Guideline to configure the transparent transmission mode of serial port 232/485 for 4G Router

The following uses a Local test environment as an example,shown as Figure1.
For User's public Server network environment just refer to Figure2.

The network topology：

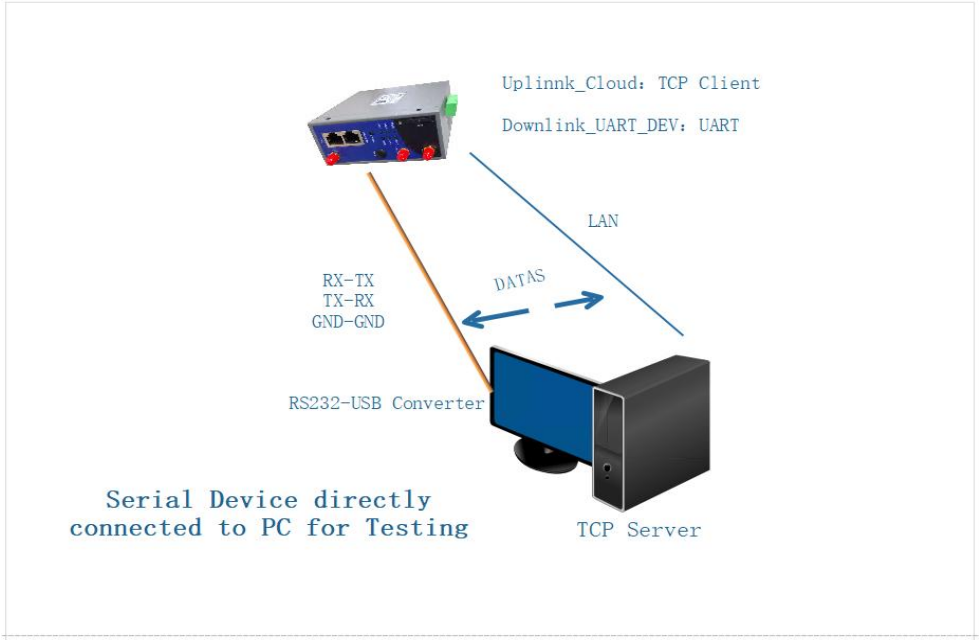


Figure1

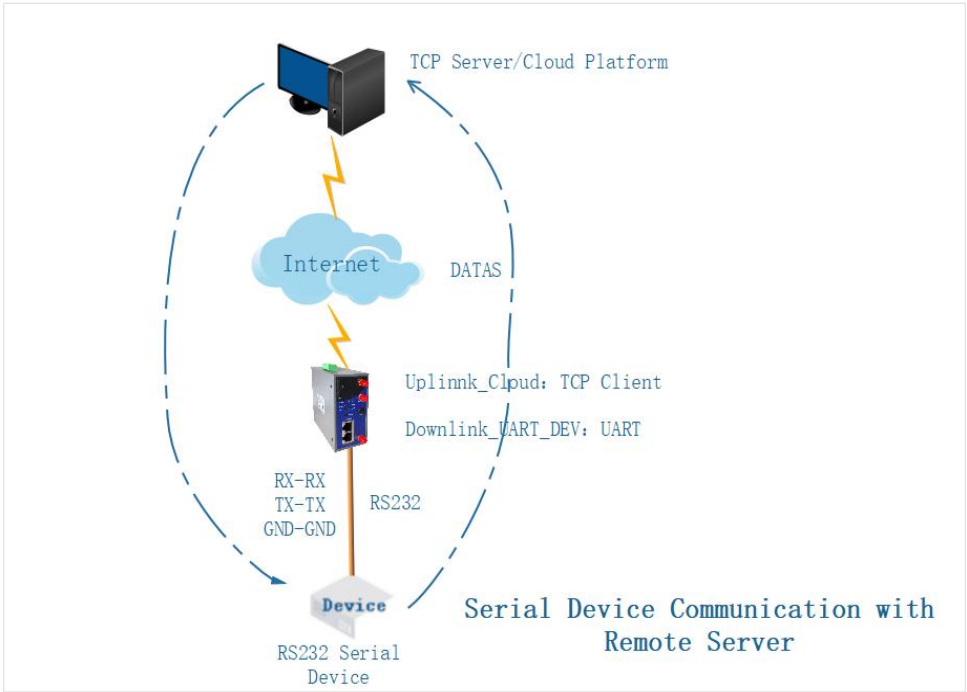
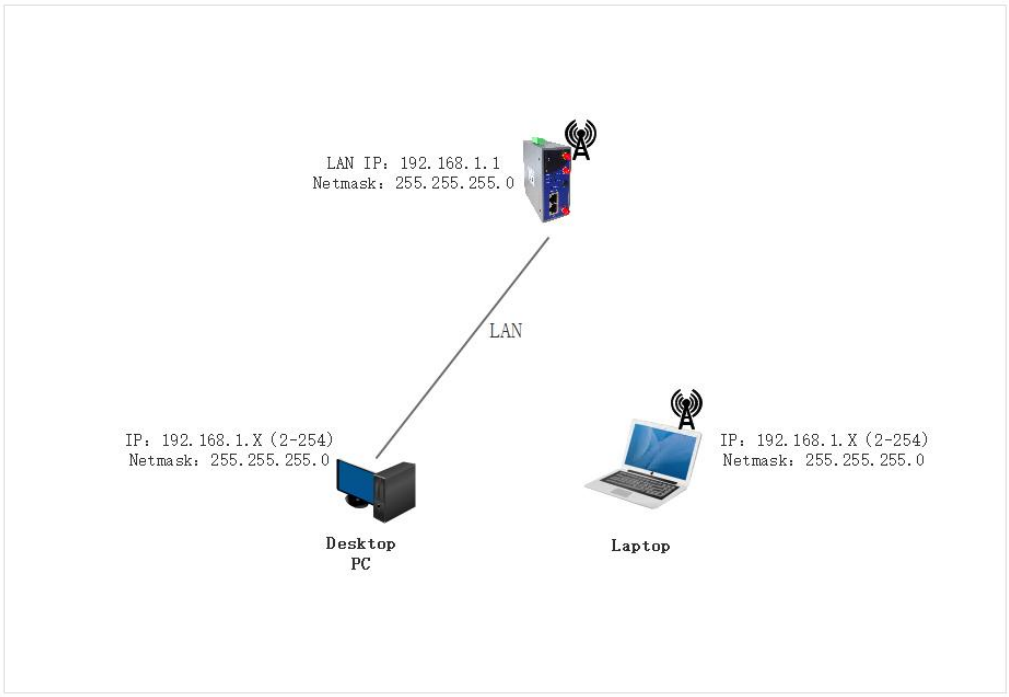
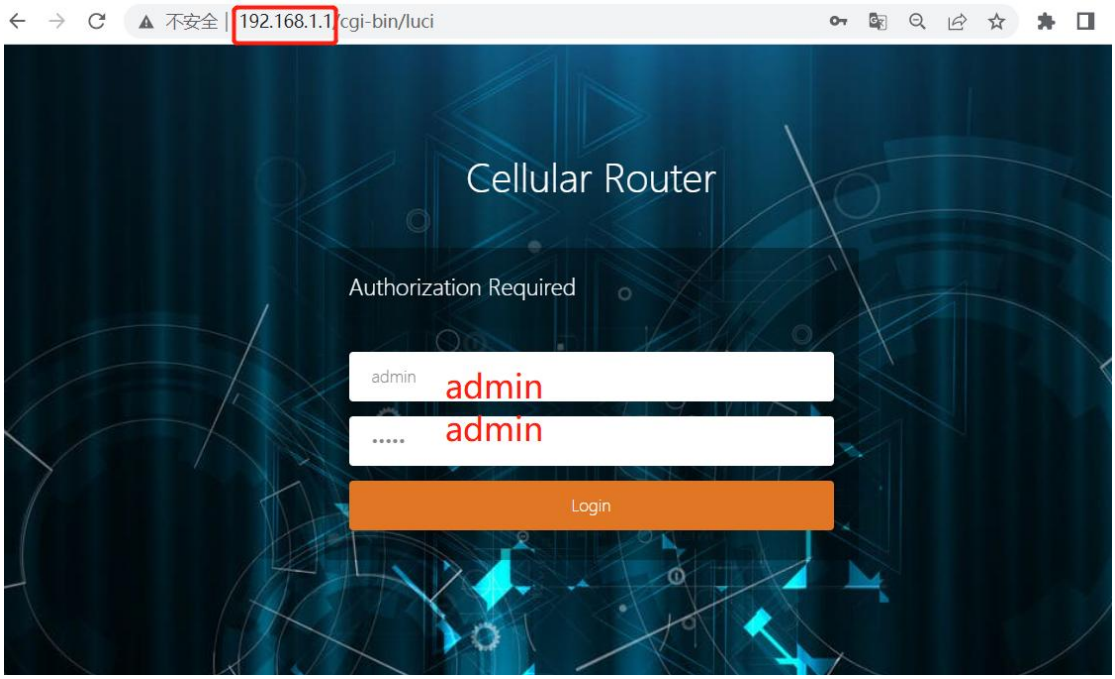


