

PTL Operation Manual

V1.2

DALIAN SERTAG TECHNOLOGY CO., LTD

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1. About Server

1.1 Build Server

If you are using a v1.4 base station with integrated service software, you do not need to install it locally. Just go to [1.2](#).

1.1.1. Download the soft package

You can use the package we provide, or download by yourself through internet.

Windows 64bit:

mysql5.7:

http://47.106.109.236:8098/esls_new/mysql-installer-community-5.7.16.0.msi

JDK1.8:

http://47.106.109.236:8098/esls_new/JDK_1.8.0_64bit.exe

Tomcat8.0:

http://47.106.109.236:8098/esls_new/apache-tomcat-8.0.41.rar

navicat

http://47.106.109.236:8098/esls_new/navicatformysql.zip

wms.war:

Please contact customer service to obtain the software.

1.1.2. Startup the system

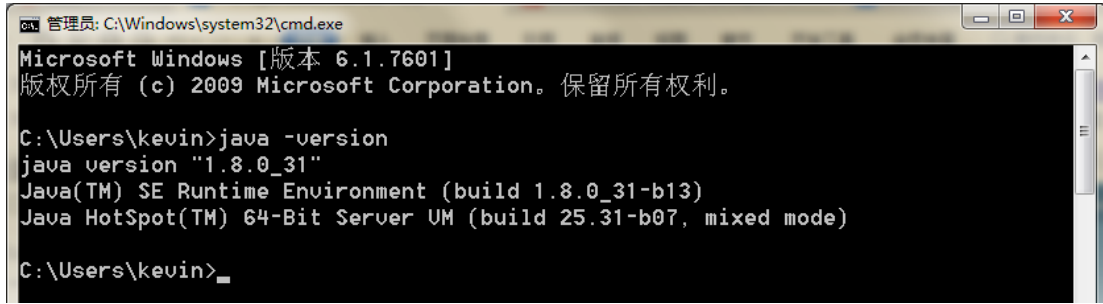
1.1.2.1 Install JDK1.8



Install JDK1.8 and configure Java environment variables

Check if the configuration is successful:

Open DOS window, and run “java -version”. If it is work, it will show as below.

