

Cloud Printer User Manual

Version	Time	Name	Modify content
1.1	2022.09.08	Lube	1,add TTF Font download 2,add Font size setting
1.2	2023.02.01	Lube lee	1, add print PDF,image 2,add JSON format
1.3	2023.03.08	Peng Huang	1, Optimize the remotely restart command
1.4	2024.05.28	Peng Huang	1,add open cash

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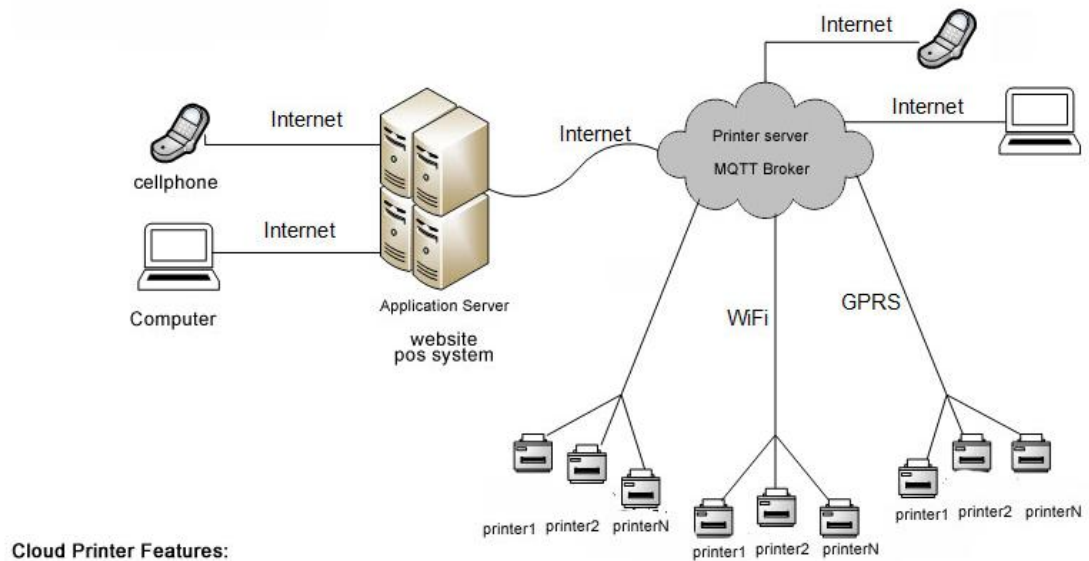
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1. HSPOS Cloud Printer Introduce

1.1. What is Cloud Printer

HSPOS cloud printing is developed based on the MQTT Internet of Things protocol. All data is transferred through the MQTT server, and data processing is completed by publishing and subscribing topics. Has the following advantages:

1. All data communication supports encryption
2. The MQTT server supports its own health to ensure data security
3. Real-time understanding of all printer status.



Cloud Printer Features:

- 1, avoid the lost the order When Print the receipt.
- 2,use the MQTT Protocol
- 3,Safe and reliable and support Encrypted transmission

1.2. Whats is MQTT

MQTT (Message Queuing Telemetry Transport) is a messaging protocol for restricted low-bandwidth networks and extremely high-latency IoT devices. Since Message Queuing Telemetry Transport is specialized for low-bandwidth, high-latency environments, it is an ideal protocol for machine-to-machine (M2M) communication.

1.3. How to work with MQTT

MQTT operations are exactly contrary to the customary client-server model, wherein the communication occurs directly. In the MQTT model, communication happens indirectly, via PUSH/SUBSCRIBE topology.

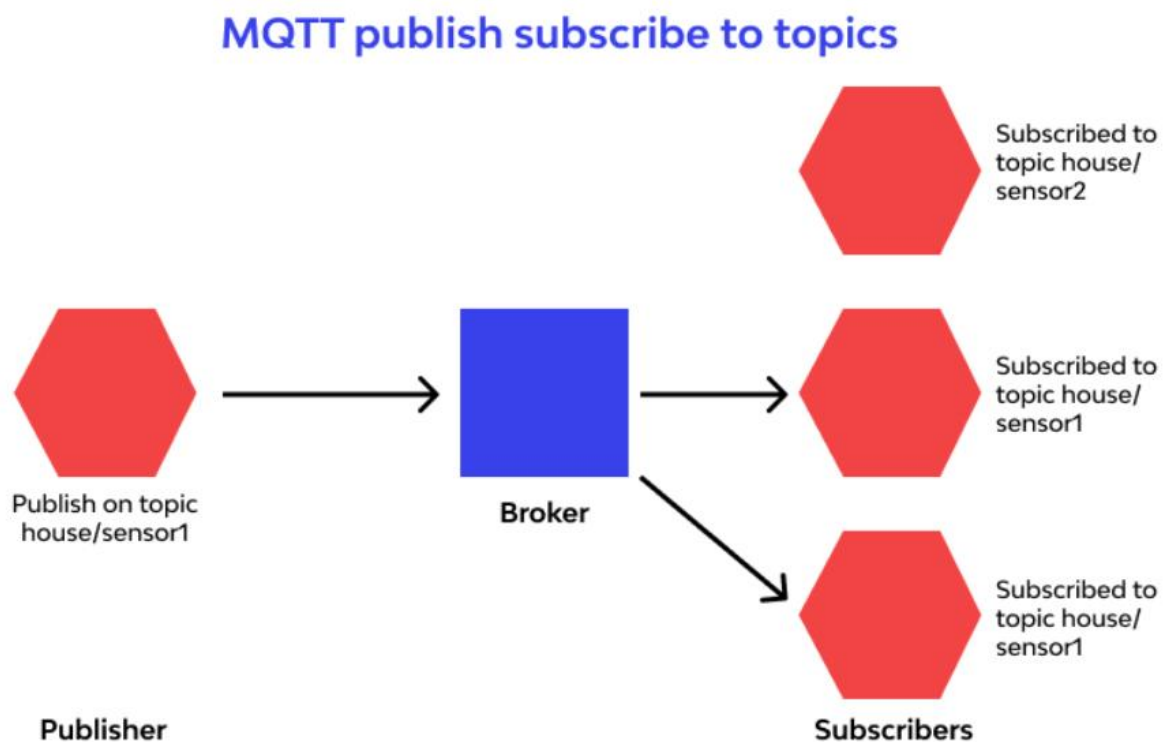
The client, such as MQTT Explorer, connects to related publisher, transmitting the message to it. This shared data, now, is decoupled from the sender, i.e. client, and passed to the next stage.

Broker in the process receives this decoupled piece of data and forwards it to subscribers.

As MQTT lets a good count of subscribers as well as publishers to join hands with brokers. This way, they can get messages related to interesting topics.

If anyhow, there is a disturbance in broker-subscriber connection, the message will be saved at broker's end and forwarded again when the connectivity restores. However, in the case of publishers, if broker's connection is lost without intimation, it caches the message to related subscribers on its own.

Being event-driven, MQTT doesn't support continual data transfer and keeps it under control. Data is only transmitted when actually needed.



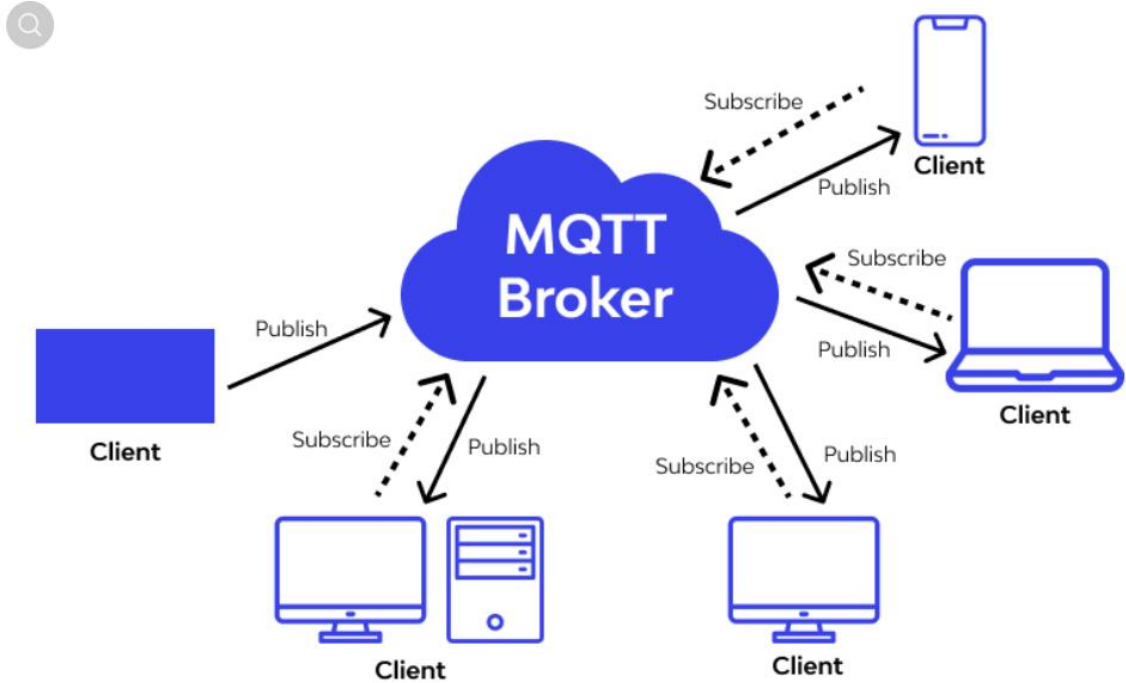
1.4. MQTT broker

The functioning of MQTT is mainly based on MQTT broker, which is a premise for cloud-deployed computer-operated software. It could be operated by a third-party or self-operated. Its implementations could be proprietary or open-source.

In general, it plays the role of a post office for MQTT as this protocol doesn't take the help of the targeted recipient for delivering the message. In place of receivers' addresses, it brings the topic into action. Intended users have to subscribe to that topic if a message copy is required. A single broker can get messages sent by assorted clients just as various publishers can post topics on a central subscriber.

MQTT brokers are responsible for making application and device structure a bit more secure and decoupled. It's because MQTT brings TLS encryption into action for usernames and connections.