Figure2

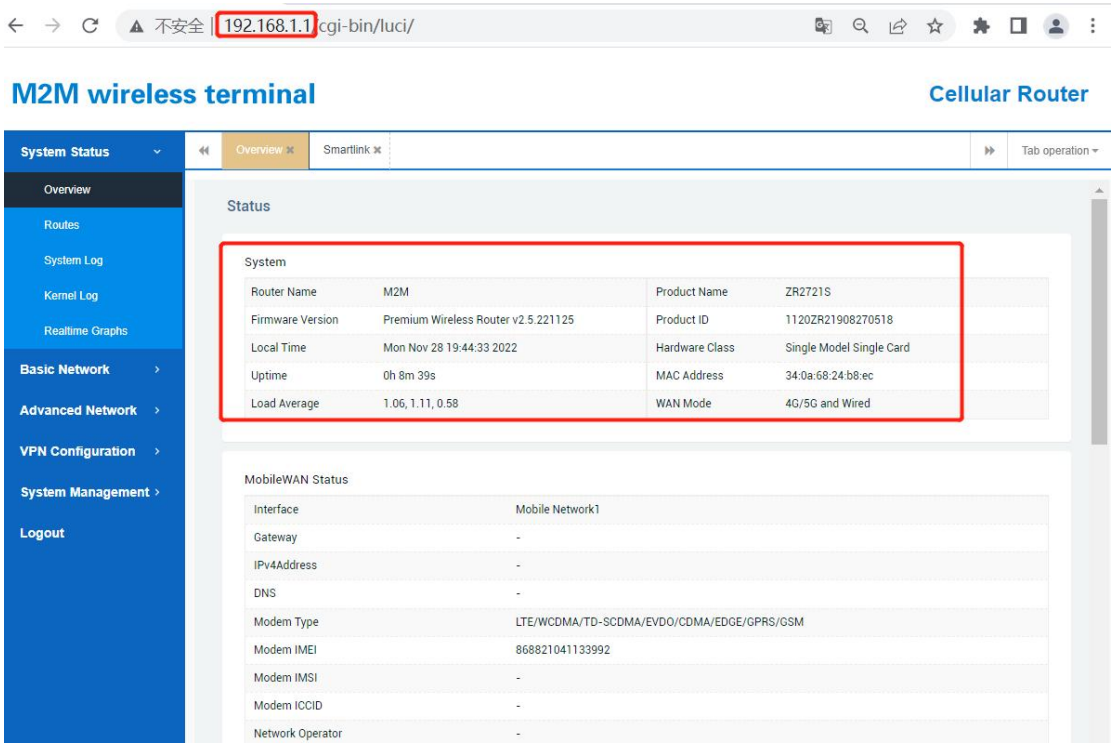
1.Connect the LAN port of the router to the computer, and set the automatic dhcp mode for the computer Network Ineterface Card, and ensure that the computer can obtain the address 192.168.1.x, netmask 255.255.255.0(with dhcp mode or static ip).



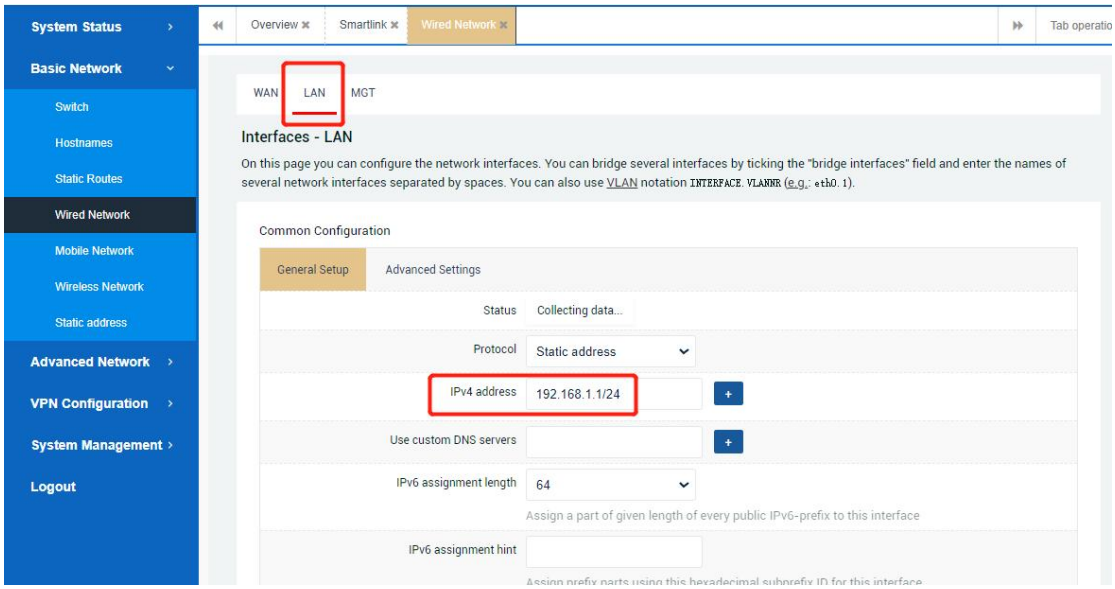
2.Open the browser, type the default IP address of the router with 192.168.1.1, then press Enter. And then input the username/password with admin/admin to login the Router.