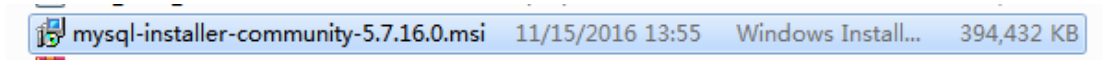


```
管理员: C:\Windows\system32\cmd.exe
Microsoft Windows [版本 6.1.7601]
版权所有 (c) 2009 Microsoft Corporation。保留所有权利。

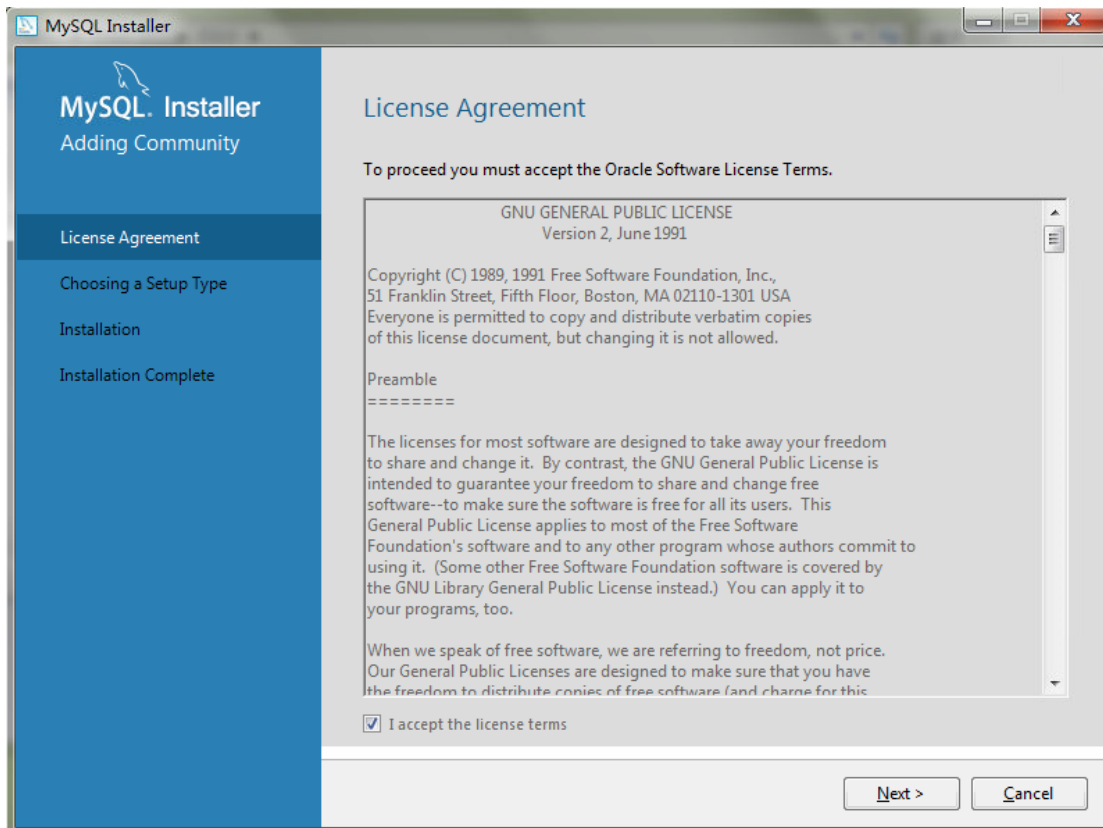
C:\Users\kevin>java -version