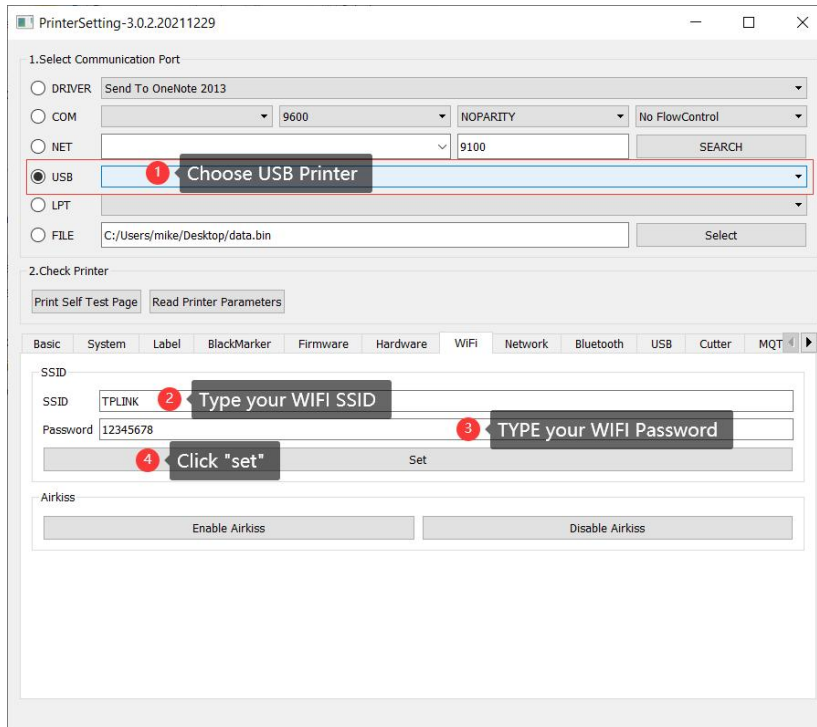
A broker is able to accumulate data as retained messages and keep a record of all the sessions. Its introduction in the system is useful as it's easy to eradicate the presence of insecurities and vulnerabilities from client connections, makes message scale easier, and trims down the burden on the network.



2. Printer Network Setting

2.1. Printer WIFI and LAN Setting

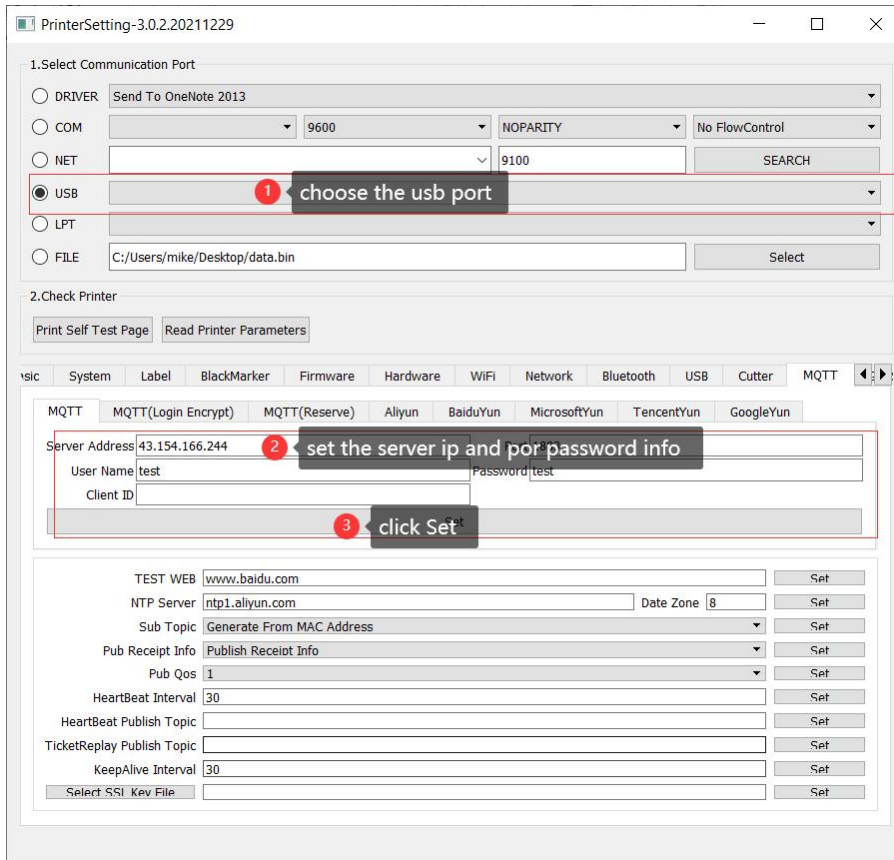
Connected the printer by lan or USB port with your windows. Open the "PrinterSetting" tools set the SSID and Password to Printer.



After set the new WIFI info, The Printer will be Restart automatically, If the Printer print the IP address, that means the WIFI connected success. If not get the IP automatically, you need check again your SSID and password . (Note the capitalization).

2.2. Printer MQTT server info setting

Connected the Printer by USB with your windows. Open the “PrinterSetting”tools and choose MQTT option to set it .

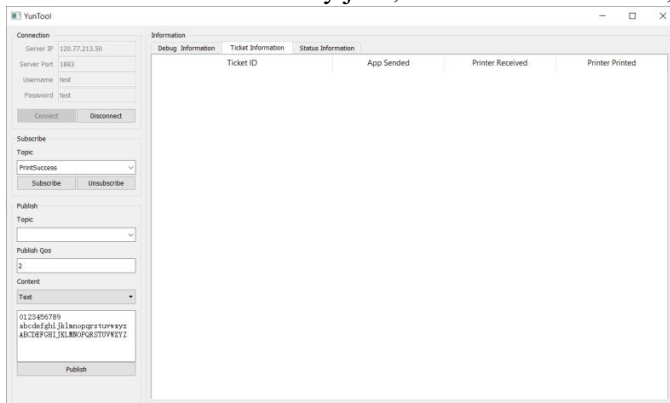


After set the MQTT Server info, the printer will be connected by server. You also can use this tools to set the NTP Server , subscribe Topic , Qos etc info.

3. MQTT Printer Testing

3.1. Test tools Environmental requirements

For the Test tools is made by java, must installed the Java, then can open it.



3.2. Java Environmental Install

3.2.1. Download the Java

If your PC was installed the JAVA Before, then can don't need installed again.

First, we need to visit the official Oracle download page and choose the right release for the Java SE Platform.

At this point in time, the latest version is Java SE Development Kit 16.0.1 downloads

<https://www.oracle.com/java/technologies/downloads/#jdk17-windows>

3.2.2. Installed the Java for windows 10

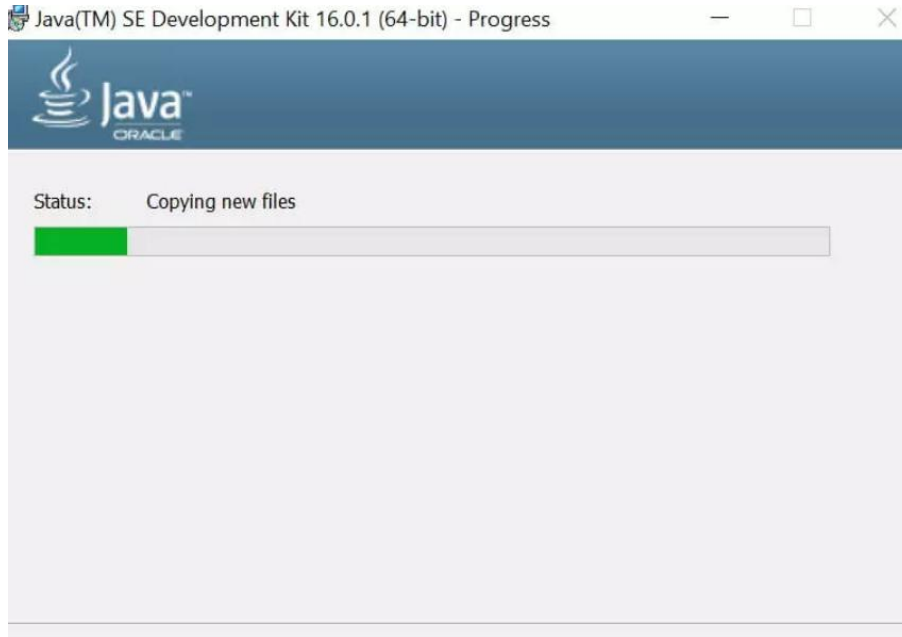
After download Java for Windows 10, let's see how to install it. Basically, the process of installing Java on Windows 10 is pretty easy and simple.

In general, we don't need to change anything during the installation, we can go with the default settings and follow the suggested instructions.

Firstly, we need to double click on the downloaded installer file to start the installation process:

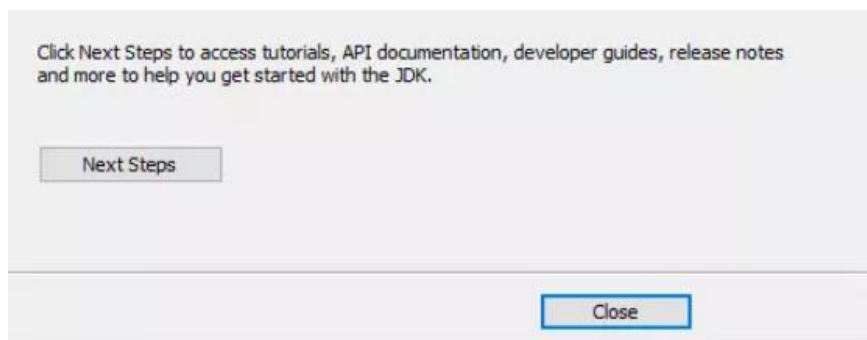


Secondarily, we click *Next* to continue:



Note that, “C:\Program Files\Java\” is the default Java installation folder! However, we can always change it if we want that.

Then, we keep hitting Next until the installation is complete:



Finally, we close the installer window once the installation of JDK is complete on our Windows 10.