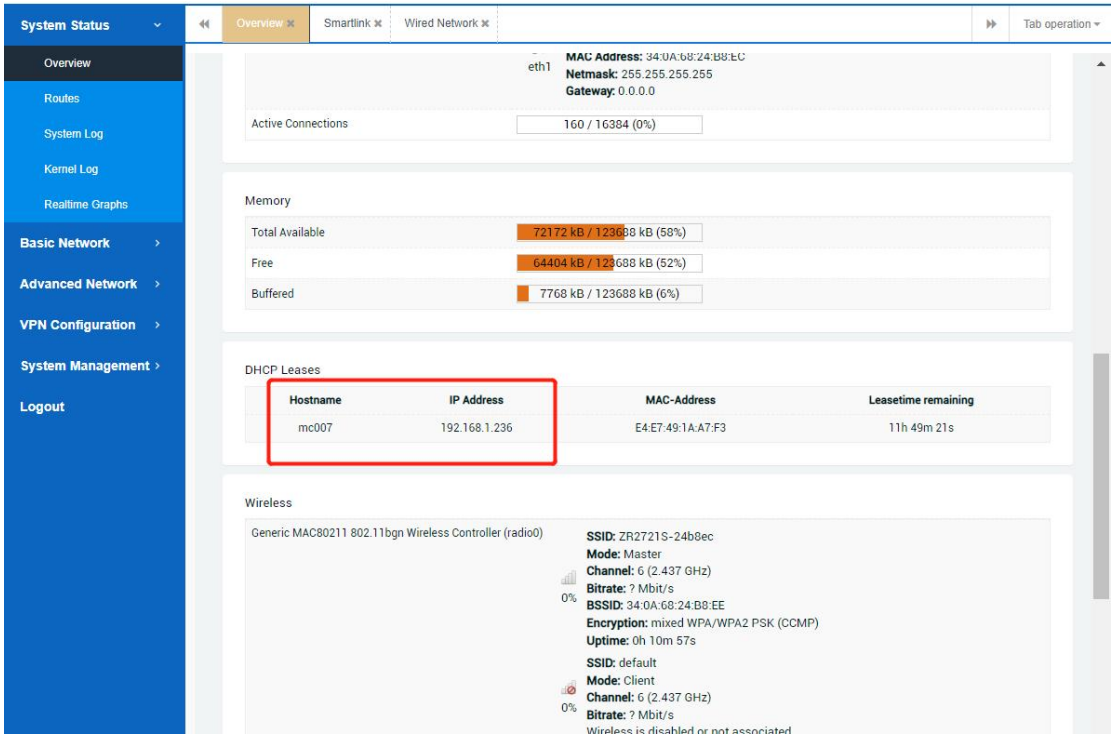


3.After logging , you will see overview details about the router system, including the software/hardware version, product model, product id, networking mode, and MAC address, etc.



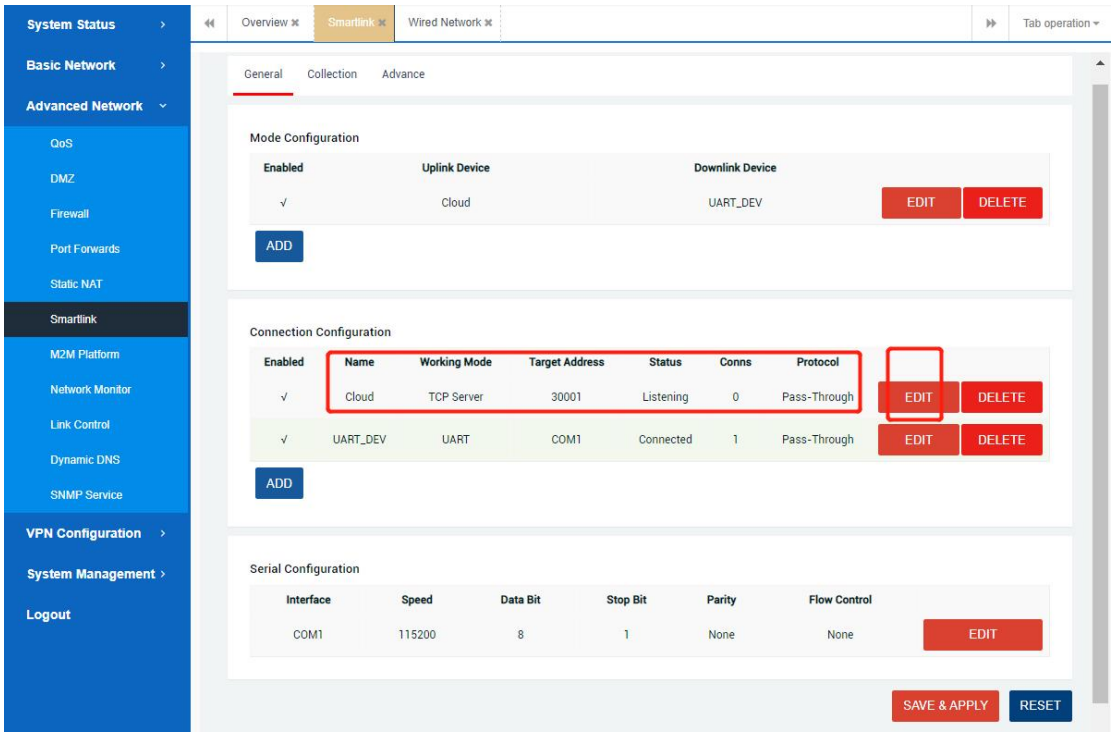
4. Check the LAN IP address of the router and PC address connected to router , shown as follows:

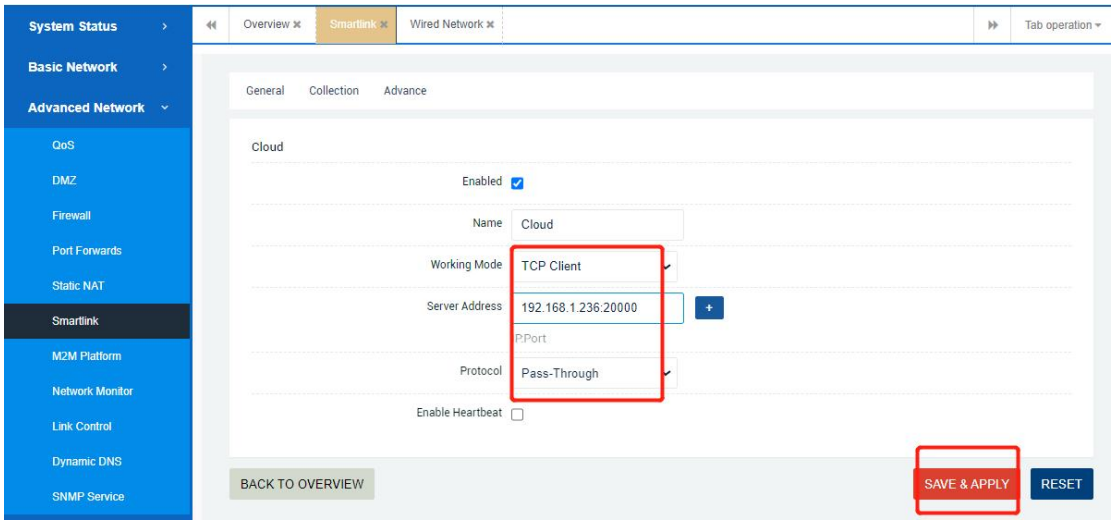




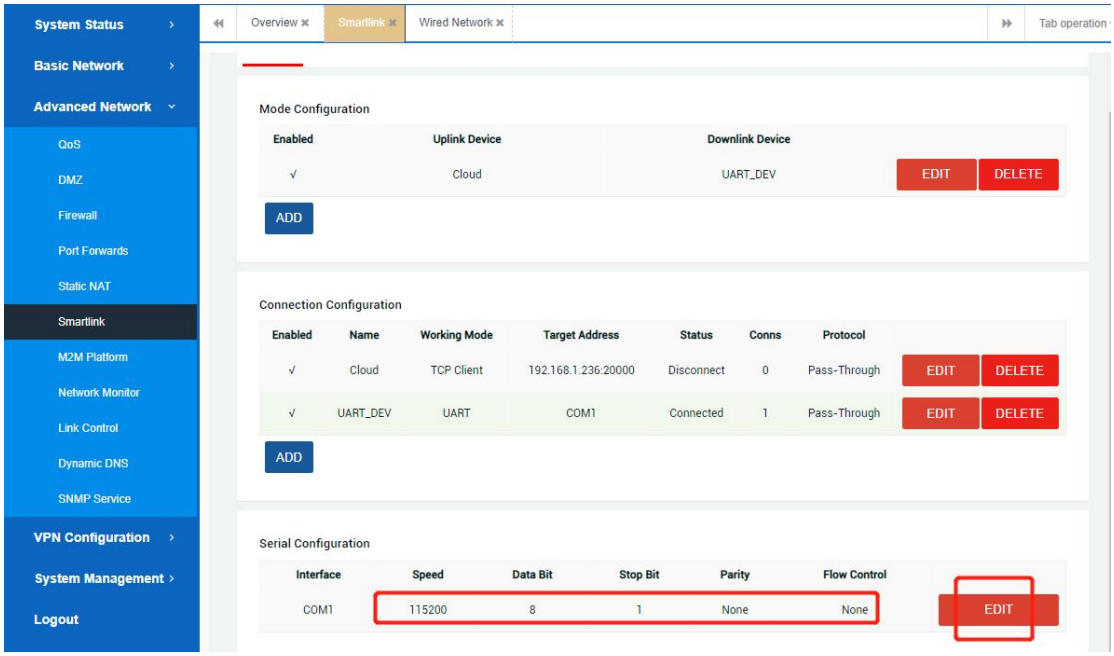
5. Start to configure smartlink usage.

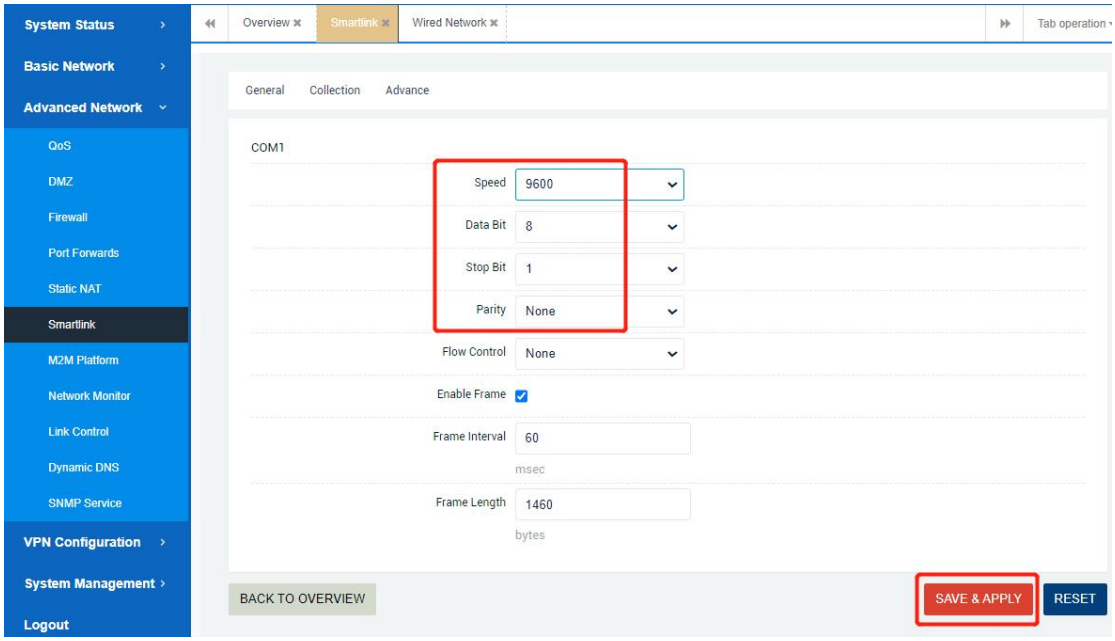
5.1 to config ‘cloud’/’uplink device’ option: set it to TCP Client mode，and make sure the IP address and port of the server must be the same as that of the PC.