java version "1.8.0_31"
Java(TM) SE Runtime Environment (build 1.8.0_31-b13)
Java HotSpot(TM) 64-Bit Server VM (build 25.31-b07, mixed mode)

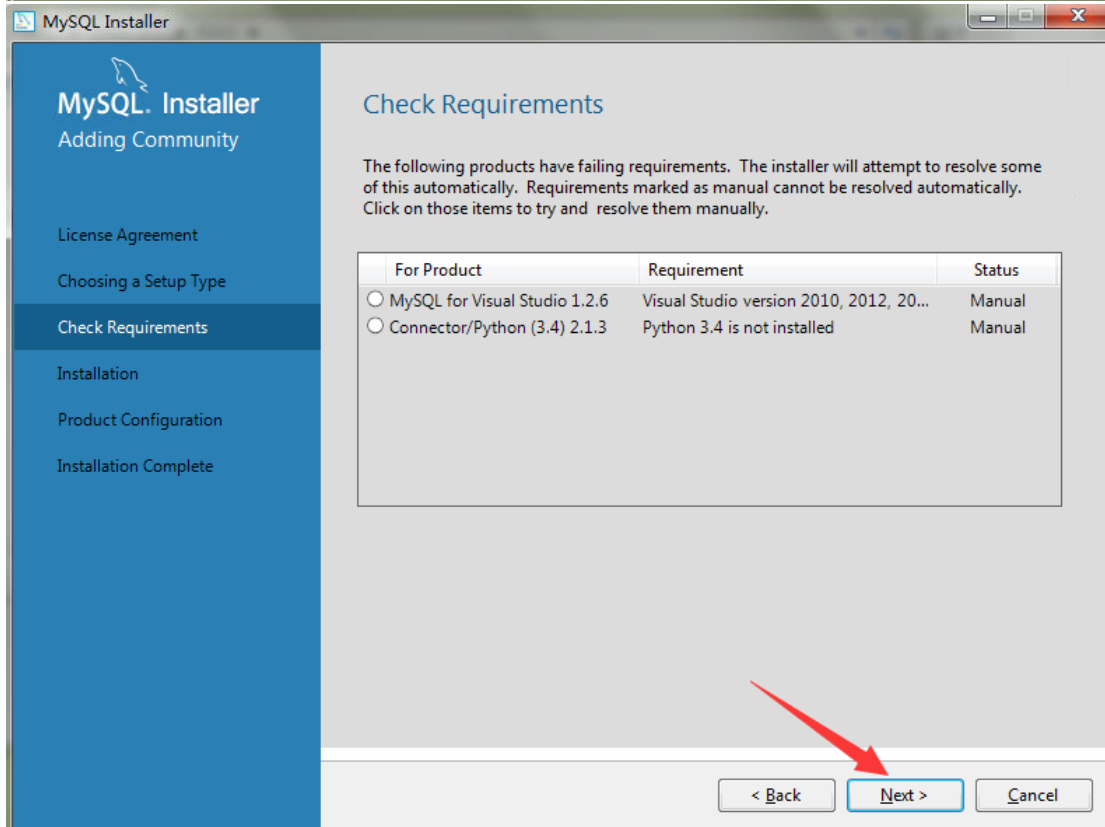
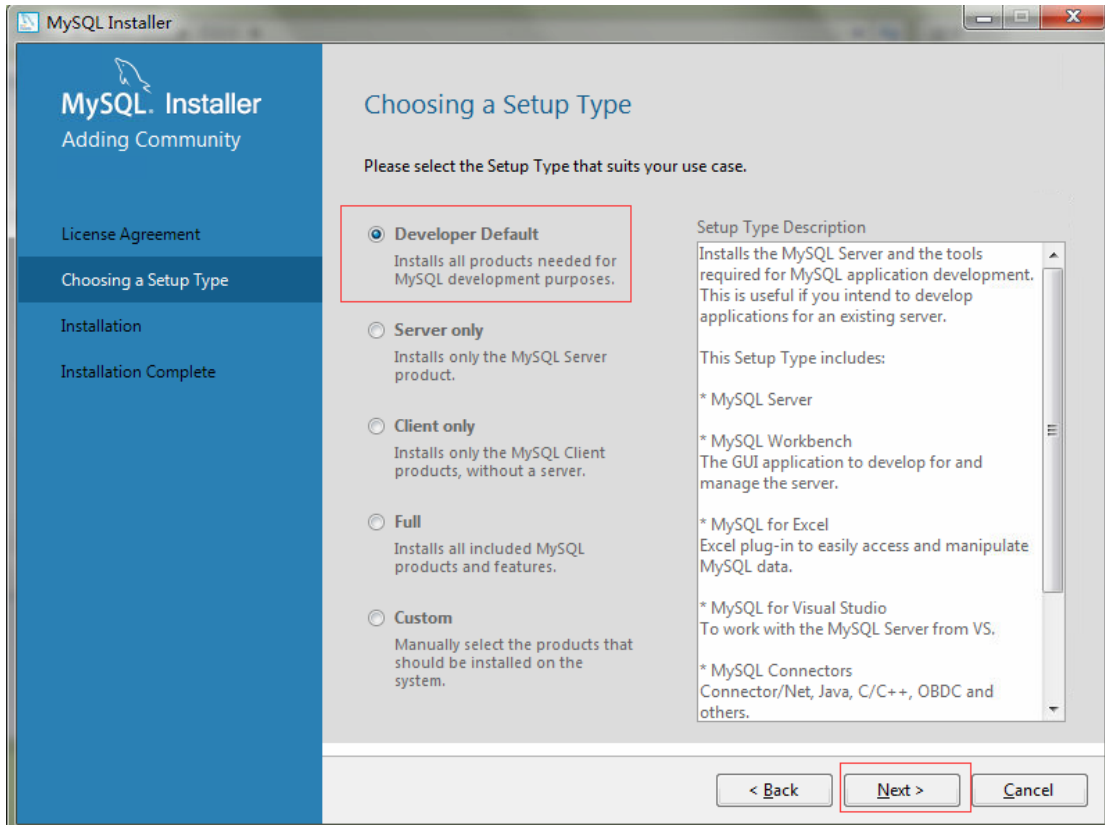
C:\Users\kevin>
```

