How to set up a Microsoft-Azure IoT-based system with a Carlo Gavazzi UWP 4.0

This document describes how to connect a Carlo Gavazzi UWP 4.0 gateway to Microsoft Azure IoT.

Following are the main steps:

1. Perform the UWP 4.0 commissioning
   Note: for further details, read the [*installation manual*](#)

2. Connect the UWP 4.0 to Internet.
   Notes:
   - *For further details, go to* [*How to connect UWP 4.0 to Internet*](#)
   - *Remember to set the DNS server properly from the* **System settings** *menu of the controller web app*

3. Log into your Microsoft Azure account

4. Activate and configure your Microsoft Azure IoT hub.
   Note: click [*here*](#) *for more information about how to set up an Azure IoT hub.*

5.

| If...	Then...

you need to use the Device Provisioning Service (DPS)	6. Provision your UWP 4.0 on the Device Provisioning Service (DPS)
	Note:
	  ○ *Click* [*here*](#) *for more information about DPS*
	  ○ *UWP 4.0 supports only the DPS individual enrolment in "Symmetric Key" mode*
	  ○ *UWP 4.0 can be added to Microsoft Azure as a public endpoint.*
	
	7. Configure the Microsoft Azure IoT Hub service on your UWP 4.0.
	For further details, go to [*How to configure Azure IoT Hub service on UWP 4.0 (DPS use case)*](#)

you don't need to use the Device Provisioning Service (DPS)	6. Add a device to the Microsoft Azure IoT hub previously activated. *Note: this device represents your controller* 7. Configure the Microsoft Azure IoT Hub service on your UWP 4.0. *For further details, go to* [*How to configure Azure IoT Hub service on UWP 4.0 (standard procedure)*](#)
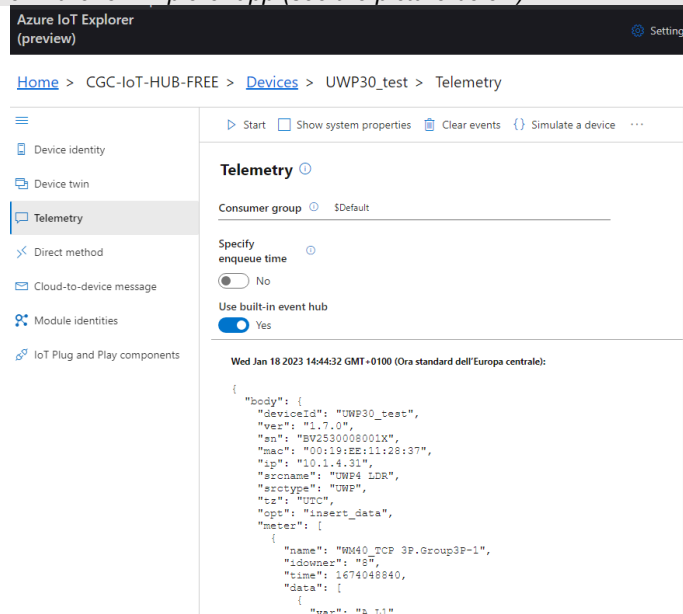
Figure 1: example of UWP 4.0 telemetry message