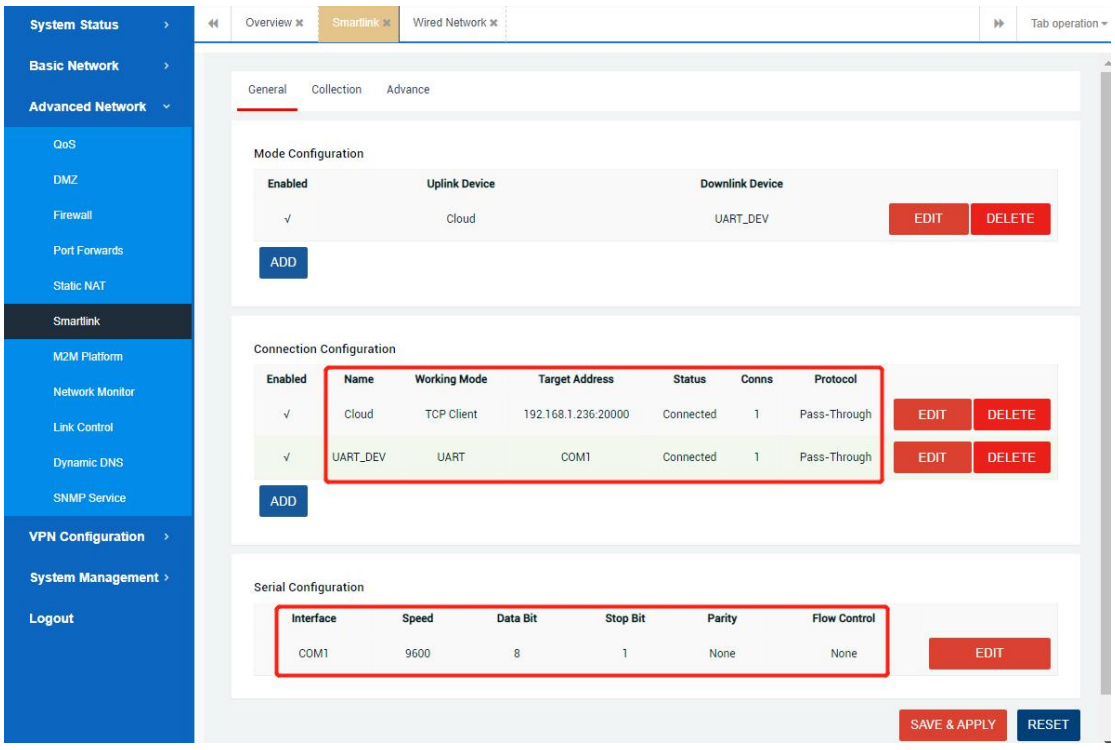


5.2 Set serial port parameters, such as baud rate, data bit, and parity bit.

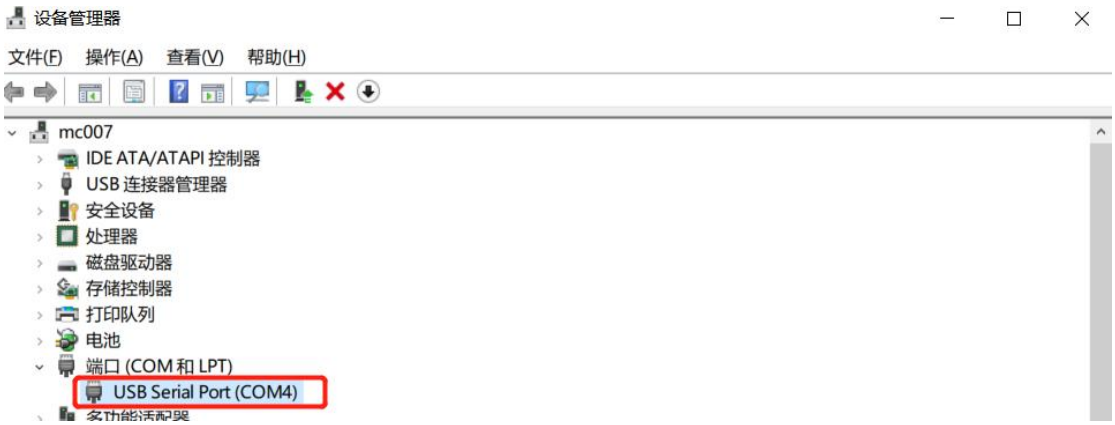




5.3 All configuration finished , show as figure below.

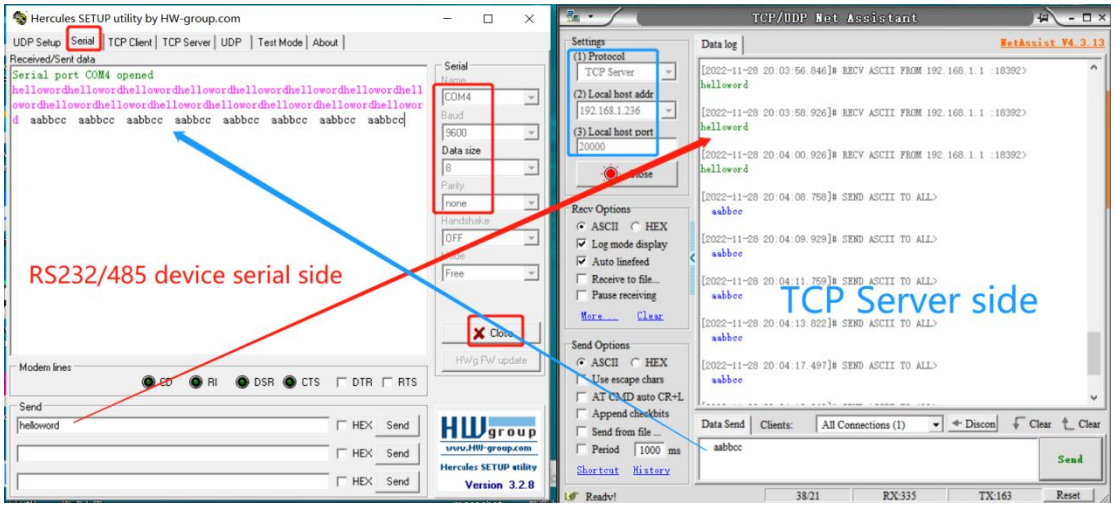


5.4 View the com port created by the USB-232 converter on the PC (com4 for example).



5.5 Run the Serial port test tool (select com4 and set the correct baud rate parameters) and the TCP/UDP network test tool (set the mode to TCP Server and set the correct IP address :port) on the computer at the same time;

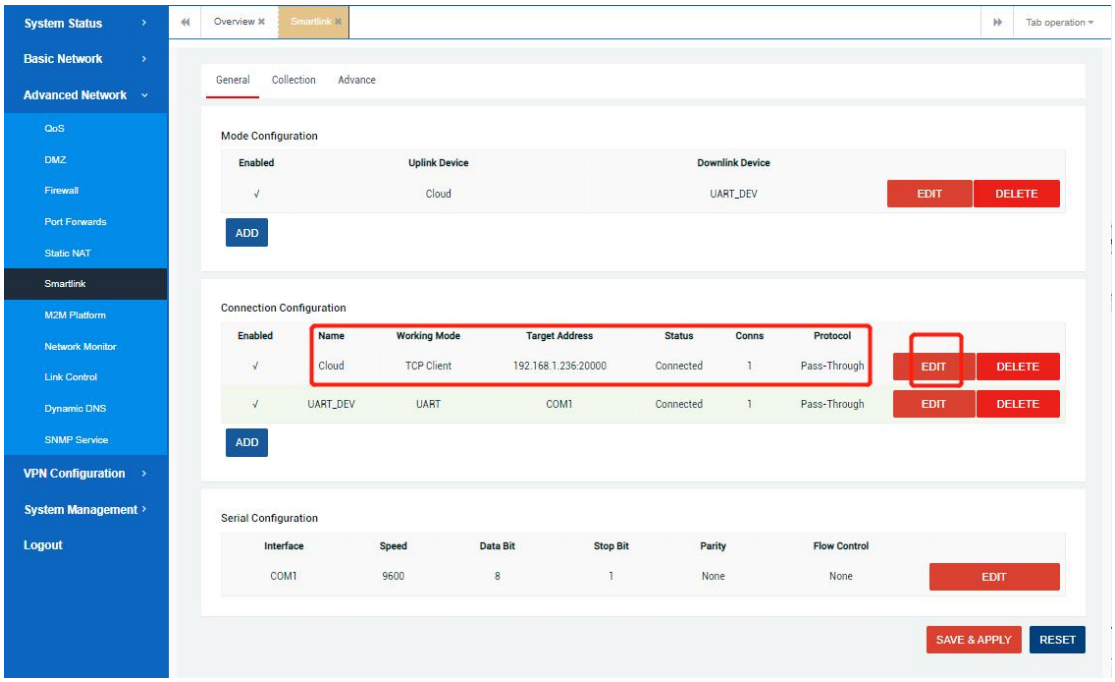
Finally, data sending and receiving tests were conducted between the two tools as follows.

