

nodeG5 - COMETH iotasset config guide

Firmware version: fw_nodeG5_v2.1
Guide release date: 23OCT2023

Filename :	iotasset.txt
Location :	\user

1. Introduction

The file 'iotasset.txt' contains the assets configuration that is required by the COMETH master program to acquire data from simple serial or Ethernet devices. Acquired data is then inserted into local database for downstream IoT cloud clients.

2. IoTasset 'field,value' general formation

Each IoTasset is defined via a BLOCK of 'field,value' lines (CSV format). There are 4 COMETH field that must be present for each IoTasset.

COMETH field	Description
TYPE	Define the type of COMETH communication
ADDR	Define the address of the COMETH slave device
SEND	Define the COMETH command string for query device
RECV	Define the COMETH response echo and data type

There are 2 IoTdata field that must be present for each IoTasset.

IoTdata field	Description
Key	Define the data tagname
IOTMODE	Define the data handling mode

Backslash (\) and double quote (") char usage is not allowed.
Hash (#) char is used for comments.

For parsing many types of assets, the asset blocks need to be located between the start and end of block markers.

COMETH BLOCK MARKER	Description
COMETH_START	Define the start of COMETH assets
COMETH_STOP	Define the end(stop) of COMETH assets

3. IoTasset 'field,value' setup information

TYPE, m [, i]

Argument	Value	Description
m	SER_A	RTU_PORT_A (RS-485 half duplex)
	SER_B	RTU_PORT_B (RS-485 half duplex)
	TCP	TCP socket (Ethernet)
	UDP	UDP socket (Ethernet)
i	1, 2, 3, 4, 5,....	Poll interval for each asset. #1

#1 Optional: Argument [i] if excluded will result in default polling i=1, which polls on every interval.

Example of Poll Interval calculations with master Poll Period = 15 sec.
note: Poll Period is the time interval between polling, refer to web config 'IoT Hardware'.

Asset Poll Period	Calculation	Poll Interval (i)
1min	1*60/15	4
30min	30*60/15	120
1 hour	1*60*60/15	240
3 hour	3*60*60/15	720

ADDR, n1.n2.n3.n4 : p TCP/UDP

Argument	Value	Description	Notes
n1.n2.n3.n4:p	n1,n2,n3,n4=0-255 p=0-65535	Device IP address Device port	For TCP/UDP socket

SEND, s, t

Argument	Value	Description
s	string of characters	Command to send eg "LAUNCH"
t	LF	End char = <LF>
	CRLF	End char = <CR><LF>

RECV, u, v [, x, y]

Argument	Value	Description
u	Echo from slave device	E1=echo filter on, E0=echo filter off
v	Data Type	Data type in respond string
x	Multiplier	Value = Value*Multiplier + Adder #3
y	Adder	Value = Value*Multiplier + Adder #3

#3 Optional: for Data Type DECIMAL, **both** x & y arguments required when applied.

Slave device's respond string must be terminated by char <LF> (ASCII 010 or 0x0A).

Non-decimal chars will be removed from the respond string

Key, tag

Argument	Value	Description
tag	string	Unique name for this data value eg temperature, voltage, pressure, rpm

IOTMODE, c

Argument	Value	Description
c	0	Send to cloud immediately
	1	Store to local database for local IoT client processing

4. Data Type definitions**DATA TYPE BOOLEAN**

v [Data Type]	Description
BOOL	Boolean value, ie 0 or 1

DATA TYPE DECIMAL

v [Data Type]	Description
DEC	Decimal number eg 96.51, 10.1, 2000

5. Example for IOT asset configuration

#iotasset example for SERIAL, TCP, UDP, DIN and DIP

```

COMETH_START          #start of COMETH block

TYPE, SER_A           #Serial device on RTU_PORT_A
ADDR, 0               #address not use in serial
SEND, TEMP, LF       #send message "TEMP<LF>"
RECV, E1, DEC        #echo filter on, respond message eg "29.5<LF>"
Key, Temperature
IOTMODE,1

TYPE, TCP             #Ethernet device (TCP socket)
ADDR, 192.168.1.101:70 #Device IP=192.168.1.101, Port=70
SEND, WIND, LF       #send message "WIND<LF>"
RECV, E1, DEC        #echo filter on, respond message eg "15.7<LF>"
Key, WindSpeed
IOTMODE,1

TYPE, UDP             #Ethernet device (UDP socket)
ADDR, 192.168.1.105:77 #Device IP=192.168.1.105, Port=77
SEND, HUMI, LF       #send message "HUMI<LF>"
RECV, E0, DEC        #echo filter off, respond message eg "75<LF>"
Key, Humidity
IOTMODE,1

COMETH_STOP          #end of COMETH block

```

6. Methods to upload 'iotasset.txt' file to nodeG5

-Upload the iotasset.txt file from your computer using the 'Upload iotasset.txt' button in the 'IoT Hardware' tab.

-Put the iotasset.txt file in \user folder of USB drive.
Plug the USB drive into any USB-A port and click the 'Upload to nodeG5' button in the 'Management' tab.

-Use SCP/Putty console or WinSCP.

<EOF>