NBIOTBG96SHIELD _Azure
Firmware demo project for Azure connection using BG96 Iot Shield (NBIOTBG96SHIELD**)**

1 – Test setup

Hardware:
- NUCLEO-F401RE
- X-NUCLEO-IKS01A2
- NBIOTBG96SHIELD BG96 IoT Shield with antenna
- Mini USB cable

Software:
- PC terminal (such as RealTerm, HyperTerminal, …)
- BG96_Azure_demo_pack (link??)
- Keil uVision5

2 – Getting started
- Compile the FW pack and download into your NUCLEO-F401RE
- Connect the PC terminal to USB virtual com port (115200, N, 8, 1)
- On IDE windows, starts the FW: on your terminal windows you can see as here below

Follow the screen directive to set SIM pin, APN name and Azure connection string

3 – How to obtain a connection string

Download and install Device Explorer https://github.com/Azure/azure-iot-sdk-csharp/releases

Search and note the MAC number from your test equipment

Open the Device Explorer, set the configuration string to connect Avnet Iot Azure Hub Server:

HostName=STM32-IoTHub.azure-devices.net;SharedAccessKeyName=iothubowner;SharedAccessKey=KbKX2LWgDtNviSK5E04NIi2xzGBeT+Liox67xfrI0ZM=
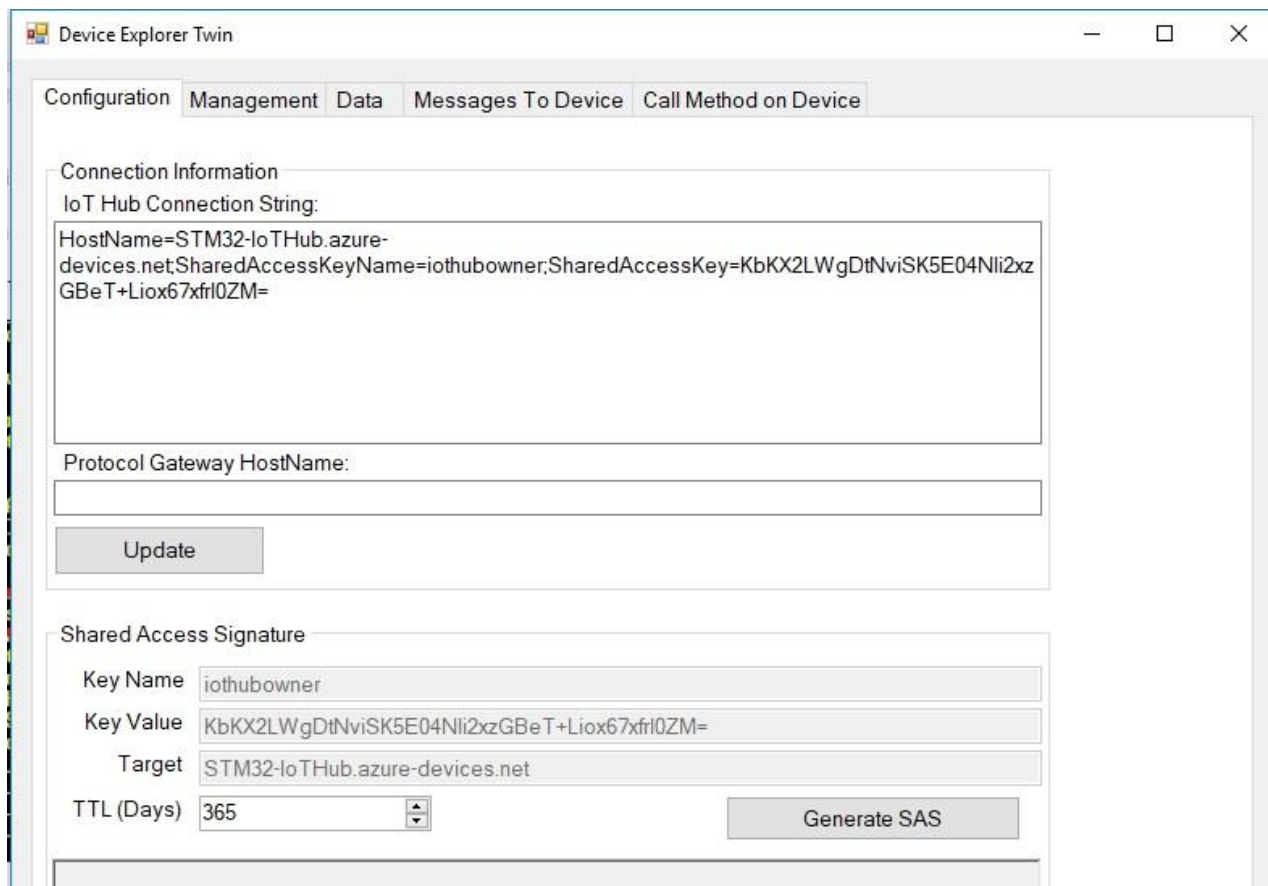
*more instruction for Device Explorer can be found at this link:*
https://github.com/Azure/azure-iot-sdk-csharp/tree/master/tools/DeviceExplorer