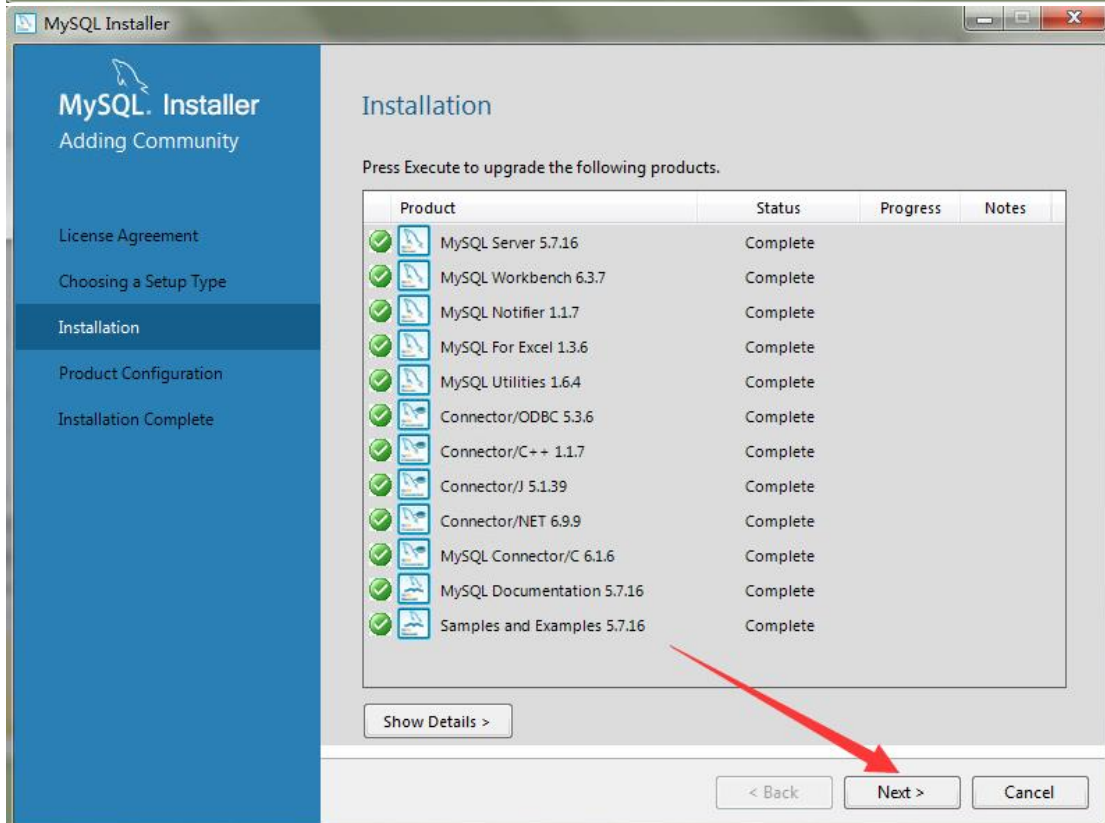
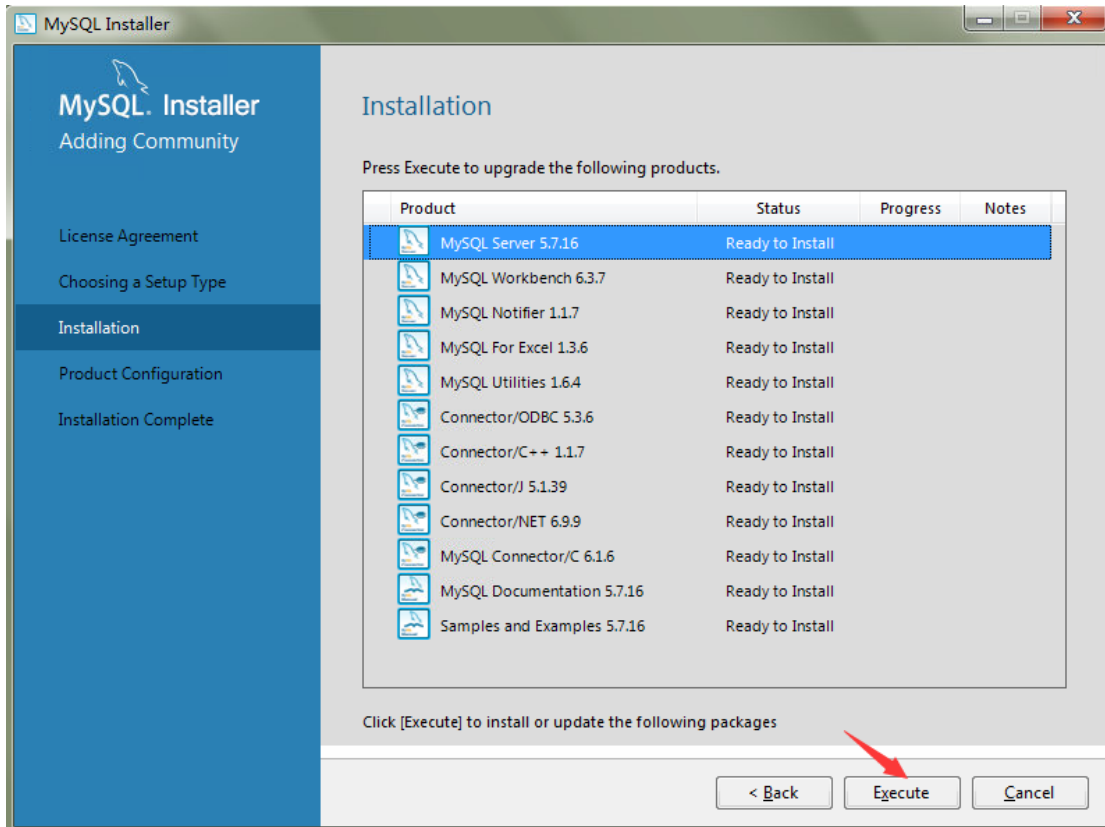
1.1.2.2 Install Mysql5.7

