

# 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)	<ol style="list-style-type: none"> <li>6. Provision your UWP 4.0 on the Device Provisioning Service (DPS) <i>Note:</i> <ul style="list-style-type: none"> <li>○ Click <a href="#">here</a> for more information about DPS</li> <li>○ UWP 4.0 supports only the DPS individual enrolment in "Symmetric Key" mode</li> <li>○ UWP 4.0 can be added to Microsoft Azure as a public endpoint.</li> </ul> </li> <li>7. Configure the Microsoft Azure IoT Hub service on your UWP 4.0. <i>For further details, go to <a href="#">How to configure Azure IoT Hub service on UWP 4.0 (DPS use case)</a></i></li> </ol>
you don't need to use the Device Provisioning Service (DPS)	<ol style="list-style-type: none"> <li>6. Add a device to the Microsoft Azure IoT hub previously activated. <i>Note: this device represents your controller</i></li> <li>7. Configure the Microsoft Azure IoT Hub service on your UWP 4.0. <i>For further details, go to <a href="#">How to configure Azure IoT Hub service on UWP 4.0 (standard procedure)</a></i></li> </ol>

Note: UWP 4.0 is compatible with Azure IoT Explorer app which allows you to view the data sent by your device. Click [here](#) for more information about the Azure IoT Explorer app (see the picture below):