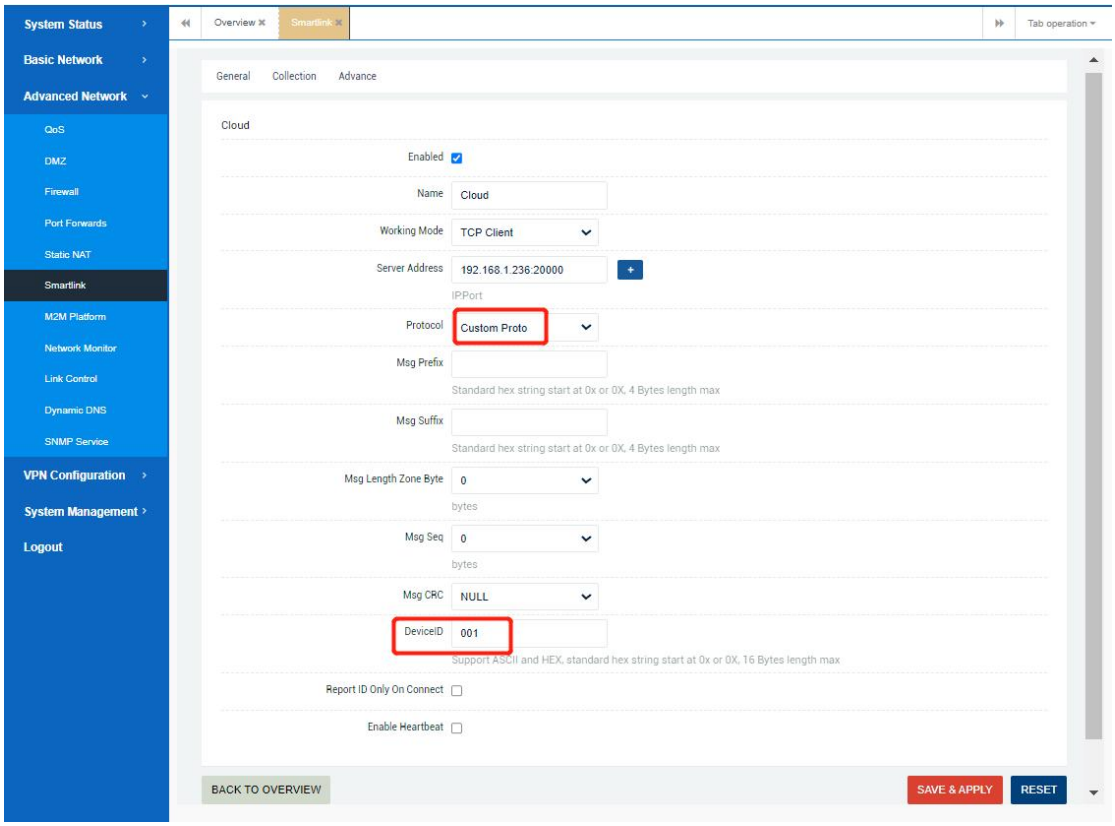


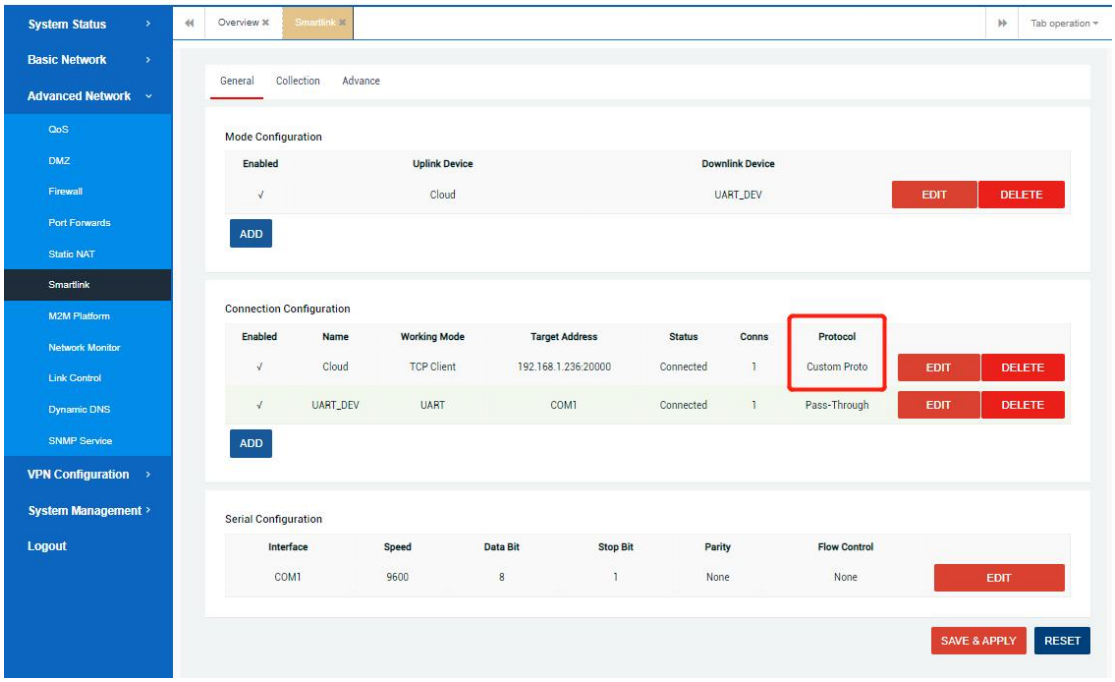
5.6 Additional note: About the device ID identification usage.

Scenario A: Add a device ID when data is reported to server each time.

If multiple serial devices need to report data to the server platform at the same time, and the platform also needs to identify which router the data is coming from, you can just change the Pass-Through protocol to Custom Proto and then only configure the device ID. They are as follows:

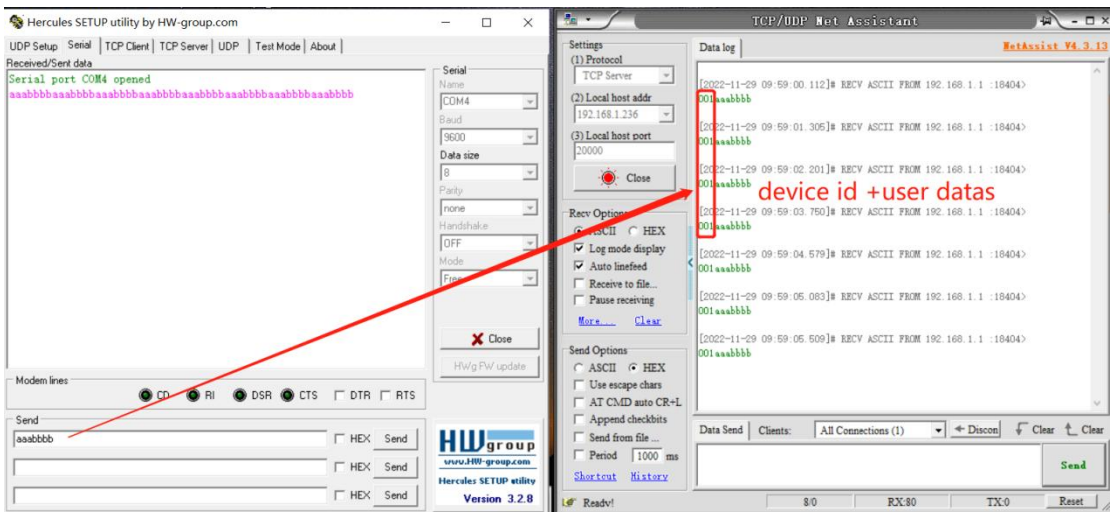

System Status
Basic Network
Advanced Network
QoS
DMZ
Firewall
Port Forwards
Static NAT
Smartlink
M2M Platform
Network Monitor
Link Control
Dynamic DNS
SNMP Service
VPN Configuration
System Management
Logout
Overview
Smartlink
Tab operation
General
Collection
Advance
Mode Configuration
Enabled
Uplink Device
Downlink Device
√
Cloud
UART_DEV
EDIT
DELETE
ADD
Connection Configuration
Enabled
Name
Working Mode
Target Address
Status
Conns
Protocol
√
Cloud
TCP Client
192.168.1.236:20000
Connected
1
Pass-Through
EDIT
DELETE
√
UART_DEV
UART
COM1
Connected
1
Pass-Through
EDIT
DELETE
ADD
Serial Configuration
Interface
Speed
Data Bit
Stop Bit
Parity
Flow Control
COM1
9600
8
1
None
None
EDIT
SAVE & APPLY
RESET