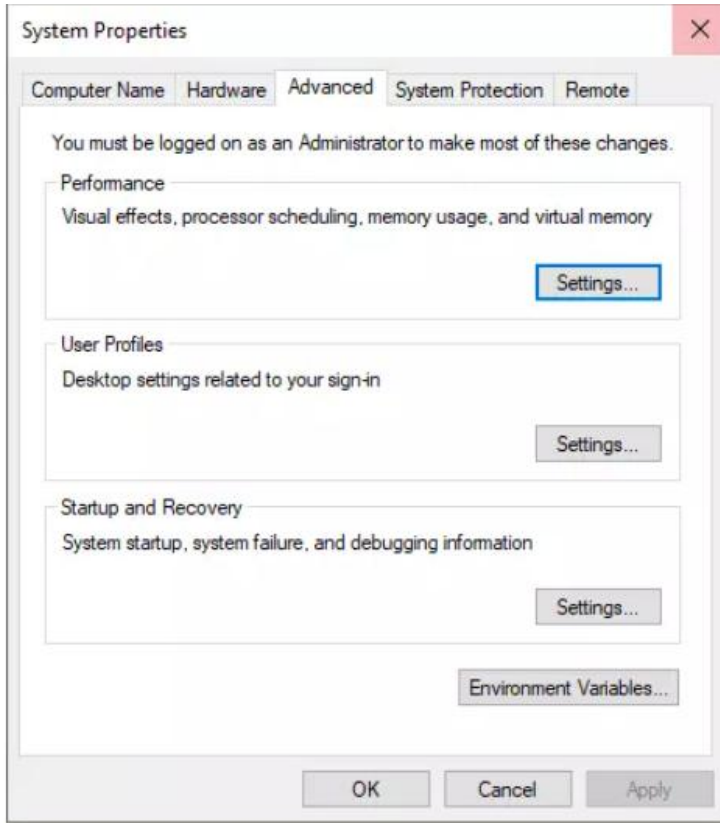
3.2.3. Set Java Path in Windows 10

Now that we know how to install Java on Windows 10, it's time to proceed to the next step. In this short chapter, we're going to dive deep into how to set JAVA_HOME environment variable on Windows 10. Please note that, JAVA_HOME should point to a JDK folder not JRE.

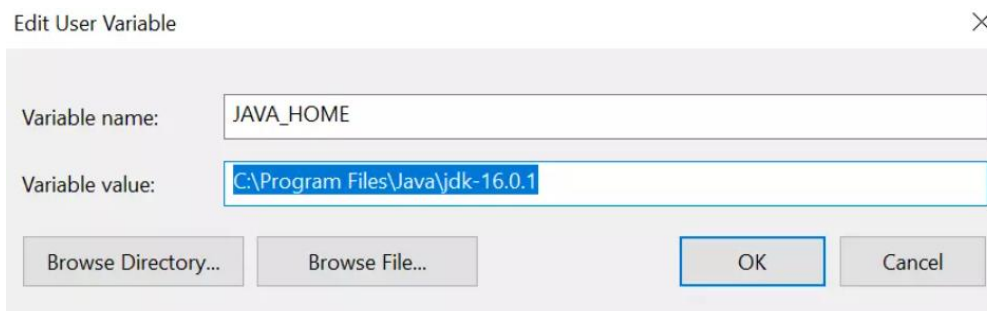
The basic idea behind setting the Java Path is to make all the Java commands like java, javac... accessible from everywhere. That way, we can run Java programs from anywhere.

First, let's open the Advanced System Settings. To do that, we just need to press Windows key + Pause Key. Alternatively, we can type View advanced system settings in the search box.

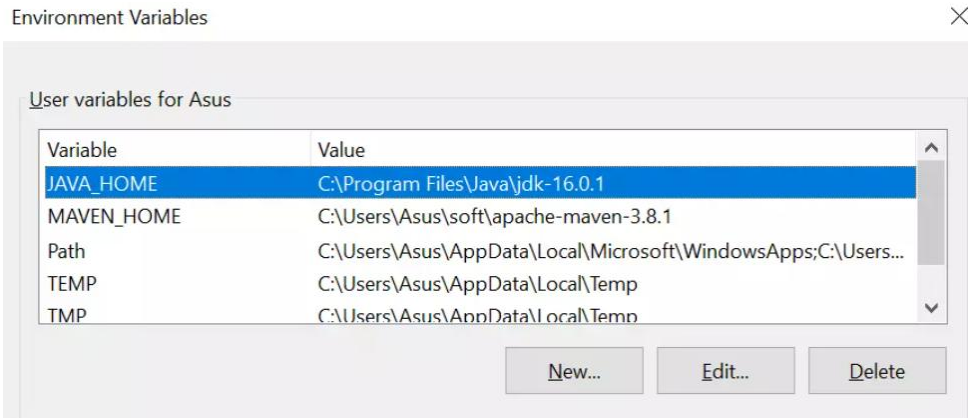
Once the System Properties window is opened, we click on Environment Variables:



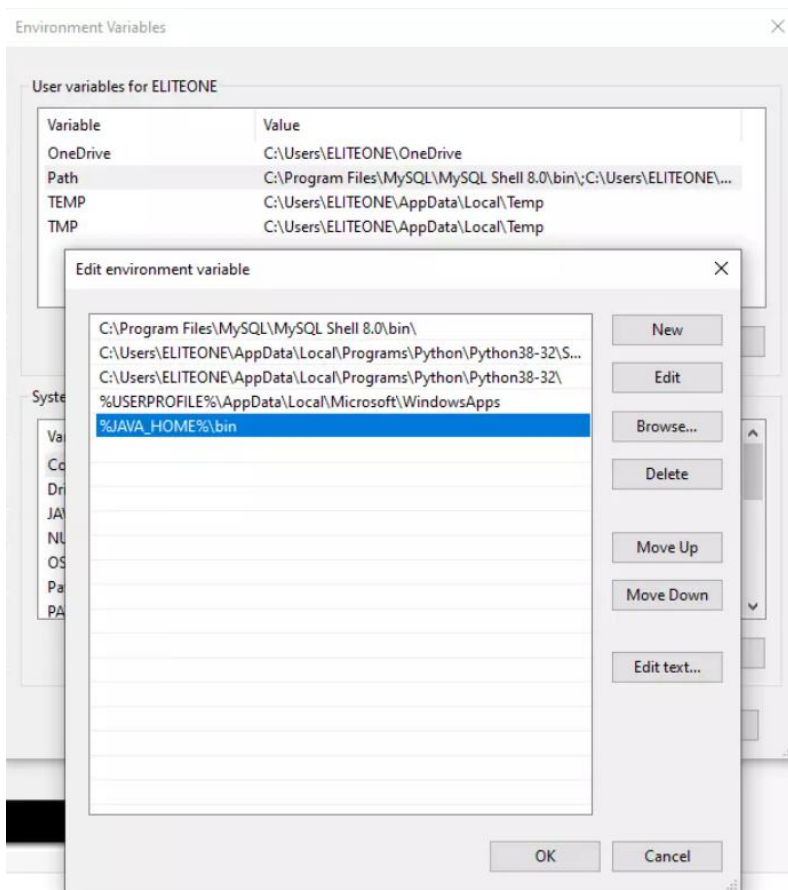
Secondarily, we click on New button to create a new System variable with JAVA_HOME as name and the path to the JDK directory as value:



As we can see, the JAVA_HOME environment variable points to the JDK folder which C:\Program Files\Java\jdk-16.0.1 is in our case.



Next, we need to update the Path variable by adding a new entry for %JAVA_HOME%\bin%:



Finally, we can click OK to save and apply the changes.

That's all we can say about downloading and installing java on windows 10. Now, we're ready to write our first Java program.

3.2.4. Check Java Version on Windows 10

There are multiple ways that we can use to check Java version on Windows 10. Basically, when we say Java version, we mean JRE version.

The most obvious and basic way is to use the terminal. Firstly, press Win+R and type cmd to open the Command Prompt. After that, type java -version and press Enter:

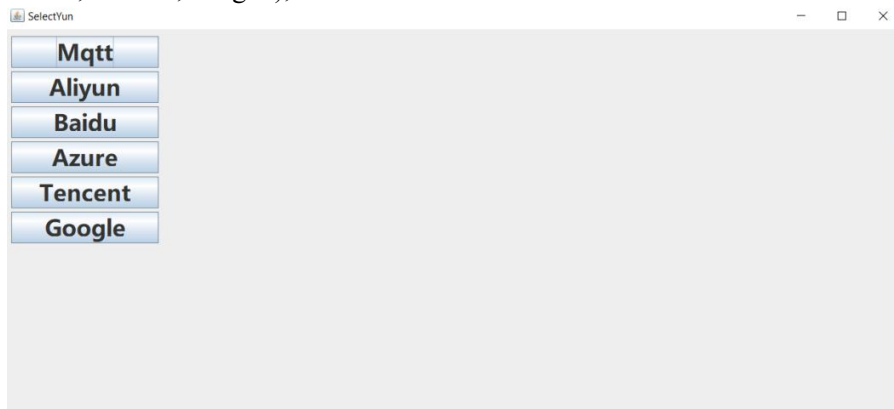
```
C:\Users\Asus>java -version
java version "16.0.1" 2021-04-20
Java(TM) SE Runtime Environment (build 16.0.1+9-24)
Java HotSpot(TM) 64-Bit Server VM (build 16.0.1+9-24, mixed mode, sharing)

C:\Users\Asus>
```

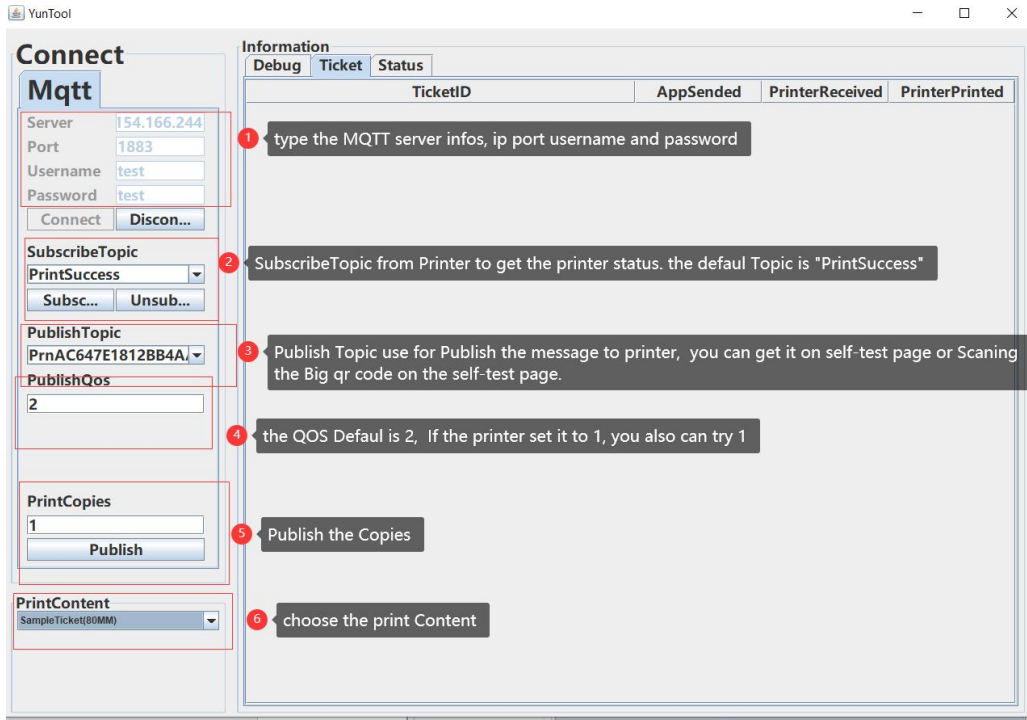
If can get the java version, that means the java installed success.