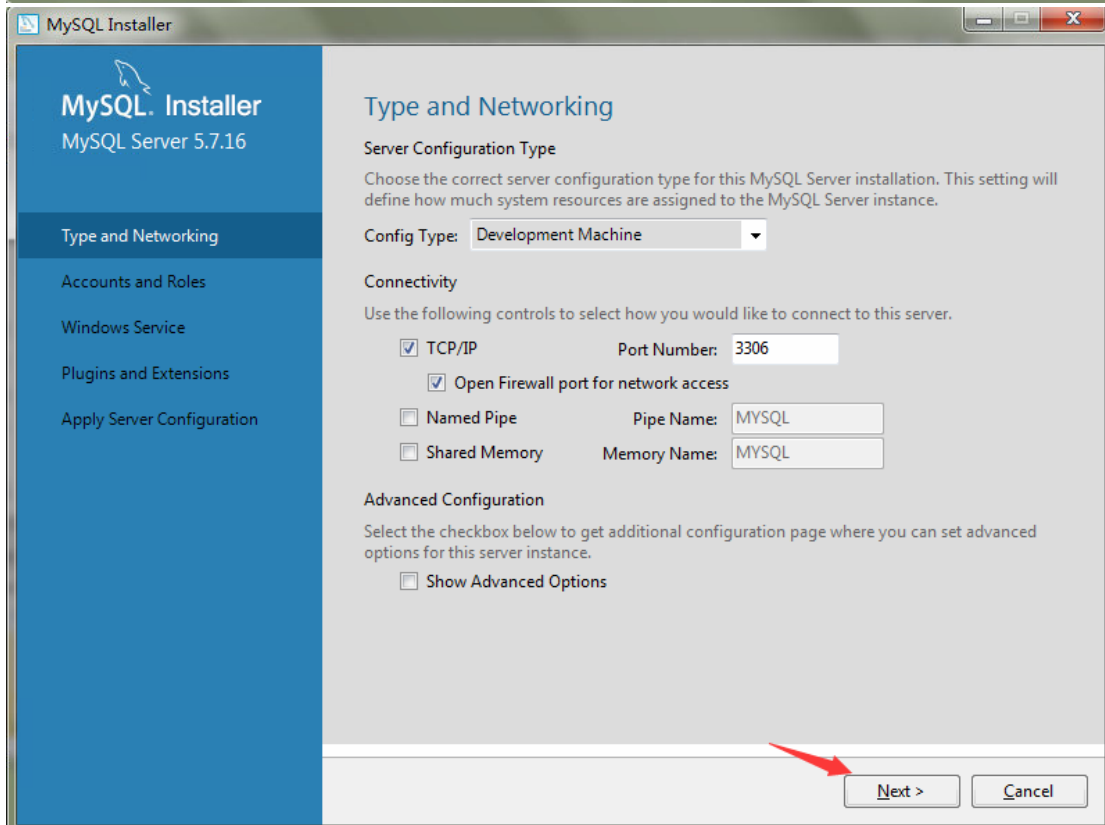
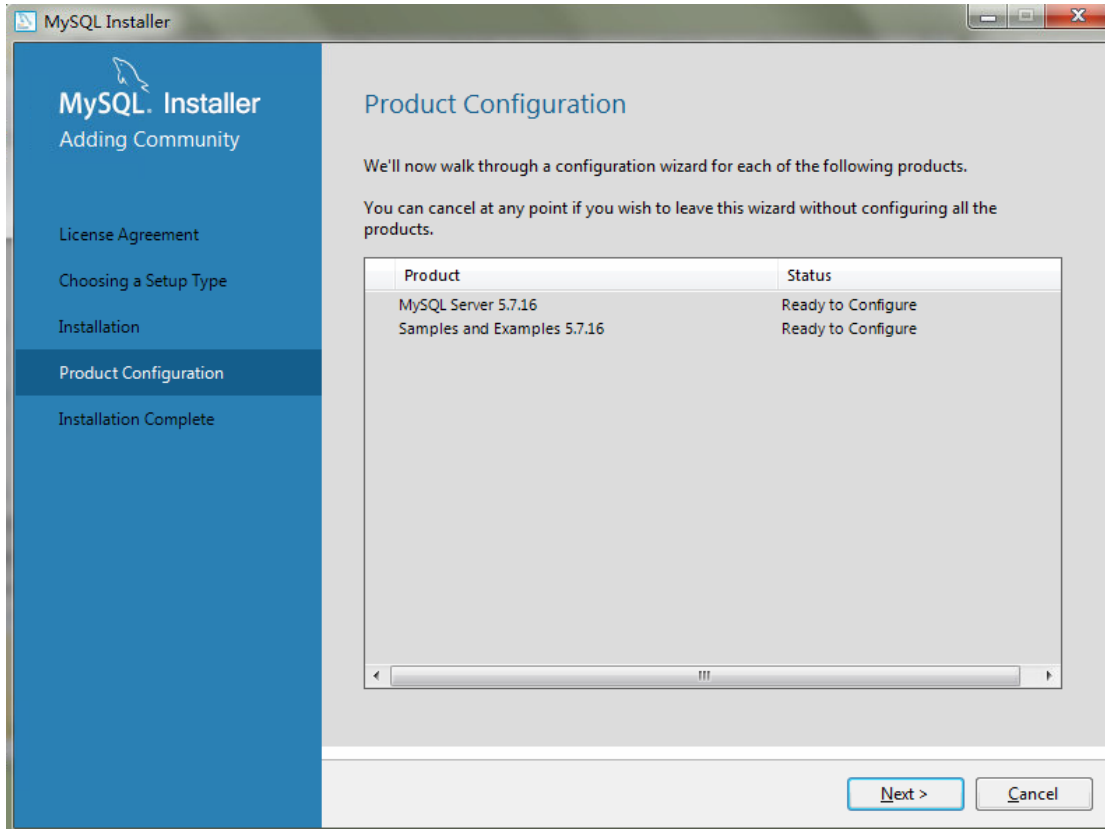