How to connect UWP 4.0 to Internet

1. Make a point to point connection between your PC and the UWP 4.0 by using an Ethernet cable

2. Right click the *Start* button [⊞] to open **Windows Control Panel**

3. Click the **Control Panel and Network and Sharing Centre** icon

4. Right click the LAN network interface to which you connected the UWP 4.0 by the Ethernet cable
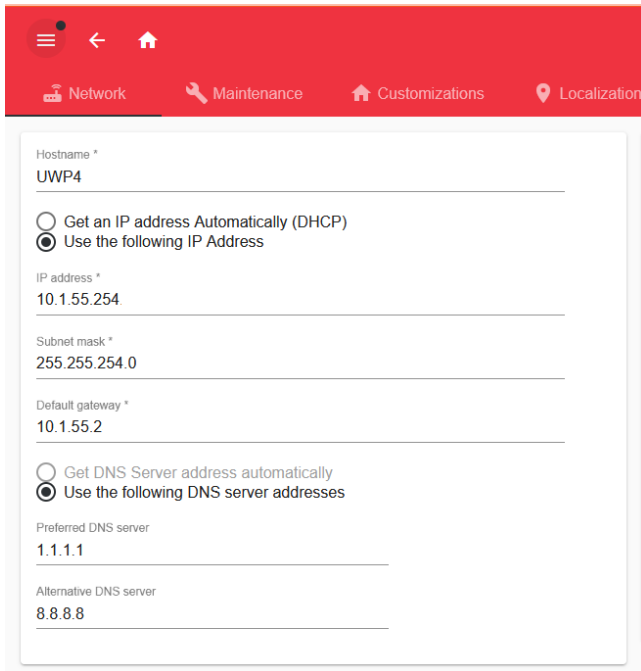
5. Click **Properties**
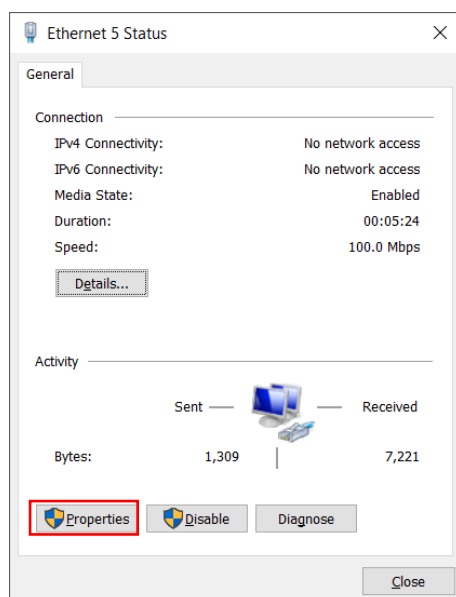
6. Open the network settings to select TCP/IPVv4

7. Click **Properties**
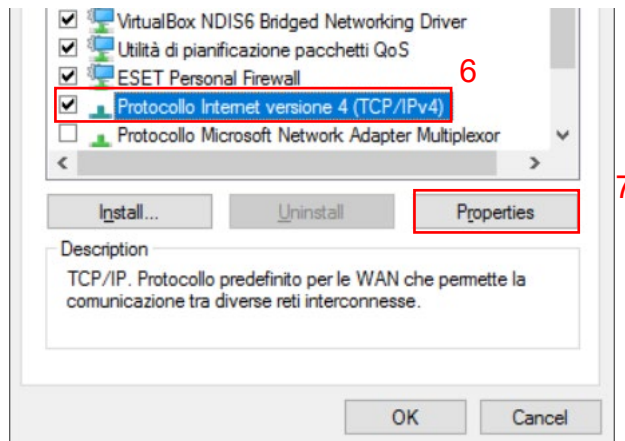
8. Set a static IP address in your PC in the class 192.168.253.xxx, (e.g., IP 192.168.253.1, Subnet mask 255.255.255.0) as shown in the example below:
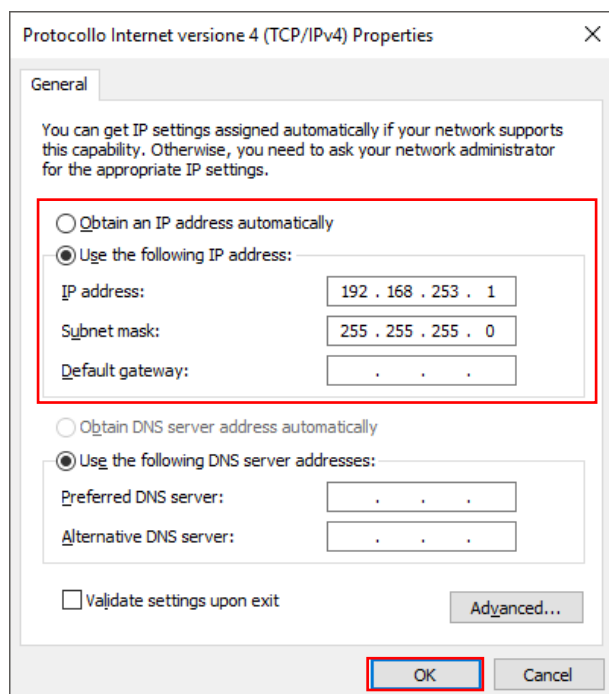
9. Open the UWP 4.0 Web App typing https://192.168.253.254. on a standard browser