3.3. YunTool.jar tools test it

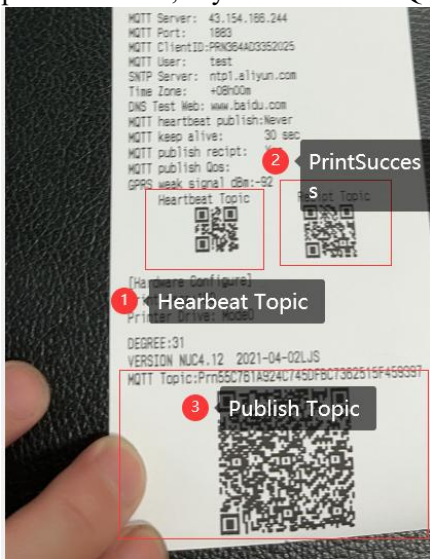
After installed the Java, Then you can open the YunTool.jar tools, then you can open it , it will be show below info. It can support MQTT and other third-party cloud platforms(Aliyun, Baidu, Azure,Tencent,Google),



Below we take the self-built MQTT server as an example to test



About Our MQTT Server default is 43.154.166.244 and port:1883, user name:test and password :test , If you have owa MQTT Server you also can type on here.



SubScribe Topic is come from printer self-test page"PrintSuccess"

Publish Topic is the Big qr code.

Notice:

You can power off the printer , and keep press the feed key on the printer and power on same time. The printer will be print out the self-test page.

After your publish the printer printed the test Receipt, the Printer and MQTT is working now.

4. Printer font download

The printer can support TTF fonts, you can download TTF font files directly from Windows or download from the website.

Select Add Fonts---Choose the fonts you want to download. Select Enumerate from Printer-----set one of them as default font, and set default font size----set printer default font.



After the setup is complete, you can print a self-test page for verification.

4.1, Temporarily set the font size of the ESC command when printing

Name:	Temporarily set the font size of the ESC command when printing
Code	1F 28 10 14 pL pH n
function description	This is an extension to the ESC command The original command to set the font is 1B 4D n, only a few fixed font sizes. With this command, any font size can be selected.
parameter range	pL+pH*256= The length of all subsequent parameters n font size For compatibility When the value of n is between [16-255], it is as much as n is set. When n = 0, it is equivalent to FontA, font size 24 When n = 1, it is equivalent to FontB, and the font size is 20 When n = 2, it is equivalent to FontC, and the font size is 16 When n=3...15, it is meaningless.

Example	Set as FontA
	1F 28 10 14 01 00 00
	Set as FontB
	1F 28 10 14 01 00 01
	Set as FontC
	1F 28 10 14 01 00 02
Set as 32	
	1F 28 10 14 01 00 20

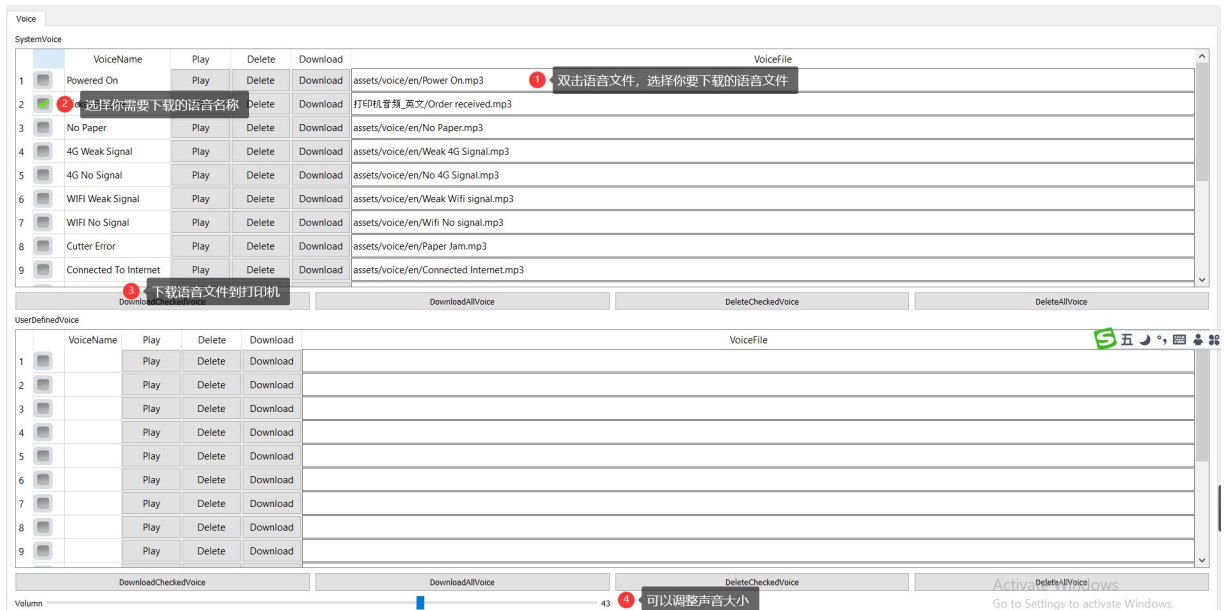
5. Printer Voice Settings

Use the voice setting tool to set the broadcast function in different languages.

- A. Connect the printer via USB and open the voice setting tool. Select the USB interface---select Enter Para Setting

The screenshot shows the 'PrinterSetting' application window. It features a 'Select Port' section with radio buttons for 'Drv', 'Com', 'Net', 'Usb', and 'Lpt'. The 'Usb' option is selected and highlighted with a red box. Below this, the text 'Current: Usb' is displayed. A 'Check Port' button is visible, and another 'Enter Para Setting' button is highlighted with a red box. At the bottom, a status bar shows 'Open Failed: 2018-10-31 20:22:15.841'.

- B. Change the audio announcement you want to download by double-clicking the audio file. The volume of the sound can be adjusted through the Volume below.



6. Printer Websocket interface test

The printer has a WebSocket interface by default, the port number is: 8080, which can be tested by using the JS development kit.

css	8/22/2017 9:39 AM	File folder	
doc	3/21/2018 4:26 PM	File folder	
img	9/2/2017 11:16 AM	File folder	
js	8/23/2017 10:58 AM	File folder	
.project	8/22/2017 9:39 AM	PROJECT File	1 KB
index.html	8/26/2017 5:13 PM	Microsoft Edge HT...	5 KB
LABEL_DrawBarcode.html	8/29/2017 5:41 PM	Microsoft Edge HT...	5 KB
LABEL_DrawBox.html	8/29/2017 5:41 PM	Microsoft Edge HT...	2 KB
LABEL_DrawImageRGBA.html	8/29/2017 5:41 PM	Microsoft Edge HT...	3 KB
LABEL_DrawLine.html	8/29/2017 5:41 PM	Microsoft Edge HT...	2 KB
LABEL_DrawPDF417.html	8/29/2017 5:41 PM	Microsoft Edge HT...	4 KB
LABEL_DrawPlainText.html	8/29/2017 5:41 PM	Microsoft Edge HT...	2 KB
LABEL_DrawQRCode.html	8/29/2017 5:41 PM	Microsoft Edge HT...	3 KB
LABEL_DrawRectangel.html	8/29/2017 5:41 PM	Microsoft Edge HT...	2 KB
LABEL_PageCalibrate.html	8/28/2017 5:31 PM	Microsoft Edge HT...	1 KB
PAGE_DrawBarcode.html	8/29/2017 7:03 PM	Microsoft Edge HT...	5 KB
PAGE_DrawImageRGBA.html	8/29/2017 7:17 PM	Microsoft Edge HT...	3 KB
PAGE_DrawQRCode.html	8/29/2017 7:15 PM	Microsoft Edge HT...	3 KB
PAGE_DrawRect.html	8/29/2017 6:51 PM	Microsoft Edge HT...	2 KB
PAGE_DrawString.html	8/30/2017 9:30 AM	Microsoft Edge HT...	4 KB
PAGE_SetPrintArea.html	8/29/2017 7:23 PM	Microsoft Edge HT...	2 KB
POS_PrintImageRGBA.html	8/29/2017 5:41 PM	Microsoft Edge HT...	3 KB
POS_PrintQRCode.html	8/29/2017 5:42 PM	Microsoft Edge HT...	3 KB
POS_SetBarcode.html	8/29/2017 5:42 PM	Microsoft Edge HT...	4 KB
POS_TextOut.html	8/29/2017 5:42 PM	Microsoft Edge HT...	3 KB
外卖单摆_LABEL.html	8/29/2017 5:41 PM	Microsoft Edge HT...	2 KB
外卖单摆_POS.html	8/29/2017 5:41 PM	Microsoft Edge HT...	2 KB
物流单摆_PAGE.html	8/29/2017 8:17 PM	Microsoft Edge HT...	2 KB

7. Install and Configure Mosquitto

7.1. Mosquitto Broker sever Requirments

We choose Mosquitto as our mqtt server APP. It is support Linux , windows. We recommend use the Linux, it will be more stability.

