WizFi360

Application Note

- Azure -

Version 1.0.0

WIZnet

Contents

1   Document Revision History

Version	Date	Descriptions
Ver. 1.0.0	18OCT2019	Initial Release

2   Introduction

Microsoft Azure is Microsoft's cloud computing services.

You can integrate WizFi360 with Microsoft Azure services to transfer and monitor data to the cloud.

Data communication has the following structure.

WizFi360 connects to the IoT Hub service and sends data via the MQTT protocol. Data sent to IoT Hub is stored to Blob Storage, a data store, via Stream Analytics.

3 MS Azure settings

First, configure environment by following the guide documentation in Azure. Refer to below link.

- [Quickstart: Create a Stream Analytics job by using the Azure portal](#)

If you do not have an Azure account, sign up with a trial account and access the Azure portal.

And refer to the guide document to set up the steps below.

- **Prepare the input data**: IoT hub and IoT device
- **Create blob storage:** Data storage
- **Create a Stream Analytics job**
- **Configure job input**
- **Configure job output**
- **Define the transformation query**
- **Run the IoT simulator**: Not use simulator, **Use WizFi360**
- **Start the Stream Analytics job and check the output**

<Note> In 'Prepare the Input Data' step, remember the data to be used in WizFi360 AT commands.

- IoT hub name
- IoT device ID
- IoT device Primary key

4   WizFi360 Commands

First, set up the network, and then connect to Azure services to transfer data.

4.1 Network

1. Set WiFi Station mode

```
AT+CWMODE_CUR=1   // station mode
```

Response:

```
OK
```

2. Set DHCP enable

```
AT+CWDHCP_CUR=1,1   // DHCP enable on Station mode
```

Response:

```
OK
```

3. Get possible WiFi AP List for WizFi360 connection

```
AT+CWLAP
```

Response:

```
+CWLAP : (3,"ssid",-57,"mac address",1,1)      // encryption method, ssid, rssi, mac address, channel,
wps
```

4. Connect to WiFi AP

```
AT+CWJAP_CUR="ssid","password"
```

Response:

```
WIFI CONNECTED
WIFI GOT IP
```

5. Query WizFi360 device' IP address

```
AT+CIPSTA_CUR?
```

Response:

```
+CIPSTA_CUR:ip:"192.168.10.13"
+CIPSTA_CUR:gateway:"192.168.10.1"
+CIPSTA_CUR:network:"255.255.255.0"
```

```
OK
```

4.2 Azure

1. Set Azure connection

```
AT+AZSET="iothub_name","device_id","device_key"
```

Response:
```
OK
```

2. Set MQTT Topic

```
AT+MQTTTOPIC="/devices/{device_id}/messages/events/","/devices/{device_id}/messages/deviceboun
d/#"
```

```
EX)
AT+MQTTTOPIC="/devices/testDevice/messages/events/","/devices/testDevice/messages/devicebound
/#"
```

Response:
```
OK
```

> *Note:*
> MQTT Topic follows the rules defined in Azure IoT hub.
> - Reference: Communicate with your IoT hub using the MQTT protocol: Using the MQTT protocol directly (as a device)

3. Connect to Azure

```
AT+AZCON
```

Response:
```
CONNECT
OK
```

4. Publish data

```
AT+MQTTPUB="{"deviceId":"WizFi360","temperature":28.16,"humidity":46.04}"
```

Response:
```
OK
```

> **Note:**
>
> Publish data can be in any type, but the 'Event Serialization Format' of job input configuration settings in the Stream Analytics is the JSON format.

> **Note:**
>
> When publish data, Stream Analytics must be running state for data to be send to output(storage).
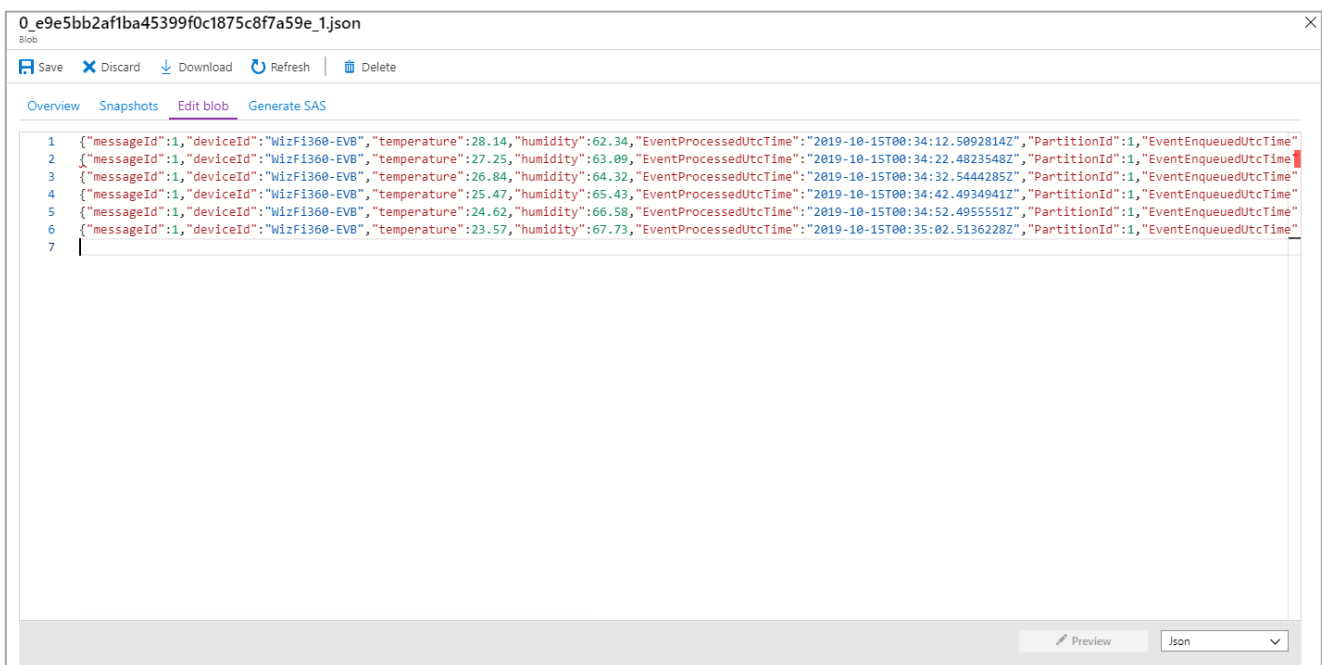
5   Check data

Finally, Access the Azure portal to check published data.

You can check the data received from WizFi360 by entering the Storage service menu that you configured as the job output of Azure Stream Analytics.

Go to the following path through the Azure portal:

- Home > Storage accounts > (Account Name) - Containers > container1
- Select blob and Click Edit blob tab

Copyright Notice

Copyright 2019 WIZnet Co., Ltd. All Rights Reserved.

Technical Support: https://forum.wiznet.io/

Wiki : https://wizwiki.net

Sales & Distribution: mailto:sales@wiznet.io

For more information, visit our website at http://www.wiznet.io/