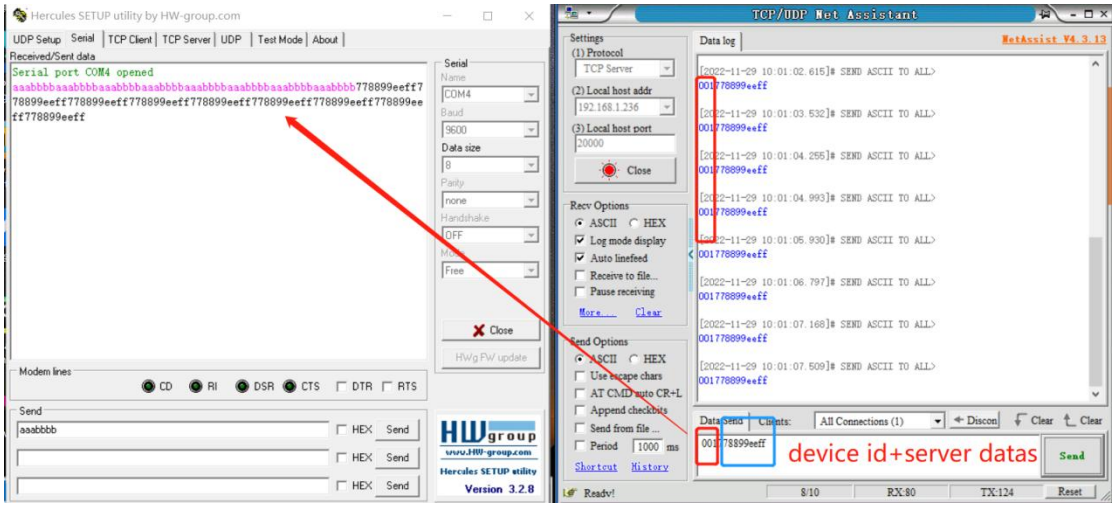

System Status
Basic Network
Advanced Network
QoS
DMZ
Firewall
Port Forwards
Static NAT
Smartlink
M2M Platform
Network Monitor
Link Control
Dynamic DNS
SNMP Service
VPN Configuration
System Management
Logout
Overview
Smartlink
Tab operation
General
Collection
Advance
Cloud
Enabled
Name
Cloud
Working Mode
TCP Client
Server Address
192.168.1.236:20000
IPPort
Protocol
Custom Proto
Msg Prefix
Standard hex string start at 0x or 0X, 4 Bytes length max
Msg Suffix
Standard hex string start at 0x or 0X, 4 Bytes length max
Msg Length Zone Byte
0
bytes
Msg Seq
0
bytes
Msg CRC
NULL
DeviceID
001
Support ASCII and HEX, standard hex string start at 0x or 0X, 16 Bytes length max
Report ID Only On Connect
Enable Heartbeat
BACK TO OVERVIEW
SAVE & APPLY
RESET



In this case, you will see each piece of data received by the server contains a device ID, as shown in the following example:

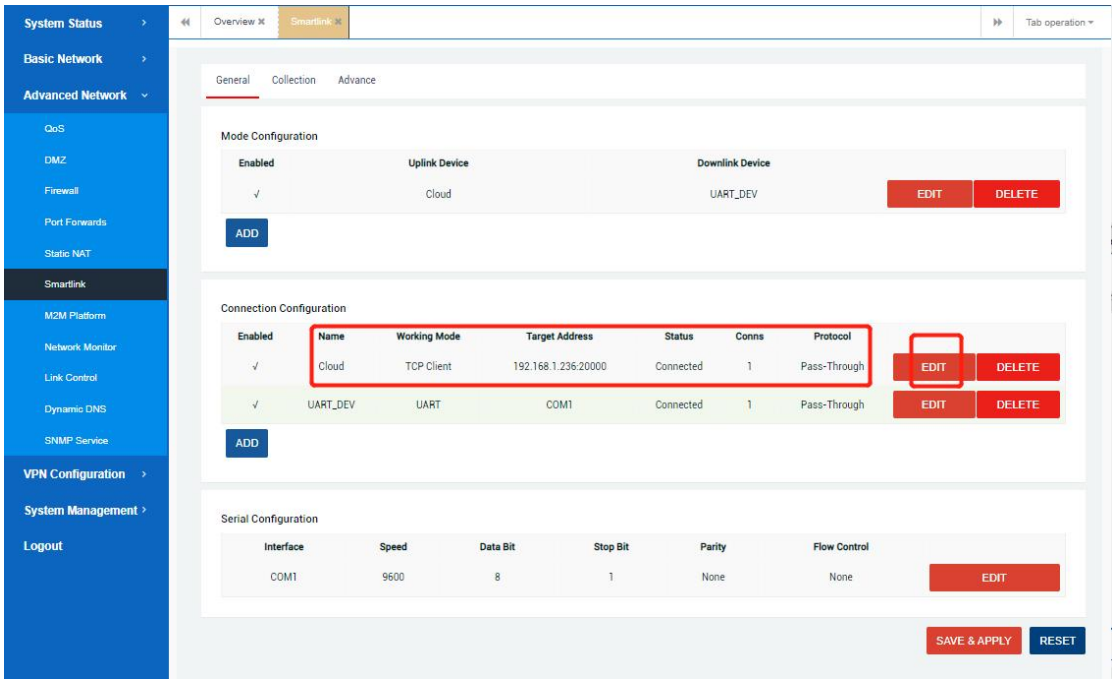
Note: If the server also wants to send data to the remote serial port device/router, you must add the device ID before sending data. Otherwise, the router cannot parse and process data properly.