Mosquitto Broker is a lightweight service with very low server requirements. If you already have a Linux server, you can deploy it to your own server. If you don't have a server, you can rent an Amazon virtual Linux server or Alibaba Virtual host. Or other online host server.

Amazon

<https://aws.amazon.com/products/compute/>

Alibaba

<https://www.alibabacloud.com/product/ecs?spm=a3c0i.7938564.8215766810.1.5837441eCaI5Vs>

7.2. Deployment Mosquitto on Linux

7.2.1. Download Mosquitto Broker

<http://mosquitto.org/download/>

7.3. Mosquitto Configuration and install

You can reference Below links

<http://www.steves-internet-guide.com/install-mosquitto-linux/>

8. Printer MQTT communication protocol

8.1. Communication Data Format

8.1.1. Printer default subscribed Topic is “Prn+CPUID”, you can reader the QR Code on self test page of printer or scanning the QRcode on the screen. and also can set MAC address to be generated.

E.g “Prn60A44CAB3AA72020170420170648017920201704201706480179”

8.1.2. Printer Default Publish heartbeat Topic is “Hearbeat”, printed Status Topic is” PrintSuccess”

8.1.3. Printer Default Publish message carry the unique code of the printer to indicate the current printer, Default is same as the Subscription Topic and is included with ‘[’’. The unique code can changed it to be generated by MAC. or not Carried.

E.g “[Prn60A44CAB3AA72020170420170648017920201704201706480179]”

8.1.4. Publish to Printer Packet Format

1. bytes flag header, If the flag header upper 4 bits is not 0, it will be print directly without Ticket number
2. The specified topic (0-64 bytes), ending with HEX 00, if the length here is 0, it is the default topic
3. Ticket number (0-64 bytes), ending with HEX 00
4. printed content data length (0-16000bytes),

NOTE: The total length cannot exceed 16384-6 = 16378 bytes

bit	value (HEX)	Description
0	0x01	Need Publish to the Printed success status to the specified topic
1	0x02	Carry Ticket number
2	0x04	Carry set parameter
3	0x08	Carry timeout timestamp
4	0x10	Fix 0

5	0x20	Fix 0
6	0x40	Fix 00
7	0x80	Fix 0

Note: if Carry the setting Parameter Bit 1, the corresponding ticket content will not be treated as a print task. The ticket content is the setting content and must be less than 4k bytes. as the same time, can carry the ticket number to detect whether the setting is successfully processed(it will be prompted ok or Error at the end of the ticket number)

Note: If the timeout timestamp is carried, the current time and the the timeout time will be compared when it is printing. If the current time is greater than the setted timeout time, the ticket content will be discarded and publish a ticket timeout message(notice: ticket get the reply packed without impact, it will still be issued.) the timestamp is stored in header of the printed content and wrapped with 0x06.

If the format is incorrect, the timeout packet will not be returned, but it will be printed directly, regardless of whether it has timed out. For details see test Example D

8.2. Data testing example

Test example (data format is displayed in HEX, please note):

ExampleA:

Requirement: Send a print task to the printer, the task ID is "SimplePrint", and the print content is "Hello, World!" The data sent is as follows (HEX):

03 00 53 69 6D 70 6C 65 50 72 69 6E 74 00 48 65 6C 6C 6F 2C 20 57 6F 72 6C 64 21 0D 0A

Analyze :

03 is flag header 03 = 01 |02 that means the tast with ticket number and need returned printed success status to the specified Topic

00: indicates the reply topic will be the default receipt topic.

53 69 6D 70 6C 65 50 72 69 6E 74 00, represent the task ID numbers, correspond to the text "SimplePrint", and ends up with 00. **the task ID number must be unique,otherwise it will not be printed**

48 65 6C 6C 6F 2C 20 57 6F 72 6C 64 21 0D 0A, as the print content, correspond to the text "Hello, World!".

NOTE: The reply contents of the printer please refer to 5) D and 5) E.

ExampleB:

Send a setting command to the printer, set the heartbeat interval as 30s, task ID is "set para", then the sending date is as follows(HEX) :

07 00 73 65 74 20 70 61 72 61 00 53 45 54 20 48 45 41 52 54 42 45 41 54 20 33 30 0D 0A

Analysis:

07 is the flag, 07 = 01 | 02 | 04, indicates the following date contains the receipt ID, and success status should be returned to the specified topic, and this date is a setting command, setup success or failure status should be returned.

00 indicates the reply topic will be the default receipt topic.

73 65 74 20 70 61 72 61 00, represent the receipt numbers, correspond to the text “set para”, and ends up with 00.

53 45 54 20 48 45 41 52 54 42 45 41 54 20 33 30 0D 0A, as the setting content, correspond to the text “SET HEARTBEAT 30”, and ends up with 0D 0A.

Example C:

Send a query command without receipt ID, the sending date as follows(HEX) :

01 00

Analysis:

01 indicates that the status of the printer should be replied to the specified topic.

00 indicates the reply topic will be the default receipt topic.

Example D:

Send a receipt including timestamp to the printer, the task ID is “SimplePrint”, the timeout time corresponds to Beijing time, 23:59:59, July 25, 2017, (UNIX timestamp is 0x59776AFF), print content is “Hello, World!”, then the sending date is as follows(HEX) :

0B 00 53 69 6D 70 6C 65 50 72 69 6E 74 00 06 FF 6A 77 59 06 48 65 6C 6C 6F 2C 20 57 6F 72 6C 64 21 0D 0A

Analysis:

0B is the flag, 0B = 01 | 02 | 08, indicates the following date contains the receipt ID, success status should be returned to the specified topic, and timeout timestamp is contained.

00 indicates the reply topic will be the default receipt topic.

53 69 6D 70 6C 65 50 72 69 6E 74 00, represent the ID numbers, correspond to the text “SimplePrint”, and ends up with 00.

06 FF 6A 77 59 06, represent the UNIX timeout timestamp, low byte in the front, and separated by “HEX 06”.

48 65 6C 6C 6F 2C 20 57 6F 72 6C 64 21 0D 0A, as the print content, correspond to the text “Hello, World!”.

NOTE: If the current UNIX timestamp the printer has gotten is larger than the calibration timestamp of the receipt. The reply content of the printer please refer to 5) D, 5) E and 5) F.

Example E:

If publish update packet address is 0x5000, date is

B0F8CC0010B99D4200D12546884202D0..., then the sending date is as follows(HEX) :
00 0 50 00 B0 F8 CC 00 10 B9 9D 42 00 D1 25 46 88 42 02 D0... (the total length of the date is 4096+4 bytes).

5.2.1 Printer Publish Data Format

The current offline package format (0) offline;ID

The current login package format (1)

online;ID;STATE;IMEI;IMSI;IP;MAC;TIME;VER;MachineType

The current heartbeat package format (2) heartbeat;ID;STATE;GPRSdBm;TEMP;TIME

The current receipt reply package format (3) receivedID;ID;STATE;receiptID-Received

The current receipt completion package format (4) printDone;ID;STATE;receiptID

The current receipt timeout package format (5) timeout;ID;STATE;receiptID

The current state change package format (7) stChange;ID;STATE

The current receipt ID repetition package format (8) discard;ID;STATE;receiptID

Among them, offline, online, heartbeat, receivedID, printDone, timeout are replaced in turn by digital 0-5 respectively.

ID is the unique code of the printer,

STATE is the current status of the printer,

IMEI is the IMEI number of GPRS module,

IMSI is the IMSI number of the SIM card,

IP is the IP address of the connected interface,

MAC is the MAC address of the Ethernet port,

TIME is the current internet time(the time may be slightly different, if the time zone is set different), GPRSdBm represents the current signal strength of GPRS module,

TEMP is the current temperature of the print head,

ReceiptID is the unique information code of the receipt, provided by clients,

VER is the current version number of the printer,

machineType is the printer model.

Test examples (date will be display in plain text)

Examples A.

Offline package

0;[Prn60A44CAB3AA720201704201706480179]

Analysis: 0 indicates the current package is offline package.

:[Prn60A44CAB3AA720201704201706480179] is the unique information code of the printer, use a semicolon “;” to separate other information.

Examples B

Login package

1;[Prn60A44CAB3AA72020170420170648017920201704201706480179];9800;860832038705287;460013990009623;10.45.0.244;60-A4-4C-AB-3A-A7;2017-06-22 13:55:28;1.07;KP202

Analysis: 1 indicates the current package is login package.

:[Prn60A44CAB3AA72020170420170648017920201704201706480179] is the unique information code of the printer, use a semicolon “;” to separate other information.

;**9800** represents the printer’s status, indicates that there is no error with the printer currently, and the connection method is by GPRS.

;**860832038705287** represents the IMEI number of the GPRS module.

;**460013990009623** represents the IMSI number of the SIM card.

;**10.45.0.244** represents the IP address that GPRS module has gotten.

;**60-A4-4C-AB-3A-A7** represents the MAC address of the printer.

;**2017-06-22 13:55:28** represents the current time the printer has obtained.

;**1.07** is the current version number of the printer.

;**KP202** is the printer model.

Examples C

Heartbeat package

2;[Prn60A44CAB3AA720201704201706480179];9820;-58;25;2017-06-22 13:55:28

Analysis: 2 indicates the current package is heartbeat package.

:[Prn60A44CAB3AA720201704201706480179] is the unique information code of the printer, use a semicolon “;” to separate other information.

;**9820** represents the printer’s status, indicates that there is no error with the printer currently, the connection method is by GPRS, and the current date is heartbeat package date.

;**-58** represents the dBm of the GPRS module.

;**25** is the current temperature of the print head.

;**2017-06-22 13:55:28** represents the current time the printer has obtained.

Examples D

Receipt reply package

3;[Prn60A44CAB3AA720201704201706480179];9800;SimplePrint-Received

Analysis: 3 indicates the current package is a prompt package that receipt has been received.

;[Prn60A44CAB3AA720201704201706480179] is the unique information code of the printer, use a semicolon “;” to separate other information.

;9800 represents the printer’s status, indicates that there is no error with the printer currently, and the connection method is by GPRS.

;SimplePrint represents the receipt number that is included in the client’s previous receipt.

-Received is a fixed package ending.

E. Receipt completion package

4;[Prn60A44CAB3AA720201704201706480179];9800;SimplePrint

Analysis: 4 indicates the current package is a prompt package that receipt has been print done.