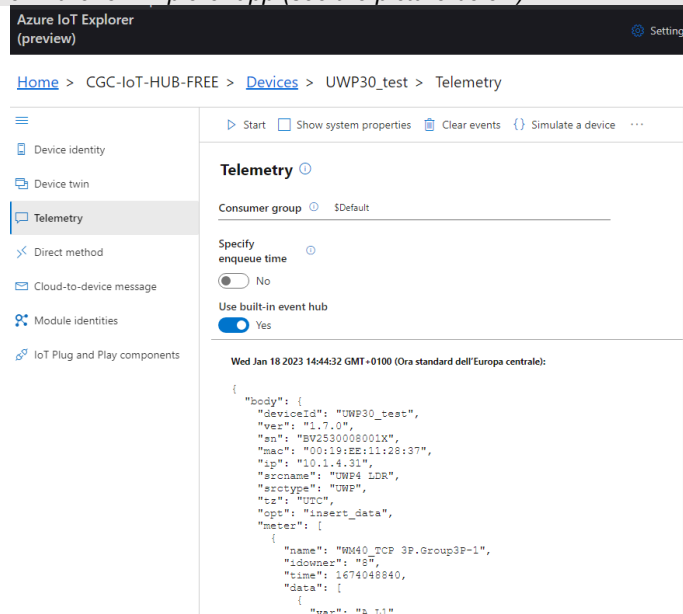

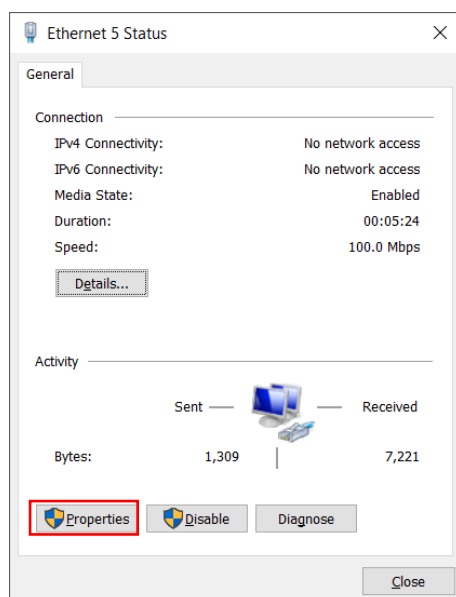


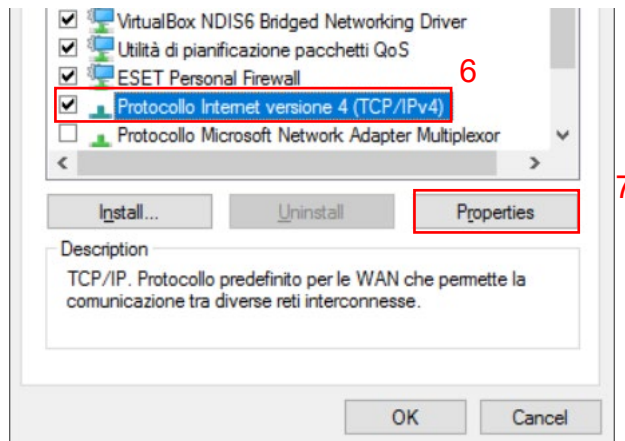
Figure 1: example of UWP 4.0 telemetry message

## How to connect UWP 4.0 to Internet

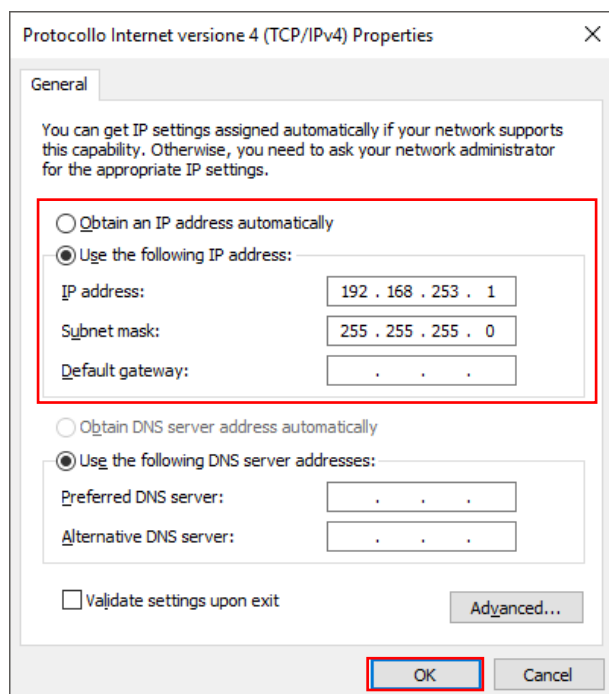
1. Make a point to point connection between your PC and the UWP 4.0 by using an Ethernet cable
2. Right click the *Start* button  to open **Windows Control Panel**
3. Click the **Control Panel and Network and Sharing Centre** icon
4. Right click the LAN network interface to which you connected the UWP 4.0 by the Ethernet cable
5. Click **Properties**



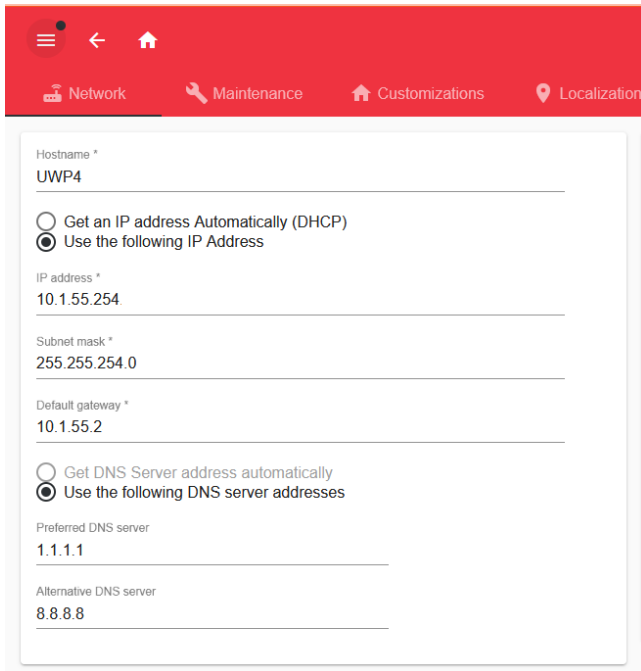
6. Open the network settings to select TCP/IPVv4
7. Click **Properties**



- 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:



- Open the UWP 4.0 Web App typing <https://192.168.253.254> on a standard browser
- Open the main menu clicking ☰
- Go to system settings and set the IP parameters  
*Note: remember to set the DNS server and the gateway properly*
- Click 💾 to save



Hostname \*  
 UWP4

Get an IP address Automatically (DHCP)  
 Use the following IP Address

IP address \*  
 10.1.55.254

Subnet mask \*  
 255.255.254.0

Default gateway \*  
 10.1.55.2

Get DNS Server address automatically  
 Use the following DNS server addresses

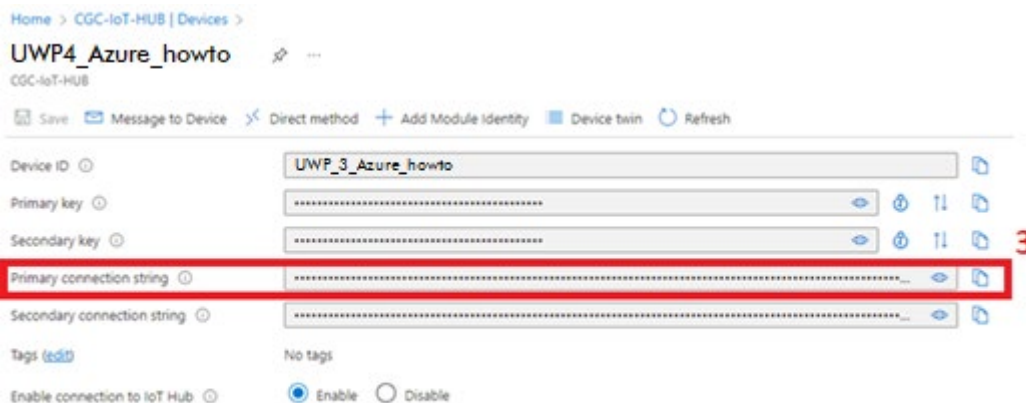
Preferred DNS server  
 1.1.1.1

Alternative DNS server  
 8.8.8.8

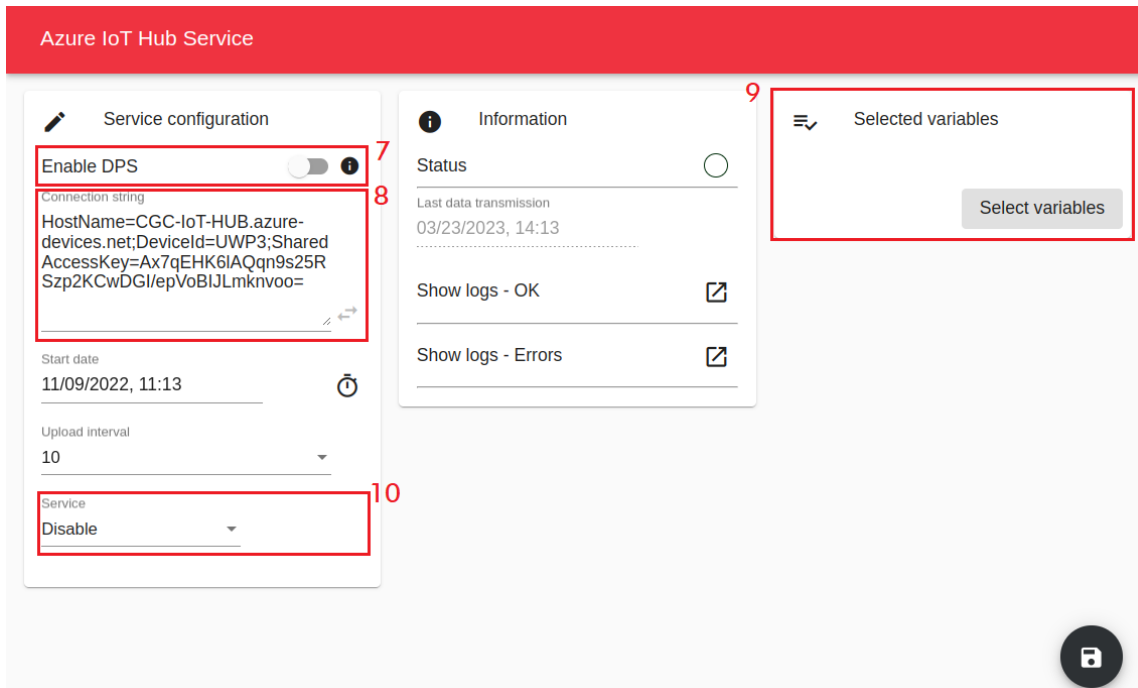
## How to configure the Azure IoT Hub service on UWP 4.0 (standard procedure)