Go to Management tab click "Create" button and insert the MAC inside Device ID field
(TAKE CARE, USE ONLY UPPERCASE!)
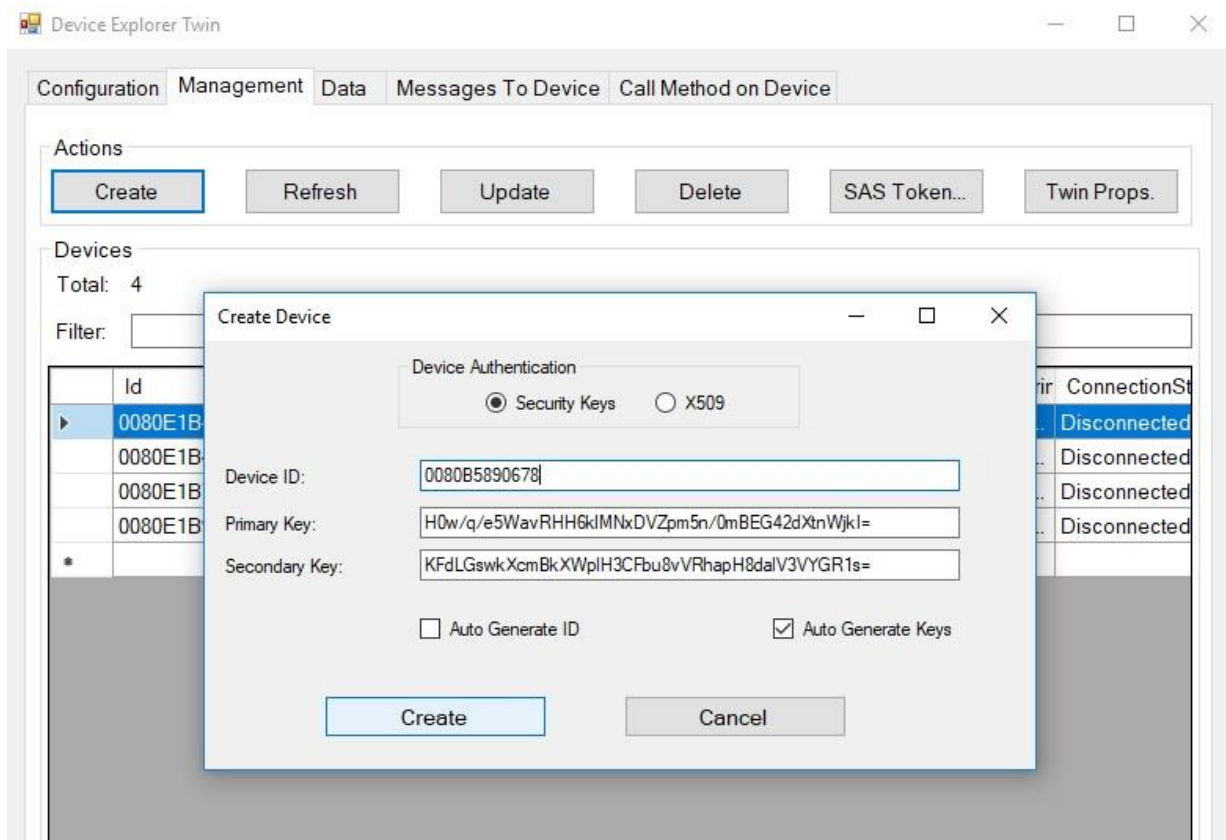
Click on "Create" button of popup you just insert the MAC, then click on "Done" button.