;[Prn60A44CAB3AA720201704201706480179] is the unique information code of the printer, use a semicolon “;” to separate other information.

;9800 represents the printer’s status, indicates that there is no error with the printer currently, and the connection method is by GPRS.

;SimplePrint represents the receipt number that is included in the client’s previous receipt.

Examples F

Receipt timeout package

5;[Prn60A44CAB3AA720201704201706480179];9800;SimplePrint

Analysis: 5 indicates the current package is a timeout prompt package.

;[Prn60A44CAB3AA720201704201706480179] is the unique information code of the printer, use a semicolon “;” to separate other information.

;9800 represents the printer’s status, indicates that there is no error with the printer currently, and the connection method is by GPRS.

;SimplePrint represents the receipt number that is included in the client’s previous receipt.

Examples G

State change package

7;[Prn60A44CAB3AA720201704201706480179];9801;-58;25;2017-06-22 13:55:28

Analysis: 7 indicates the current package is state change package.

;9801 represents the printer's status, indicates that the printer is out of paper, and the connection method is by GPRS.

;-58 represents the dBm of the GPRS module.

;25 is the current temperature of the print head.

;2017-06-22 13:55:28 represents the current time the printer has obtained.

Examples H

Receipt ID repetition package

8;[Prn60A44CAB3AA720201704201706480179];9800;SimplePrint

Analysis: 8 indicates the current package is receipt ID repetition package.

:[Prn60A44CAB3AA720201704201706480179] is the unique information code of the printer, use a semicolon “;” to separate other information.

;9800 represents the printer's status, indicates that there is no error with the printer currently, and the connection method is by GPRS.

;SimplePrint represents the receipt number that is included in the client's previous receipt.

NOTE: The QOS of all the messages that published to the printer must be 2(except that when using standard cloud IOT access, QOS=1 is accepted), other grades will not be processed.

The QOS of the messages that the printer publishes can be 1 or 2, the default one is 1(when using standard cloud IOT access, it's fixed as 1).

The bit information when the printer at different statuses

Bit	HEX	Information
0	0x01	Out of paper
1	0x02	Cover open
2	0x04	Cutter error
3	0x08	Too hot
4	0x10	Other error
5	0x20	Heartbeat packet return

6-7	--	Reserved
11-12	0x0000	Reserved
	0x0800	The current connection is Ethernet
	0x1000	The current connection is WIFI
	0x1800	The current connection is GPRS
13	0x2000	Ethernet connected
14	0x4000	WIFI connected
15	0x8000	GPRS connected

For example, the return value 9820 corresponds to these,

the 15 bit is 1(0x8000), the bit of 13,14 are both 0, the bit of 11-12 is 0x1800, the bit of 5 is 1(0x20), the bit of 0-4 is 0, which indicates respectively that GPRS connected, Ethernet & WiFi disconnected, the current connection is GPRS, the current date package is heartbeat packet, and the printer is in normal condition.

8.3. Sending and receiving process

Sending and receiving process of receipts: a server should be built as the client-side of MQTT server, for publishing the print content to the printer, and processing the returned message from the printer, marked as the print server. We can simulate the operation of this server start with mobile phone.

Function

1. Printer connecting checking

- a. The print server publishes the subscription topic (for example: "Prn60A44CAB3AA72020170420170648017920201704201706480179") message to the printer (HEX: 01 00).
- b. After receiving message, the printer will publish printer state to the default receipt topic, like "4:[Prn60A44CAB3AA72020170420170648017920201704201706480179];9800". If the print server doesn't monitor this message for a long time, the printer will be regarded as offline.

2. Print task issuing

- a. The printer server publishes the print content to the subscription topic of the printer.(Please attach the receipt ID if necessary)
- b. After receiving the print content and finishing printing, the printer decides whether to report printing results according to the flag information.

- c. If printing results need to be reported, the printer will publish the receipt ID of this printing to the specified topic after finishing printing.

NOTE: Multiple tasks can be published to the MQTT server, and printing results will be reported in turn after finishing printing.

8.4. Troubleshooting the printer connecting to the server

The printer will connect to the MQTT server proactively after online, and the power indicator keeps flashing in this process, then keeps on after connected. If the printer can't connect to the server for a long time, please troubleshoot according to the following operations:

1. Print self-test page (When the printer is power off, press down the "Power on/off" button and "Feed" button simultaneously, the printer will print a self-test page), please check whether the MQTT server address and port are configured correctly.
2. After printing self-test page, if wires connected or WiFi connected, the printer will print the corresponding IP address information in two minutes, if not, please check wires connecting or WiFi configuration, and contact your local network administrators if necessary. The printer will print the current GPRS status if GPRS module supported.
3. The printer will connect to the server with these interfaces in priority order, Ethernet, WIFI, GPRS, so if it's unable to connect to Internet, please pull out the net wires, modify the WIFI configuration, then GPRS connecting will be the unique choice to the server by default.
4. GPRS reconnection mechanism after offline, if GPRS disconnection is detected, the printer will try to dial-up Internet automatically, if that fails, GPRS module will be rebooted and the network connection will be initialized.
5. When not connect to the server, GPRS status can be judged by error indicator on the printer. (Error indicator will flash again at a interval of 2 seconds after flashing some times, please pay attention to the flash frequency)

Flash frequency	Current status of GPRS module
1	Connected to the Internet, connecting to MQTT server
2	Trying to connect to the Internet
3	Trying to obtain network time
4	Trying to obtain GPRS dBm
5	Trying to obtain the IMSI number of the SIM
6	Trying to obtain the IMEI of the module
7	Initializing the module

8.5. Setting Command

Format Explanation: Setting commands are plain text formats, each line can set a message and must not exceed 128 characters. The line setting message will be invalid and ignored in the

subsequent printing process, if there is some mistake in the command. Therefore, only one message setting is recommended at a time.

1. SET HEARTBEAT N

N is the heartbeat interval.

N as the heartbeat interval is in seconds, the value ranges from 10 to 3600 or just is 0. When N = 0, heartbeat packet will be canceled, and it will not be sent by default.

NOTE: Once a receipt result is published, the heartbeat time will return to zero, that is the next time that sends a heartbeat packet is the current time + N seconds.

Test examples please refer to 1 4) B.

2. REBOOT PRINTER [mm:ss-xxxxx]

~~mm:ss are the minutes and seconds of the time that send REBOOT PRINTER command;~~

~~xxxxx is the hash value(128 bits or 16 bytes) that calculated by MD5 according to the current time + the MAC address of the printer + reboot keys, displayed in text, all caps, for example: hex-0x30,0x31,0x32,0x33,0x2A will be displayed in text 303132332A. The command will be invalid if the processing time is one hour later than the setting time, or the capture time is earlier than the setting time.~~

~~When the command is valid, the printer will reply ID+OK;Reboot in 1 minute, indicating the printer will reboot in one minute.~~

~~When the command is invalid, the printer will reply ID+ERROR~~

~~For example, (the current time is 2017-06-24 15:35:26)~~

~~Here, before hash calculating, the date is "2017-06-24 14:35:26 46-97-92-86-13-03 XSHKey"~~

~~0700323031373036313631383033005245424F4F54205052494E544552205B33353A32362D33424638383646384133304536463944334141364341384335393145413446325D0D0A~~

The simplified version of the command format is as follows:

07 00 + unique receipt number + 00 + REBOOT PRINTER

for example:

If the document number is 001, send the following data (HEX format)

07 00 30 30 31 00 52 45 42 4F 4F 54 20 50 52 49 4E 54 45 52

The document number must be different every time it is sent, and the printer will not process the duplicate documents received.

3. UPDATE FTP FOR THE PRINTER (UPDATE FTP

"serverName",port,"userName","pwd","fileName")

serverName represents the IP or domain name of FTP server

Port is the FTP Port number

userName is the user name for logging to FTP, anonymous represents anonymous logon

pwd is the password used to login to FTP, no password is supported

fileName is the filename of the firmware

For example, build a FTP server, IP address: 27.19.89.242, Port: 21, use anonymous logon, filename:

KP202_2.4(750,150,128)_GD_MQTT_GPRS_1.07.bin, then the date package is as follows:

```
07003230313731303037313130370055504441544520465450202232372E3135392E38392E3234322
22C32312C22616E6F6E796D6F75732222C224B503230325F322E34283735302C3135302C3
13238295F47445F4D5154545F475052535F312E30372E62696E220D0A
```

8.6. Print pdf and image directly

To print PDFs and images directly, you need to convert the PDFs and images to json format and send them.

json field description:

字段	type	description
ticket_id	string required fields	Ticket id Note: the Ticket id cannot be repeated, If repeated the number, it will be not printed out.
data_type	string required fields	optional: pdf png bmp
data_base64	string required fields	document content base64
paper_type	int optional	Specify the paper type. If tab paper is specified, gaps are automatically positioned before and after printing. 0 depends on the printer 1 continuous paper 2 labels Default is 0
paper_width_mm	Int Optional	Paper width, 0 is the printable width. The default is 0. For example: hs-830 The maximum printable width is 80mm, and the default printable width is 72mm. If this value is not filled, or filled with 0, then the content will be automatically scaled to a width of 72mm when printing the PDF. If you fill in a specific width, such as 54mm, then the content will be automatically scaled to a width of 54mm when printing the

		<p>PDF.</p> <p>The maximum width that can be filled is 80mm, and if it exceeds 80mm, it will be calculated according to 80mm.</p>
paper_height_mm	<p>int</p> <p>Optional</p>	<p>Paper height, 0 means that the page height is not limited, and non-zero means that the content will not exceed the page size when zooming.</p> <p>The default is 0.</p> <p>This is required for label printing, and 0 is required for ticket printing.</p>
cut_paper	<p>int</p> <p>Optional</p>	<p>Specify whether to cut paper</p> <p>0 not cut</p> <p>1 Cut off at the end of each page</p> <p>2 end of document</p> <p>The default is 1, which cuts at the end of each page.</p>
serial_paper_img_print_no_tail_feed	<p>int</p> <p>Optional</p>	<p>Specifies to cancel tail feeding when printing continuous paper images. This is only valid when not cutting.</p> <p>0 means automatic paper feeding with tearing position after printing</p> <p>1 means no automatic paper feeding after printing</p> <p>The default is 0</p> <p>If you want to split a long image into multiple sheets</p> <p>You can set the middle page cutter option to 0 and set this field to 1.</p> <p>Then set the last page cutter option to 1.</p> <p>You can print seamlessly</p>
kick_drawer1	<p>int</p> <p>Optional</p>	<p>Specifies whether to open the cash box 1</p> <p>0: Not open</p> <p>1: Open</p> <p>Default is 0</p>
kick_drawer2	<p>int</p> <p>Optional</p>	<p>Specifies whether to open the cash box 2</p> <p>0: Not open</p>

		1: Open Default is 0
--	--	-------------------------

Notice:

The Ticket ID cannot be repeated, If repeated it,the documents will not be printed. If you need to test, please update the Tiket id.