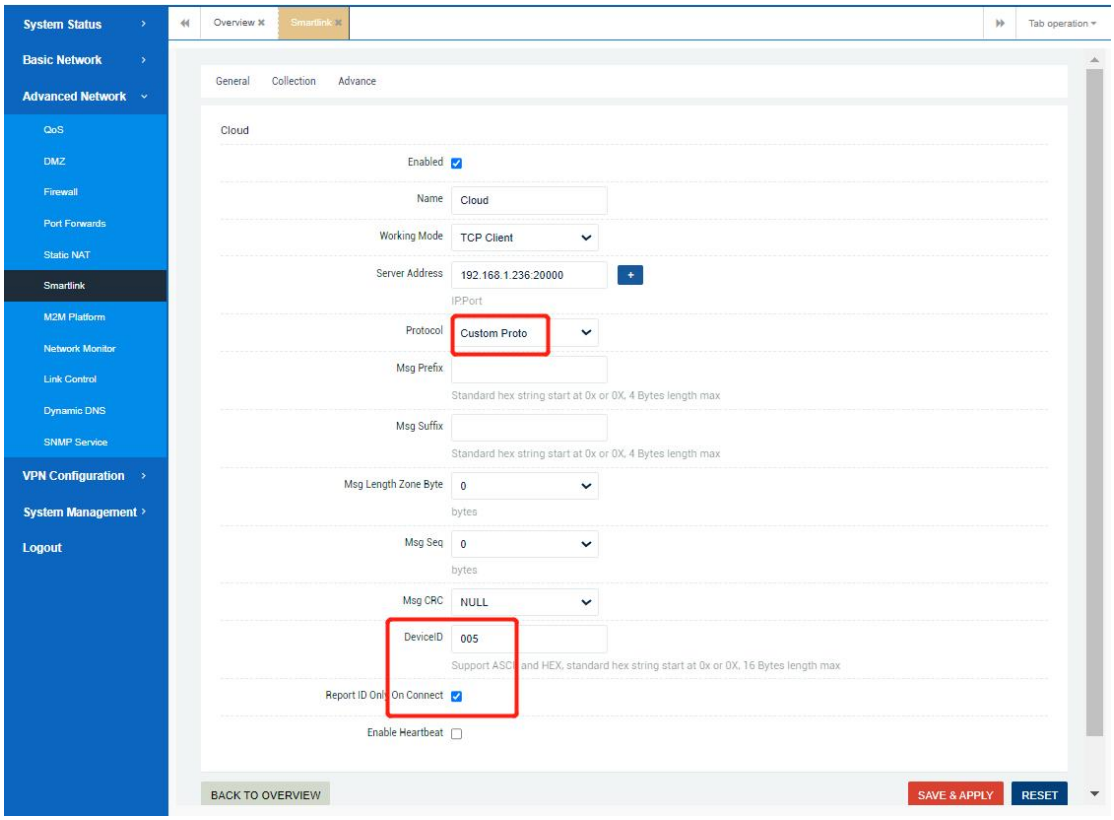


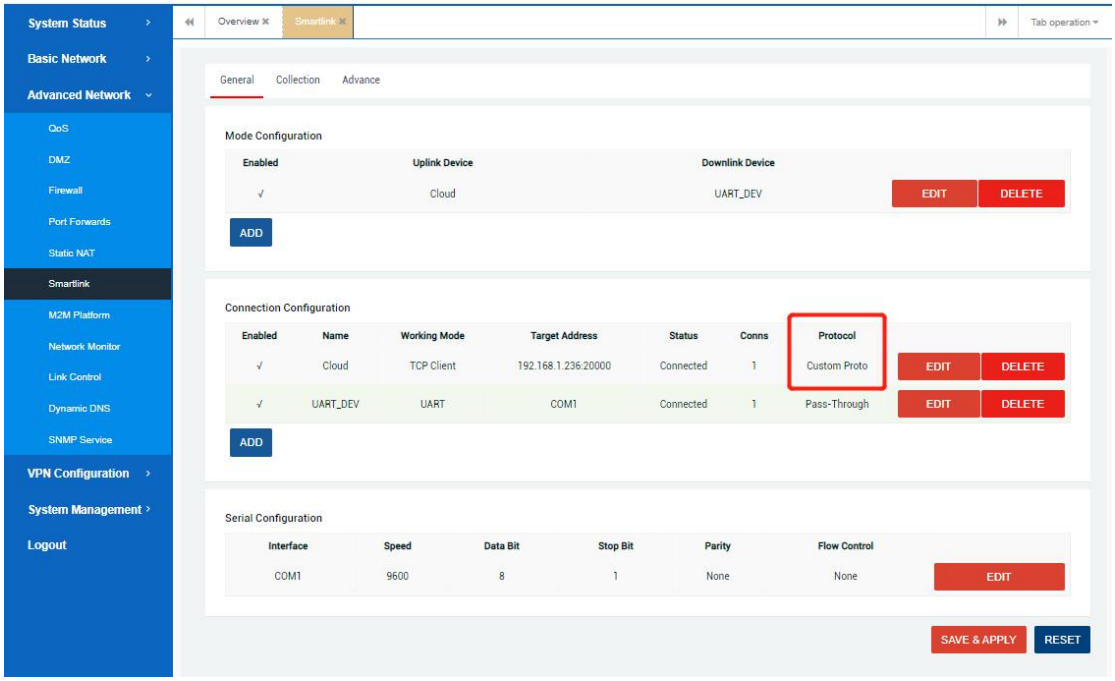
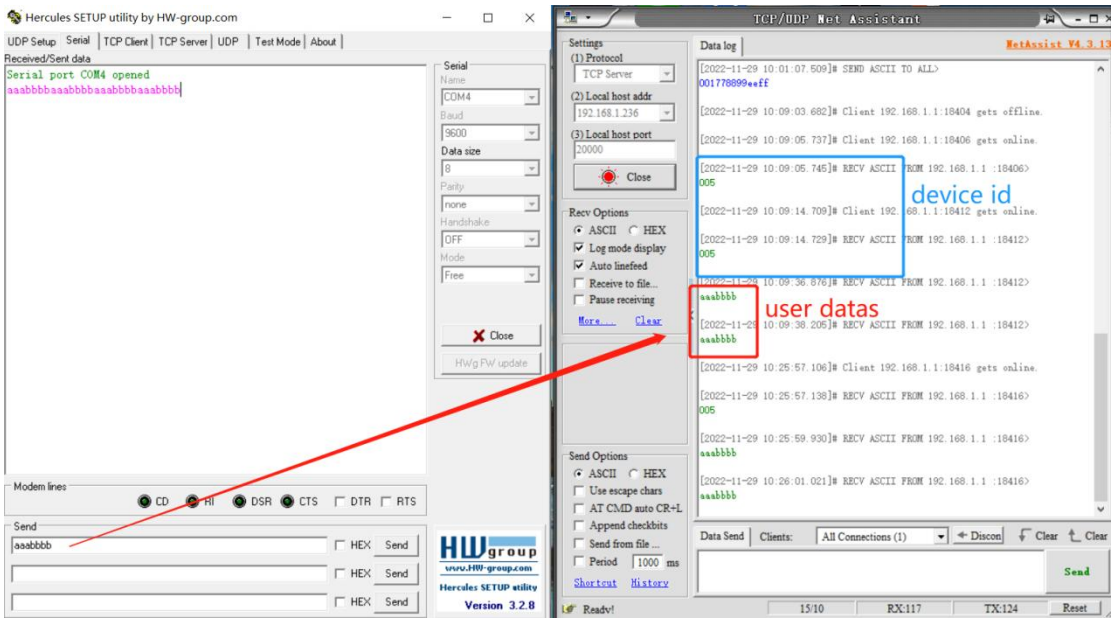


Scenario B: Users need to report the device ID only once each time the router connects to the server.

In this case, you can change the communication protocol to Custom Protocol and configure both ‘Device ID’ and ‘Report ID only on connect’. The configure progress is as follows:




System Status
Basic Network
Advanced Network
QoS
DMZ
Firewall
Port Forwards
Static NAT
Smartlink
M2M Platform
Network Monitor
Link Control
Dynamic DNS
SNMP Service
VPN Configuration
System Management
Logout
Overview
Smartlink
Tab operation
General
Collection
Advance
Cloud
Enabled
Name
Cloud
Working Mode
TCP Client
Server Address
192.168.1.236:20000
IPPort
Protocol
Custom Proto
Msg Prefix
Standard hex string start at 0x or 0X, 4 Bytes length max
Msg Suffix
Standard hex string start at 0x or 0X, 4 Bytes length max
Msg Length Zone Byte
0
bytes
Msg Seq
0
bytes
Msg CRC
NULL
DeviceID
005
Support ASCII and HEX, standard hex string start at 0x or 0X, 16 Bytes length max
Report ID Only On Connect
Enable Heartbeat
BACK TO OVERVIEW
SAVE & APPLY
RESET


System Status
Basic Network
Advanced Network
QoS
DMZ
Firewall
Port Forwards
Static NAT
Smartlink
M2M Platform
Network Monitor
Link Control
Dynamic DNS
SNMP Service
VPN Configuration
System Management
Logout
Overview
Smartlink
Tab operation
General
Collection
Advance
Mode Configuration
Enabled
Uplink Device
Downlink Device
√
Cloud
UART_DEV
EDIT
DELETE
ADD
Connection Configuration
Enabled
Name
Working Mode
Target Address
Status
Conns
Protocol
√
Cloud
TCP Client
192.168.1.236:20000
Connected
1
Custom Proto
EDIT
DELETE
√
UART_DEV
UART
COM1
Connected
1
Pass-Through
EDIT
DELETE
ADD
Serial Configuration
Interface
Speed
Data Bit
Stop Bit
Parity
Flow Control
COM1
9600
8
1
None
None
EDIT
SAVE & APPLY
RESET

In this case, the test shows that the router reports the device ID every time it reconnects to the server. All data communication is normal transparent transmission, as shown below.