Right click on your device just created (see on the device list), select "Copy connection string for selected device(s)"
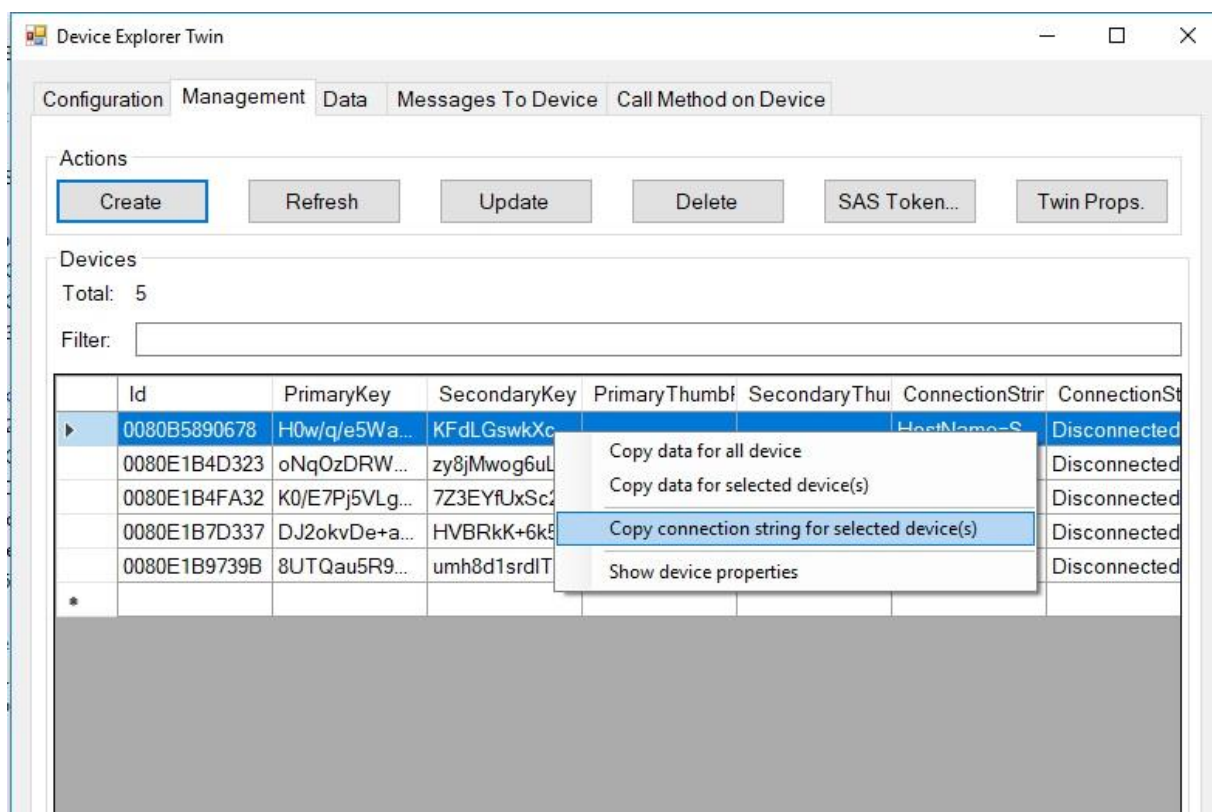
On the terminal, when asked, press User Button (blue button on NUCLEO board) and paste the connection string just copied.

Connect to Avnet Azure IoT Hub https://stm32ode-avnet.azurewebsites.net/
Insert your MAC, then click on green button

Now you can see your device dashboard

4 – Project files

BG96_interface.c
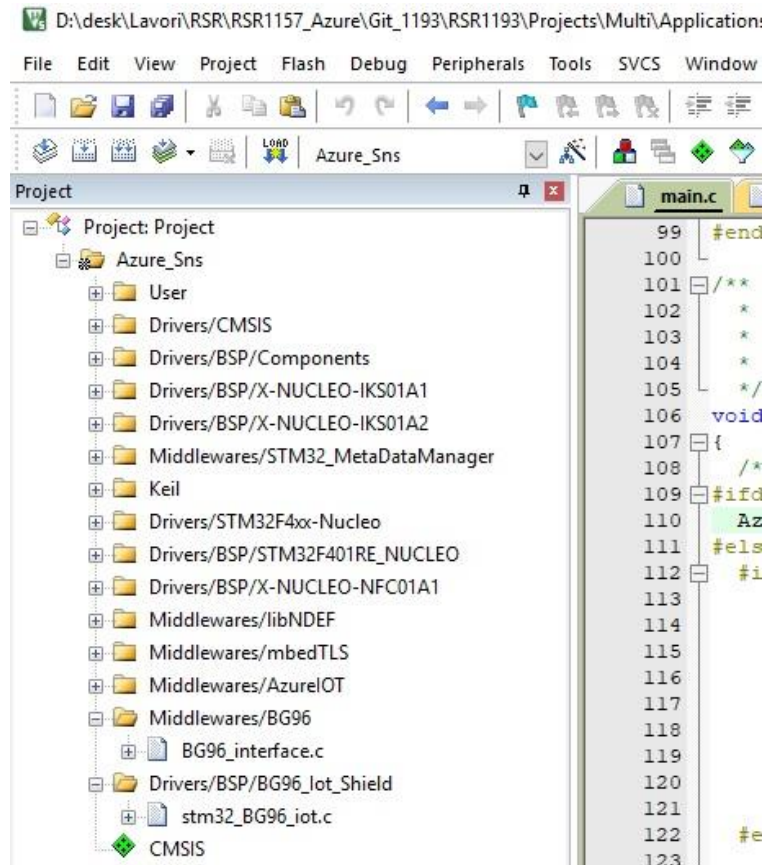All functions needed to interface low layer BG96 communication and Azure_Sns application

Stm32_BG96_iot.c
HAL level interface (Uart and Timer)

The BG96 IoT Shield application is a modification of original FP-CLD-AZURE1
User can have more information about the main functionality following these links:

http://www.st.com/content/ccc/resource/sales_and_marketing/presentation/product_presentation
/group0/1f/8c/03/3b/a4/da/49/b4/FP-CLD-AZURE1%20quick%20start%20guide/files/fp-cld-
azure1_quick_start_guide.pdf/jcr:content/translations/en.fp-cld-azure1_quick_start_guide.pdf

http://www.st.com/content/ccc/resource/technical/document/user_manual/group0/07/bb/bb/fe/c
e/90/4c/a0/DM00280570/files/DM00280570.pdf/jcr:content/translations/en.DM00280570.pdf