2 Printer resources are limited, please do not publish the overall size of mqtt data exceeding 2M.

3 The pixel data of the printed image cannot exceed 8M after expansion. If it exceeds 8M, an error will be returned and it will not be printed.

The pixel expansion data is related to the image bit depth, image width and height.

Calculate for an image with a width of 640 points:

Bit Depth	per Line (four-byte aligned)	Maximum Image Height
Monochromatic bitmap, bit depth 1	$(640+7)/8 = 80$	$8388608/80 = 104857$ According to 1mm8 points, about 13.1 meters
Grayscale, bit depth 8	$(640+3)/4*4 = 640$	$8388608/640 = 13107$ According to 1mm8 points, about 1.6 meters
RGB bitmap, bit depth 32	$640*4 = 2560$	$8388608/2560 = 3276$ According to 1mm8 points, about 409 mm

4 When PDF is printed, the generated page image, width*height*4 is the memory occupied, this value cannot exceed the limit.

For example:

830 2023/05/24 version firmware is limited to 8M

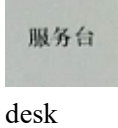
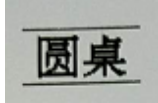
K39 2023/05/24 version firmware is limited to 12M

An example of java creating json is as follows:

```
JSONObject json = new JSONObject();
json.put("ticket_id", TicketID);
json.put("data_type", final_data_type);
json.put("data_base64", final_data_base64);
json.put("paper_type", paper_type);
json.put("paper_width_mm", paper_width_mm);
json.put("paper_height_mm", paper_height_mm);
```


NIRm9udCAvSGVsdmV0aWNhIC9OYW1lIC9GMSAvRW5jb2RpbmcgL1dpbkFuc2lFbmNvZGluZyA+PgplbmRvYmoKNCAwIG9iago8PC9UeXBliC9Gb250IC9TdWJ0eXBliC9UeXBliMSAvQmFzZUZvbnQgL0hlbHZldGljYS1Cb2xkIC9OYW1lIC9GMiAvRW5jb2RpbmcgL1dpbkFuc2lFbmNvZGluZyA+PgplbmRvYmoKOCwIG9iago8PC9UeXBliC9YT2JqZWNOIC9TdWJ0eXBliC9JbWFnZSAvV2lkdGggMjI0IC9lZWlnaHQgMjI0IC9Db2xvclNwYWNIIFsvSW5kZXhZICAuRGV2aWNIUkdCIDkxIDkgMCSXSAvQml0c1BlckNvbXBvbmVudCA4IC9GaWw0ZXIgL0ZsYXRIRGVjb2RlIC9EZWNvZGVVQYXJtcyA8PCAvUHJlZGljdG9yIDE1IC9Db2xvcnMgMSAvQml0c1BlckNvbXBvbmVudCA4IC9Db2x1bW5zIDlyNCA+PiAvTGvUz3RoIDQ3MTYgPj4gc3RyZWFTcnja7V0JW+Jlu7WobLIFoyEBWkkAAadmRRhYVN2xbu6f72+/Mvf//f9zKWpVQYenbCfrcnGeemZEKJKqfc+7VEUPdMLEiBEjRowYMWLEiBEjRowYMWLEiBEjRowYMWLEiBEjRoz/DyHln55SmH5cevkmnPgbTprBSeGD8msBDcD6ppMg0LT6h+TXgSoAen/DWVMdABXOPx691AACBP1mC4IAwGH6g/GrQA2YT17acGLdmGcAFPIhtlZvW4+tbuRnDIVqDUX342hNbmbaHZqW1jZn250tg9YH4de350QfbjcnhYE1HirsAR6hYmpLobN8dte03YumaTePb+6bXBgp+lwJl2DIXfOb24/6Tby4h0XxR6XGv+e1VWoeRPQ9NzOwmTPvA5y75bf1JkGfZDd+eL8wHZEBfbfJz2UWgPbzJrBZ6Xzgdq+Pr3GBLruuY8X/AMZBW4RkamtgMjrXl/6XfHeTh1nRC2dXSc3yw17y79Ti8c89LWasQEEYBr7C/ISA3QZ+8p/S45lw/ORWH9iUDrbpUmvKf0m+865glge8O5EMANUcCVmnejNS07tV4vLw5BvdsUQVypAZryHtLvmmueymbtS22eQUOPnW98B+I31vUZoM2IR09TkUMioxy9GPEMAyXTS2m37j4OeVlzmKqZenmo4akTPgYVP00h7Vpea6C8DPVylgviZlYYWdLCWxm3UuctQhe38vInr4ymwpme7sJ5NUZFta0BpBh1skeUglhoUEveTfruptWFHdU8+UgpuT4DgNkdkwo1iK/fR/qNU2tDzj1Zx01wNMyuU9G5Nz8jpAaV+tn9qQu6u9dJBr8JYIDbeB1cXIMI06/O9hDAcl/5twij0z9AkHjWN5/G4C9fB5hqZ8mbzyl+FnFwjWKf5ZlgyQqkpYBEH9VXxAdr8Fwje6JSVjNYMB6IIQz6P05dVPamhUDD4BYIDIOU0ad/mElwy9dadcaU8kjHmenZ3gmjQVGXI06abl2pREgQuwQGFawhcFlxDsAWpfjZxCc6iTiGiGqntbv7ZVjAfVOzT7OvUxSj3TsoiyobpwM0ydP9t08aKpJLZmWBTQ1S0Gs3gA2wlTHSDXX+hoWnVAjplWQTzqBujAm3h/1hd4+0hgtC2ID+CzFsQVYmtHQnm4CAL633oU6ese6P1vZzfbkeFH5bsJWD+WIAxyiYYAKl1Mal9aCUQmtHSbCPCdb9HYx8DhbSAc3tYIjtnoFGPx2KtlrOHmn3YooJ+rKy5gJZW4Efan43gipK0BHB7iyQYKQIUwn39rzCnkeWlkbC06bzCCSYMqYcEzZ68u0KJhhpm7QeNLA59JAGwRK96A0kWDGcFl2b86nTFAaZSsi90CDXmKL4kEazkKixvYEEaxDVzMYh0N/S2UNuxwSJW7drsEBmNpvtRHBoZETGobZXneY4HkXaBE7htp73gQxLSxkE5zC7A0Frwo1DFa8TtrV9lInkQagMvWwErZ89gneozQQStPpVhpgXvcbeyADDS1aY8rng9FU5JMQ/mzYxmb4I3ZkKkGxyUKbWYADDStHpv1kuq5rGotkPwYDLbgeAEGP/WDILzrWYwOnXhEwQ31gnbzwsMQR5c1KyWxPkrek2CdbJlhv4ftE2zbE9RKZbWfn2iKvWpGkvjVB+1yzvVognS3IFcIH4fw5UiusEoc3n62zNcGpVXRZq9aLkq89YffW0RLsUuPTfl4JHgwmWxOcWMWsRbDTpRUTYiJagkR8lizR2nydnz1xZYEEuXuyZ6a1t1RaxhRtvespCEuEx2QtBXLtUkoOS1nCdS4cWu5MeHV9T+Wg2aVdzflrwwOC4AFITQhpE6X7Z7vvgb2au6hQqhYt4o0zOAKmsu3O3EOw63XC+X9q//n7OTq/1fJZadv2L5tgv0apOzfubg+tlCSGdtjyEJx6FpIkf3+7uJMeemA8gvAf//RkDfZUD6yJzOnrDSUS4EIUN4MKTitt4LgWMVot8THLPEtXdeandPUkFvNkpt3yEMzjTh3R3lqYYJ0ib3Un73Y6mG5amW//6x/MT4G5kxjAjKSXZ+74L56wBida2PrTrFCiUcRbgQn9dhuynRsfwa47uX+Tlsy1dPYknQPmhLtfSo8Q93FrTR/BaY2SMEW8JwhXvOqQ97ogJlhyOk85uJR+MrfMofS517jmxMTbGdHq0JyJdrZu5YBzCKj7lpjGGyA3gnXjl9NXOdylp6sjxmepknqQcA8yY/MkAnXNdx1abzBe510NeGEW8+LBBL9Pa4192o4Hol4TjGHjvmDfkg+k/mDG20c+N93V3ecAk6TpjXwV5WBw/INQO3Eu30VwjWamRHGGRO7xl7XwiRUHfc090dP44T4lw74nLQ6x05nwtigiXoze4Y5vSsivhppL0NpisE08Cfa6ta1ARnfvcvYDJNHOFIw+plTo8l+RQos6ynvZNbIXhgrxC3iGop6tCphoovQtUHqWQPZkSpUfj3UhJZVvrp7Qm38MBggt2KP9pGXC15ukGWic2nFIJtlkX+56FcXo6W7N3YI4j9LoVgqe3LI4JWVKOoeO2INmtRCJYWZPrKGPj8395KfzKIEMxBO5vdz+qgNOvU55bgYRWYEBV5wV+A9HyrGUTC6oYJFFnz3pol6nLQWoon711SDIaSbiNvduc151yggilPSor/OrHtWgUGbtxrkb9HgSs1M9suDIOxR8R4Pt+HFZ7nbSdyXilk9n8qKrZmtKe2ZFyGruPrsJO3L0zrZnWPGyN65Ju3p0QyavQvtcafQvPc+euDvAuXqBbRmq+AtnomRdk8F5zXoeZpXyMT3avUwwwzL07PfldoxVvx7IDe5+X3ljpAS90q1A19f7s6nPD4HdaRW+HOuOkwJ+ceMUAP8w9JctSvZeCEEArdWAwBV9T6rPiQZARpA/9UDJc3d05s438FkUHzN+fnVv/zz6N0NbBEHemlJmxHJvXobQtdMaDeaOSxZRmLiTjpgzLD78/zxyguybeWvC8kS6FPnraDmCoJvXNbUzTigzmZXnNKLmxe3VrSwkWDGJqkFu9EKYXAk+J6VvHuO2w3qBKCYifweGTPRzNmXmXkycHOI5VB