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




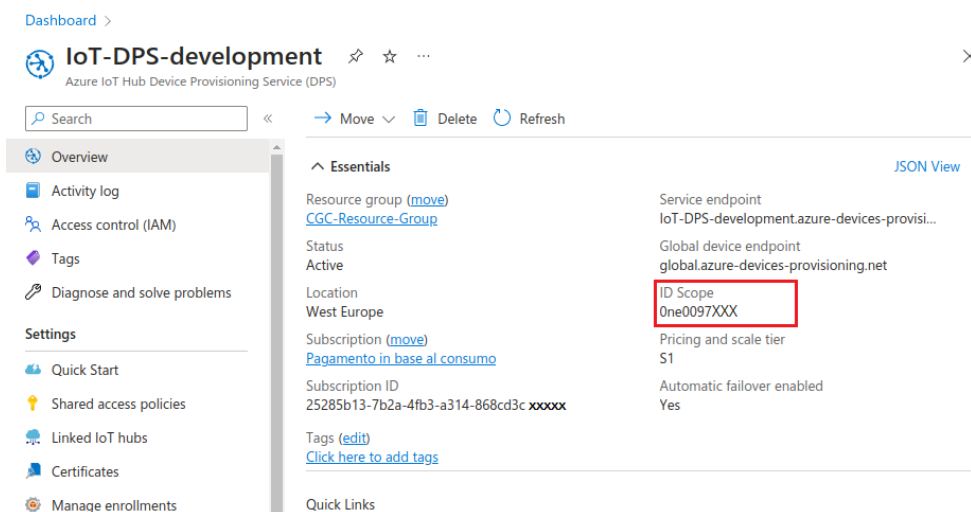
11. Click  to save

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)

Dashboard > IoT-DPS-development | Manage enrollments >

**reg\_ID** ...

Enrollment Details

Save Refresh Regenerate keys

**You can view and update the enrollment details for an individual enrollment or remove the registration record for a previously provisioned device**

**Registration Status**

Status: assigned

Assigned hub: CGC-IoT-HUB-FREE.azure-devices.net

Device ID: reg\_ID

Last assigned: Fri Mar 17 2023 11:22:43 GMT+0100 (Ora standard dell'Europa centrale)

Delete Registration

**Authentication Type**

Mechanism: Symmetric Key

Primary Key

NaFGR08y5r5e7ylLv4iP4Tbd2jKi6WqtcYV4BKzYnWTOFXLhid5qZDWWUw5SCUoIMvYYkOHsYjgl/Jc \*\*\*\*\*

Secondary Key

\*\*\*\*\*

- 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](#)
- From the **Service configuration** tile, enable the service

Azure IoT Hub Service

**Service configuration**

Enable DPS

Scope ID

Registration ID

Primary key

Connection string

HostName=CGC-IoT-HUB.azure-devices.net;DeviceId=UWP3;SharedAccessKey=Ax7qEHK6IAQqn9s25RSzpz2KCwDGI/epVoBJLmknvoo=

Start date

11/09/2022, 11:13

Upload interval

10

Service

Disable

Reprovisioning

**Information**

Status

Last data transmission

03/23/2023, 14:30

Show logs - OK

Show logs - Errors

**Selected variables**

Select variables

- 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.