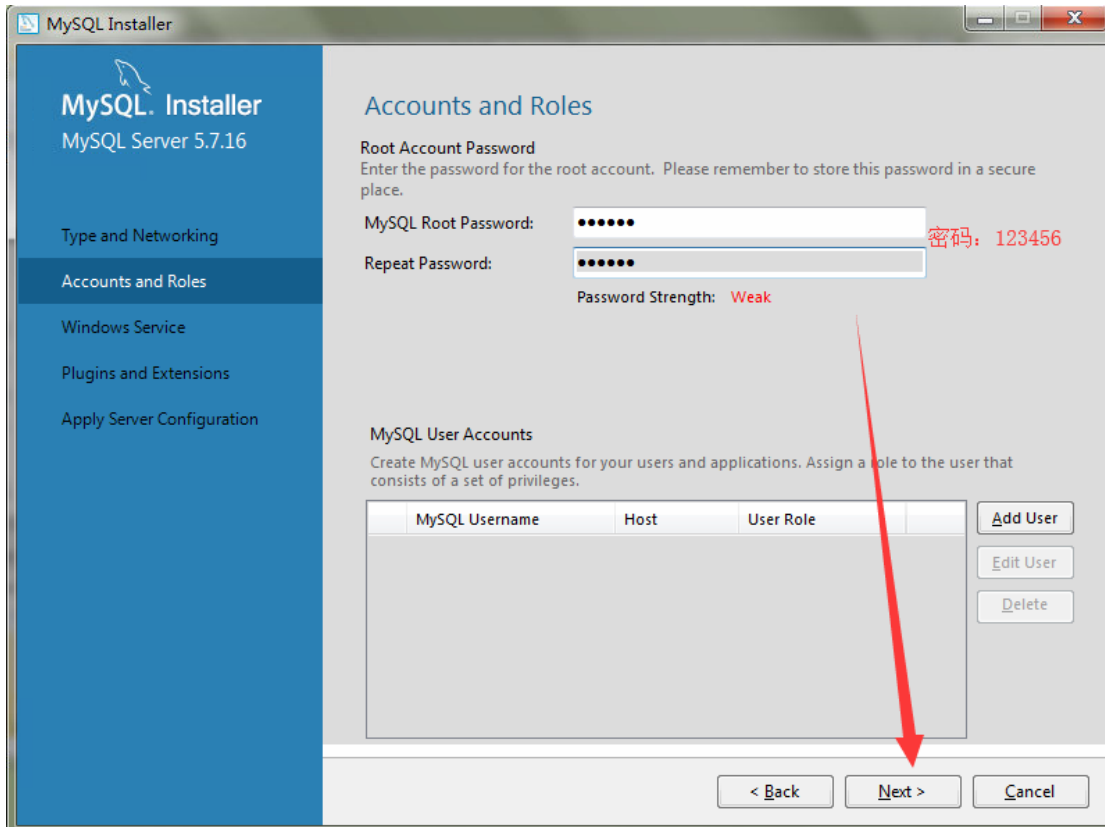
Install mysql5.7:



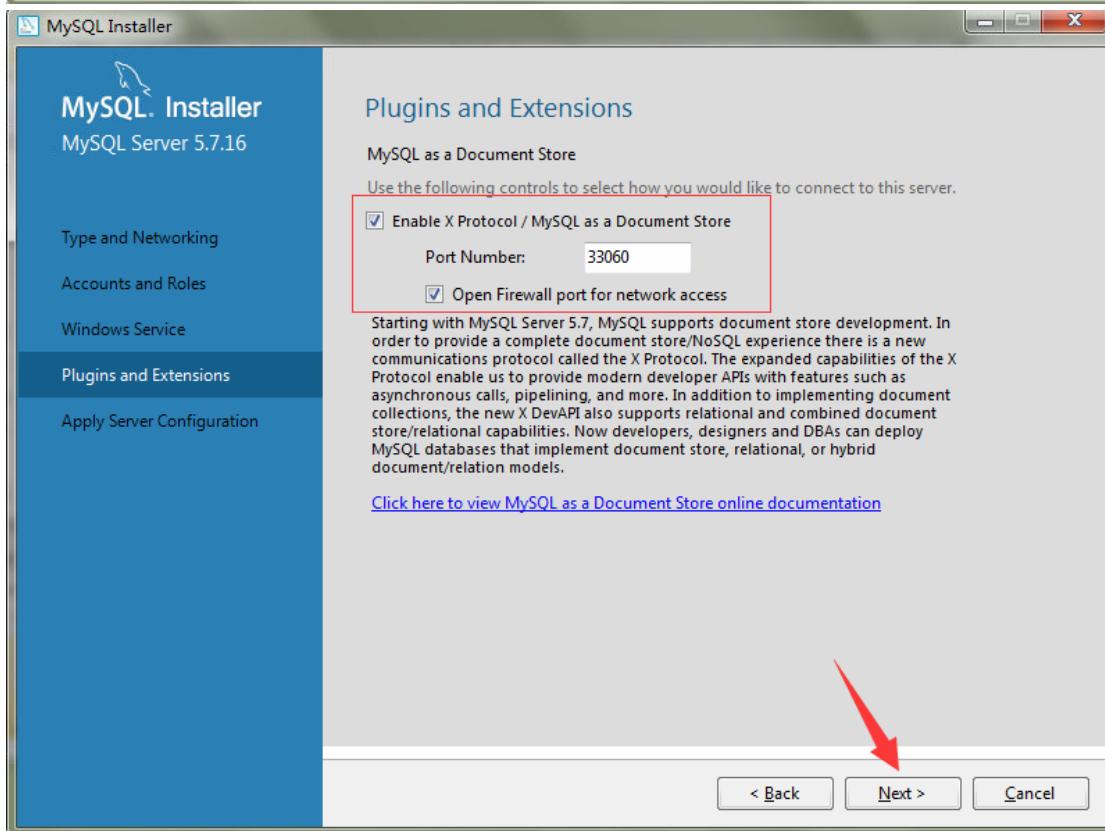
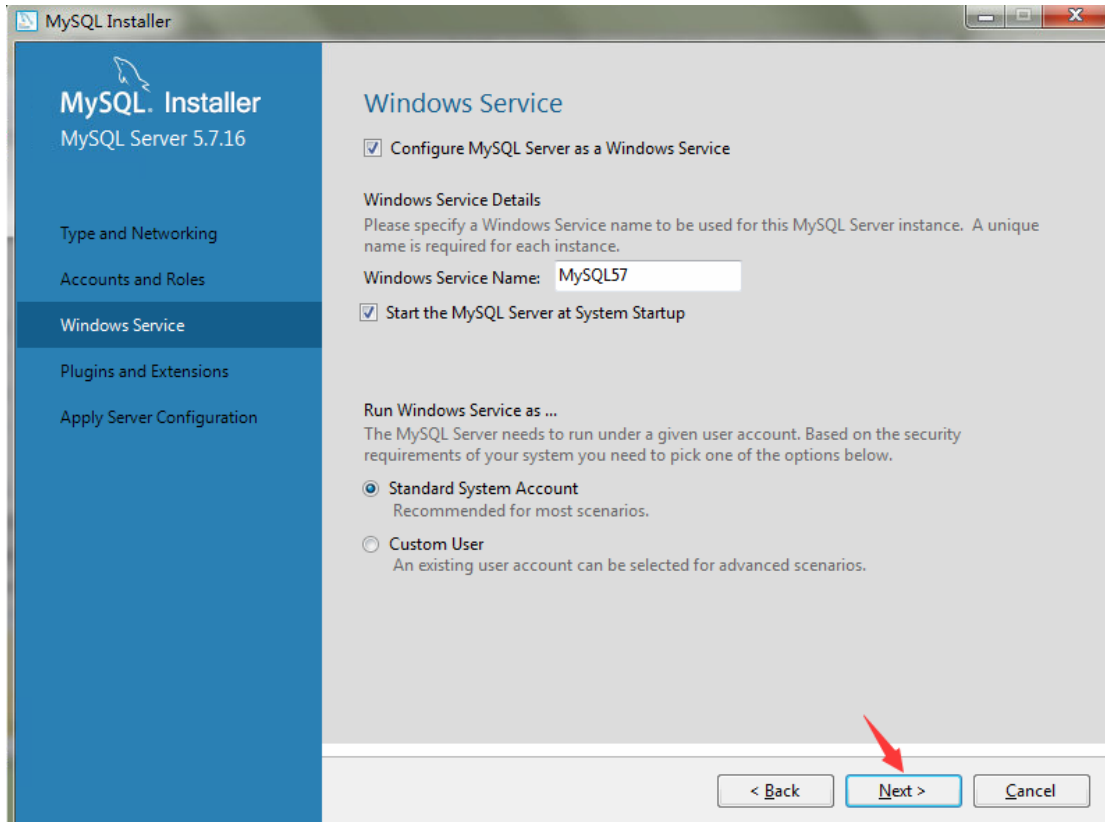