W3PBiXJVFI0GClOyJwX1xx7P3PV4KhTWf1HIEWhHBldGvjR5kVpTdGtYGnqT8uY3oGw9FfpF6N0MTKVecy
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EYrdC8C/PaHkucy+sw1Vj30dBuEVPtnvpl1j+a6fusgqif7sed/SUXUYNn1R9BOUtCNbxLajeHTSjgoJVHWrt9T
2hpn8G5f/aJGJTFb/bY6aD+yslzbcn9No6lZ/7fTCxXvfTc414YyLq7b7+gtDuCsFBfU3m6iWYENcll60J1FXptyv
d6AnONX9+rMDhNB+U2PklSoHIQX46JGxzb/UuubJFUtnaXpit0KQnj2n5voqvX3Uu2RB6LPUjsVSU36CHP
VFvVbXb5t7KwfJIOUfbWSp/AaCbHIVRfnSEGoB3xnN8mfHEwsqQQTn15B9lpq9KEocAfIP/zSnbyDNNmn7i
vPTTihhv4CeolMppoPH2xhy2CQLHH74+oRw+BXh8OjoEcBV2wz+MmQTOKgUblQYUuo9UXpj2Ma3ytV0q
K6ZxhmqW3tPINwbuDsrAHIF0fypdmasVJ1vY3HKI2DYzWslNAdvr4wF7CLrSvb19bYIQrVecrbFAwRFXrqB
qwdJr2fliif6gnl5hSG9W8Spq6PyYeYSDit4/CuDtaNvWyo/9l2Dk5oE6qZtmwOCS30BL6tfl0sGhquY/fELx5Xve
lWP9bVq659xUeJtk5VB0Lt5pJsbRoewTR7F/2rmrsxJR+PQgmIKMmVBEIwTH1Wod3AJWugrayxVgapOoaE
pXbD2KsVzBw1WP53loiCUgyFW983LnxzKlEXx+JYZQzK9rkzWzQX9U229bflEZWGun1mjyqOeXla40IRkhjU
DdlIcUN6Q4aCXHudpVqhw8Vs3XnINrvEF7eaSFmuRsmkdeeHUFukw+px0mmMLQ29WRB6k+3P1tlcM5d
u1Q200unuOu2ddVjk1Qsvma9LiXW6VUyoe5v78JfZazqkN0zVk5fIK2uiP/79Pu5vwaPG9BJRkRjKwiBIYdOk/
WUc6jJMFjLnFQKXPLkSxXCG2LEW8GWqtrBrxU0zz7bLPQhrH5+EzjjmUm5Nfpu5d3HFmZi8LxtU9vUn09g
lFqlvHpgLiOMljsNtMoT2lenhMimaWlb5ch7/xtwTPW23xlcit6c1BZ0C1V0fjVmE/EyxVI4ZLemwlfQl+kGFaf
kwkvDL1hLuGg4s2eqUJ6E1BHegeoPjGUpSix/juhjUTh17IXYsIPpPvGIUly5FH1ljk+NfuQrCPx0Bi/PTwllwX2
Ax3HolW9BJ2WG0Bv55LoHyV7ZgGaKsE8ri8g3vNIQNq7fZl52EyQx4bfw0UICt3pvZkfyCozTjmlUVGH6oaO
BCqkz7+WJZZyD+7uMoLuGloY4VVGY2+oD0wn0iCLbh12kyQrWv+Qt/ObSSuUBtkz5Gsg67KjCAhIWWYx+L
XzQTBZoLflsZg3Y78s8jeVyNpcJfgteh1vyWil0FmJR2RBoTUIRISCVY8BCWu/JRBFJdeR5SuxpH0ngoKUyTGIh
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V1AAh4eVHhgOKCUuQLItUgplbmRzdHJIYwOKZW5kb2JqCjEwIDAgb2JqCjw8L1R5cGUgGL1hPYmplY3QgL1N

description	Data Hex	result	Command explain
Initialize the printer	1B40		Initialize the printer
Feed two lines, prevent start-up compression	1B6402		Number of lines specified for paper feed The third byte 02 is the number of lines
Print two horizontal lines	1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02		Print horizontal lines, see instruction set
Feed two lines	1B6402		
Right-aligned print “service desk”	1B6102 1C26 1B3901 E69C8DE58AA1E58 FB0 0D0A	 service desk	Align right Set Chinese UTF8 Print “service desk” Paper feed
Feed two lines	1B6402		
Print three horizontal lines	1D270100007800 1D270100007800 1D270100007800		
Feed paper 10 dots	1B4A0A		Feed specified dots The third byte 0A is the number of dots
Left aligned, bold, doubled, high And specify the location to print “the round table”	1B6100 1B4501 1D2111 1B240C00 1C26 1B3901 E59C86E6A18C		Align left Bold Double width Specify print position Chinese UTF8 Print round table

	1B4A00		Feed 0 point (print)
Restore the width to the normal value and feed the paper	1D2100 1B4A0A		
Print three horizontal lines and feed one line	1D270100007800 1D270100007800 1D270100007800 1B6401		
Print "spicy hot pot" + date and feed two lines	1B4500 1C26 1B3901 E9BABBE8BEA3E9 A699E99485EFBC88 E4B88AE6A285E69E 97E5BA97EFBC890 D0A32303138E5B9B 432E69C8837E697A5 31353A35313A30300 D0A0D0A	麻辣香锅 (上梅林店) 2018年2月7日15:51:00	Cancel bold Print "Spicy Pot + Date"
Print 6 horizontal lines	1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02		
Center alignment double width high print "first floor lobby"	1B6101 1D2111 1C26 1B3901	15-D-一楼-大厅-散座	Center alignment Double width

	0D0A31352D442DE4 B880E6A5BC2DE5A 4A7E58E852DE695A 3E5BAA70D0A		Print the “first floor lobby”
Left aligned normal width Print scan code order In-store dining 7 people	1B6100 1D2100 1C26 1B3901 0D0AE689ABE7A08 1E782B9E9A490E8A EA2E58D950D0AE5 BA97E58685E794A8 E9A4900D0A37E4B ABA0D0A	扫码点餐订单 店内用餐 7人	Align left Normal width and height Print scan code order
Print four horizontal lines	1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02		
Print “hot dishes in designated” locations	1B240000 1C261B39010D0AE7 83ADE88F9CE7B1B B0D0A 1B245000 1C261B3901E9B1BC E9A699E88289E4B8 9D 1B24C800 1C261B390131 1B24E001 1C261B3901C2A532 332E35300D0A 1B245000	热菜类 鱼香肉丝 1 ¥23.50 麻辣鸡丝 1 ¥23.50 凉菜类 凉拌藕片 1 ¥23.50 糖醋花生 1 ¥23.50	Specified location Print “hot dishes”

	1C261B3901E9BAB BE8BEA3E9B8A1E4 B89D 1B24C800 1C261B390131 1B24E001 1C261B3901C2A532 332E35300D0A 1B240000 1C261B3901E58789E 88F9CE7B1BB0D0A 1B245000 1C261B3901E58789E 68B8CE88590E7ABB 9 1B24C800 1C261B390131 1B24E001 1C261B3901C2A532 332E35300D0A 1B245000 1C261B3901E7B396 E9868BE88AB1E794 9F 1B24C800 1C261B390131 1B24E001 1C261B3901C2A532 332E35300D0A		
Print four horizontal lines	1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90		

	0900191013F02 1D27030000C800C90 0900191013F02		
Feed paper and print “disinfection tableware” at specified location	1B4A1E 1B245000 1C261B3901E6B688 E6AF92E9A490E585 B7 1B24C800 1C261B390137 1B24E001 1C261B3901C2A531 342E30300D0A	消毒餐具 7 ¥14.00	Paper feed Specified location Print “disinfection tableware”
Feed paper and print 6 horizontal lines	1B6402 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02 1B6401		Paper feed Print horizontal line
Specify location to print “online payments and prices”	1B240000 1C261B3901E59CA8 E7BABFE694AFE4B B98 1B24E001 1C261B3901C2A531 31342E30300D0A	在线支付 ¥114.00	Specified location Print online payment

<p>Print “remark”</p> <p>Set the left blank 80 dots</p> <p>Print “remark content”</p> <p>Set the left blank 0 dots</p>	<p>1C261B3901E5A487 E6B3A80D0A</p> <p>1D4C5000</p> <p>1C261B3901E68980E 69C89E88F9CE983B DE4B88DE8A681E6 94BEE891B1EFBC8 CE58FA3E591B3E8 A681E5BEAEE8BEA 3E38082E799BEE4B A8BE58FAFE4B990 E4B88DE8A681E58 AA0E586B0E38082E 4B88AE88F9CE5BF ABE782B9EFBC8CE 5A4AAE685A2E4BA 86EFBC81EFBC810 D0A0D0A</p> <p>1D4C0000</p>	<p>备注 所有款都不要放葱，口味要酸辣，百事可乐不要加冰，上来快点，太慢了！！</p>	<p>Print” remark”</p> <p>Set the let black 80 dots</p> <p>Print “remark content”</p> <p>Set the left blank 0 points</p>
<p>Draw two horizontal lines and feed paper</p>	<p>1D27030000C800C90 0900191013F021</p> <p>D27030000C800C900 900191013F021B640 1</p>		
<p>Center alignment print QR code</p>	<p>1B6101</p> <p>1D77041D6B6100010 C00E9BABBE8BEA3 E9A699E99485</p>		<p>Center alignment print QR code</p>
<p>Print “heart service every day and phone”</p>	<p>1C26</p> <p>1B3901</p> <p>0D0AE794A8E5BF83 E69C8DE58AA1E6A F8FE4B880E5A4A90 D0A343030383038</p>	<p>用心服务每一天 40008083030</p>	<p>Print “heart service every day and phone”</p>

	333033300D0A0D0A		
Print two horizontal lines	1D27030000C800C90 0900191013F02 1D27030000C800C90 0900191013F02		Print two horizontal lines
Cut paper	1D564200		Feed and cut paper