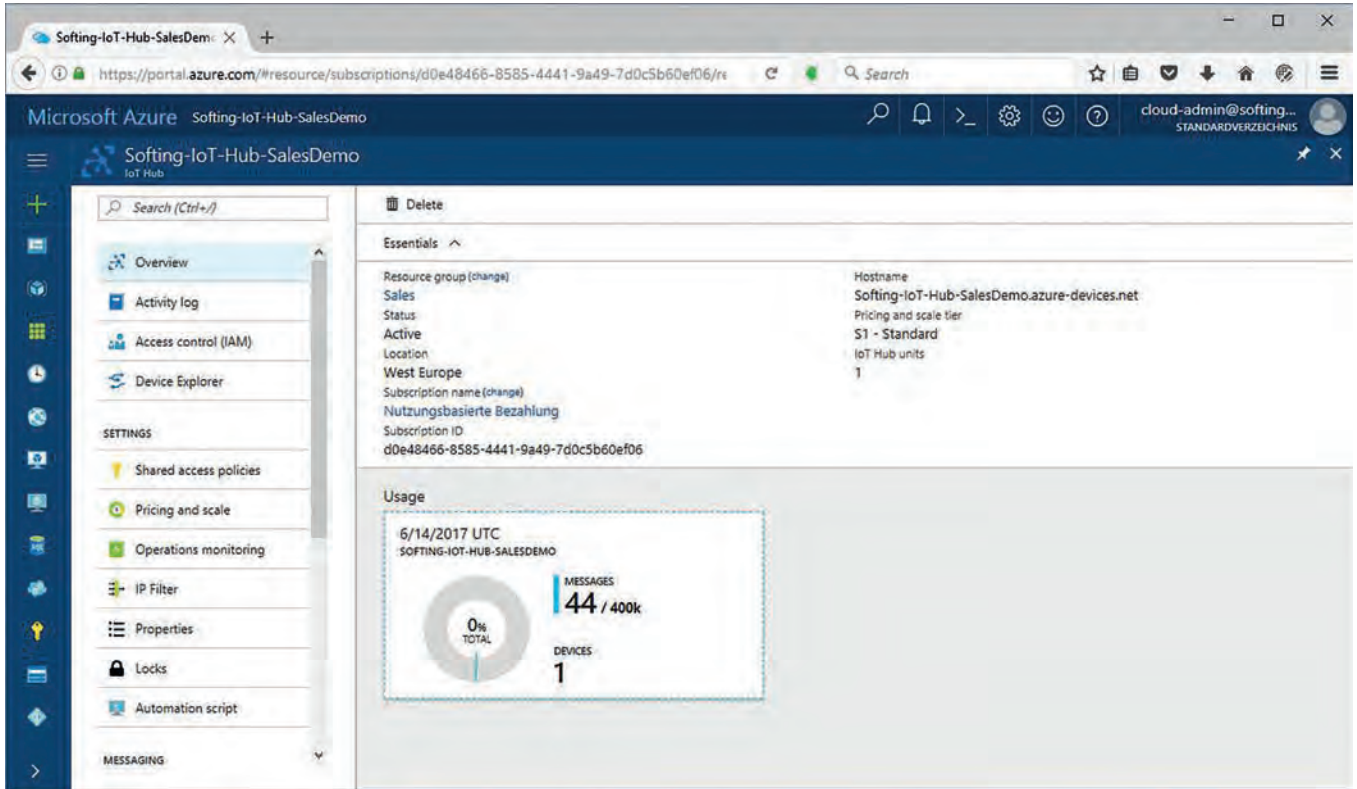
- Select PLC symbols to be sent to **Azure IoT Hub**
- Write configuration changes to device using **Save** button
- Finally, use **Pending settings** button for applying configuration update settings

Pending settings. Click here to apply all settings!

6. Test MQTT Broker Connection and Data Exchange

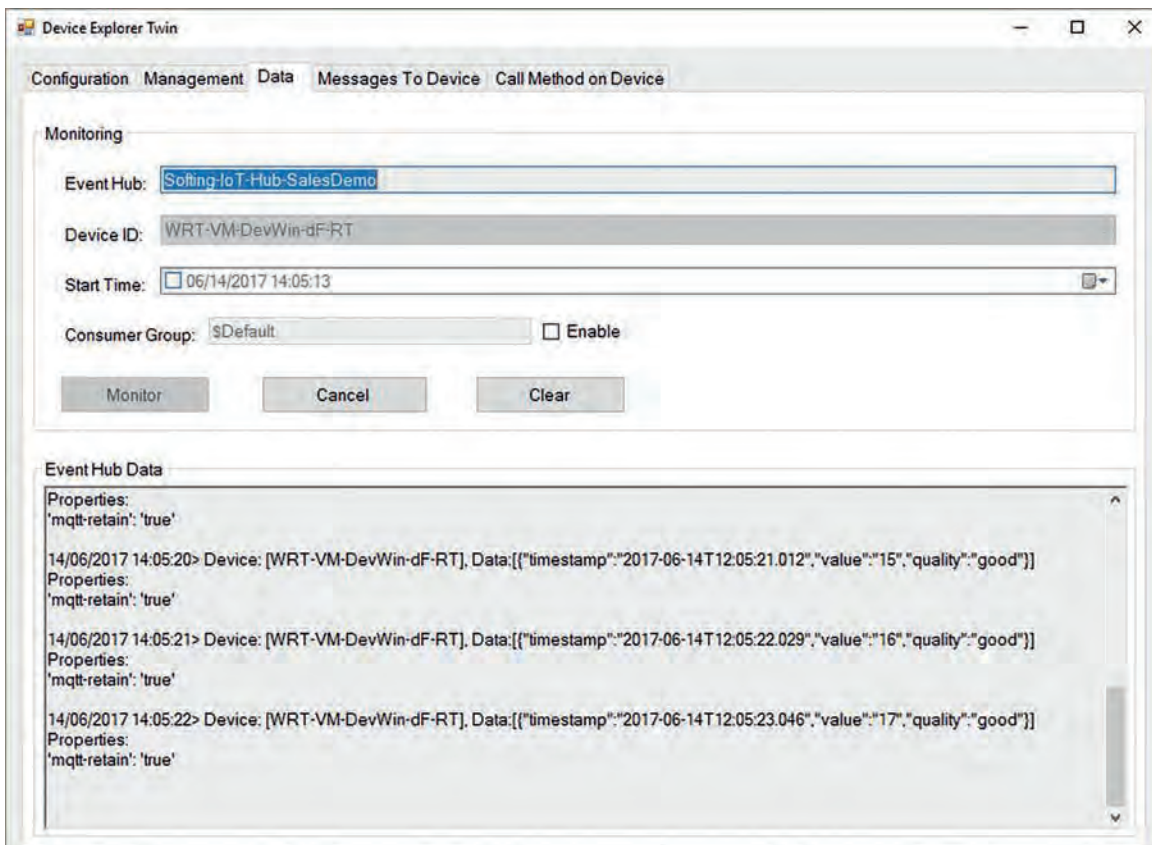
In **Azure IoT Hub**:

- After configuration update, MQTT messages are sent to **Azure IoT Hub**
- Messages received by **Azure IoT Hub** are shown in **Azure IoT Hub** portal



In **Device Explorer**:

- Connect to **Azure IoT Hub** and monitor received data



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