10. Open the main menu clicking ☰

11. Go to system settings and set the IP parameters
    Note: remember to set the DNS server and the gateway properly
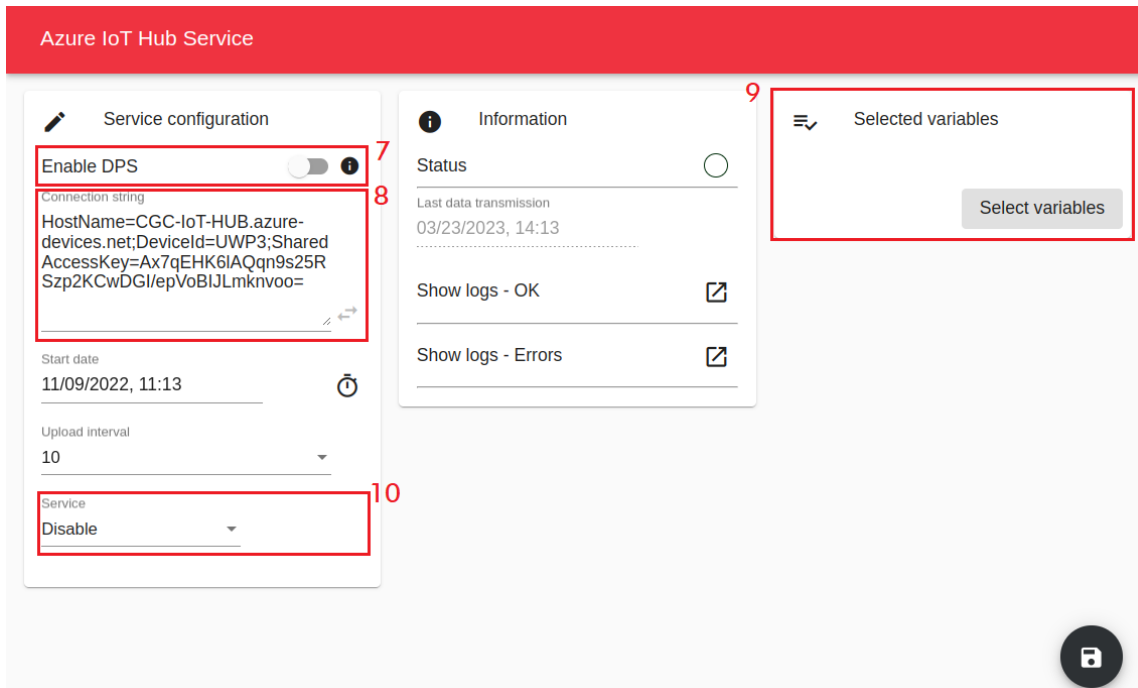
12. Click 💾 to save

How to configure the Azure IoT Hub service on UWP 4.0 (standard procedure)

You can configure the Azure IoT Hub service on UWP 4.0 if you have activated an Azure IoT Hub and added a device to an Azure IoT Hub.

1. Open your Microsoft Azure IoT hub

2. Go to the **Devices** menu and click on the device that represents your UWP 4.0

3. Copy the **Primary connection string** (see the picture below)
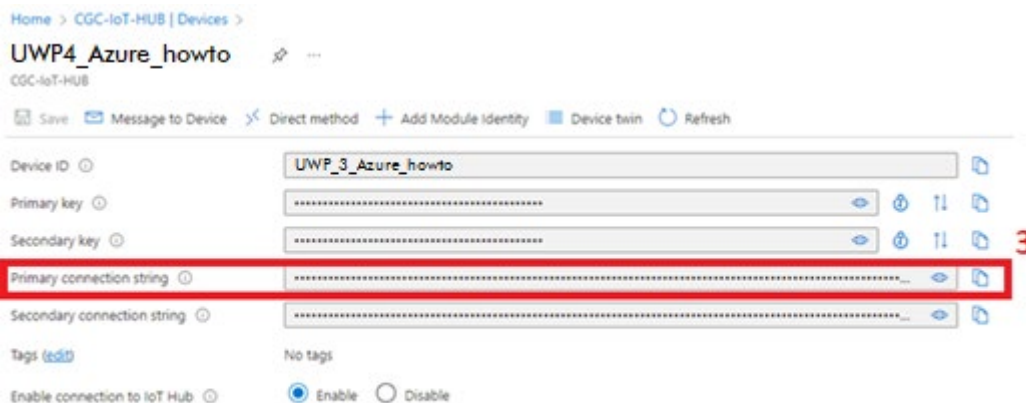
4. Log into the UWP 4.0 Web App

5. Open the main menu clicking ≡

6. Go to *Services* > *Azure IoT Hub Service*

7. Check that the DPS option is disabled

8. Enter/Type the **Primary connection string** copied in step 3, in the **Connection string** field

9. Click **Select variables** to choose the devices to be considered by the **Data Push** service

   Note: this menu shows the devices that have been enabled to log data in the UWP 4.0 database.

   For more information about how to configure the database, read the UWP 4.0 IDE manual

10. From the **Service configuration** tile, enable the service

11. Click 💾 to save

*The green **Status** icon informs you that the procedure has been completed successfully.*

*Click **Show logs – OK** to open the list of successfully loaded data.*

How to configure the Azure IoT Hub service on UWP 4.0 (DPS use case)

1. Log into the UWP 4.0 Web App

2. Open the main menu clicking ≡

3. Go to **Services > Azure IoT Hub Service**

4. Enable the **DPS** option

5. Copy the **Scope ID** that you can find in the **Overview** page/tab of your Azure IoT Hub Device Provisioning Service (see the picture below)
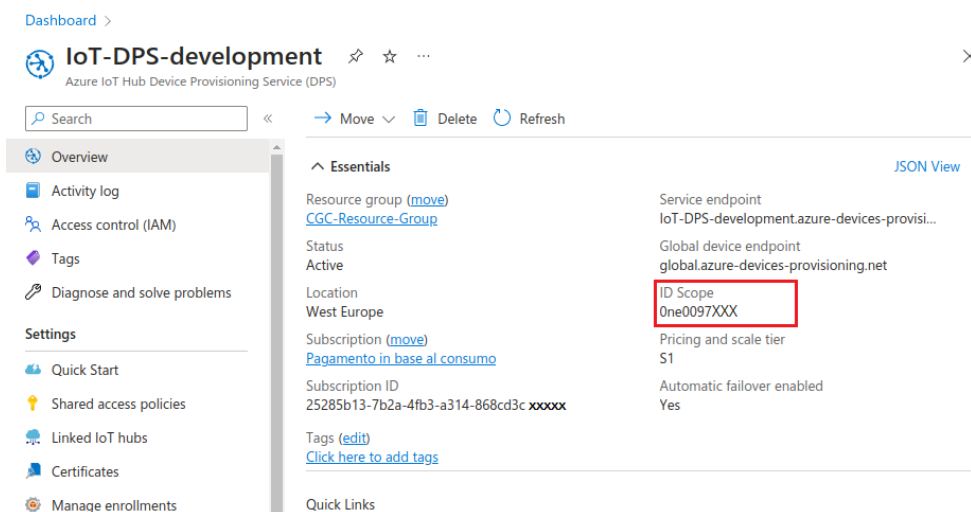
6. Copy the **Registration ID** and the **Primary key** that you can find in the **Manage enrollments** page/tab of your Azure IoT Hub Device Provisioning Service (see the picture below)

7. From the web app, click **Select variables** to choose the devices to be considered by the service data push

   Note: this menu shows the devices that have been enabled to log data in the UWP 4.0 database.

   For more information about how to configure the database, read the UWP 4.0 IDE manual

8. From the **Service configuration** tile, enable the service

9. Click 🖫 to save

Notes:

- *The green **Status** icon informs you that the procedure has been completed successfully.*
- *The **Connection string** is automatically filled in as soon as the connection procedure has been completed successfully.*
- *Click **Show logs – OK** to open the list of successfully loaded data.*