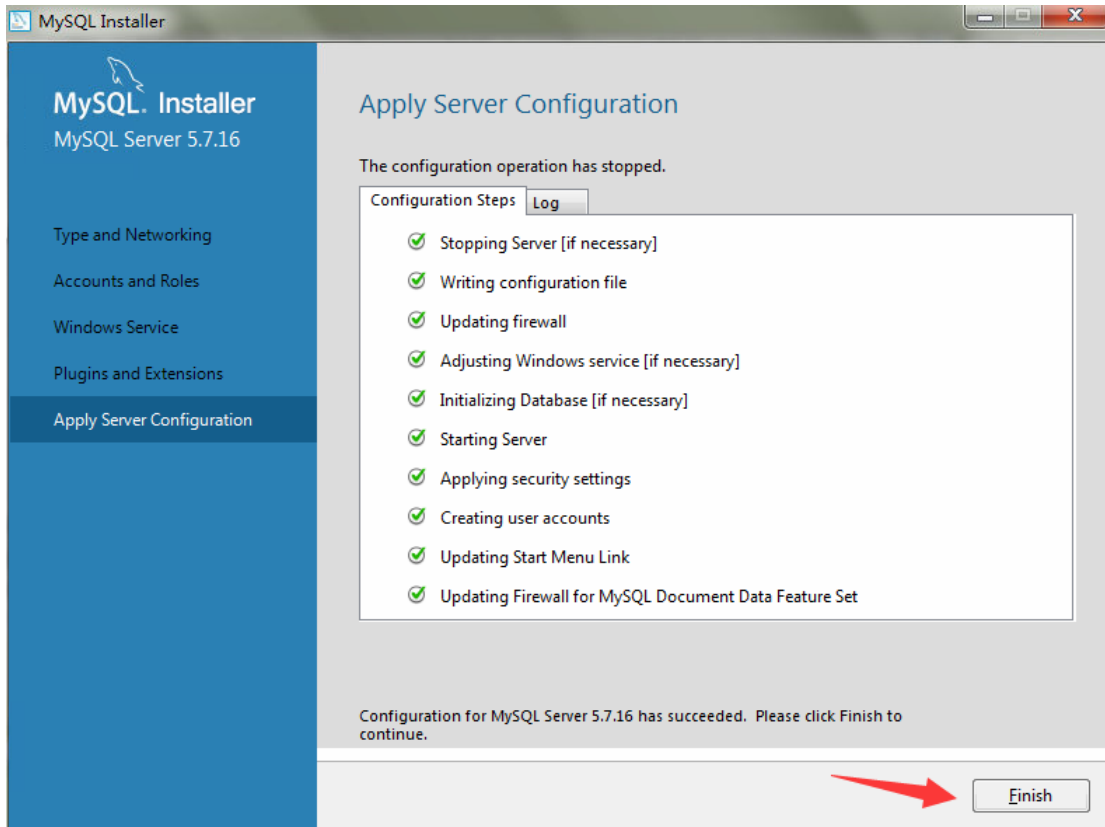
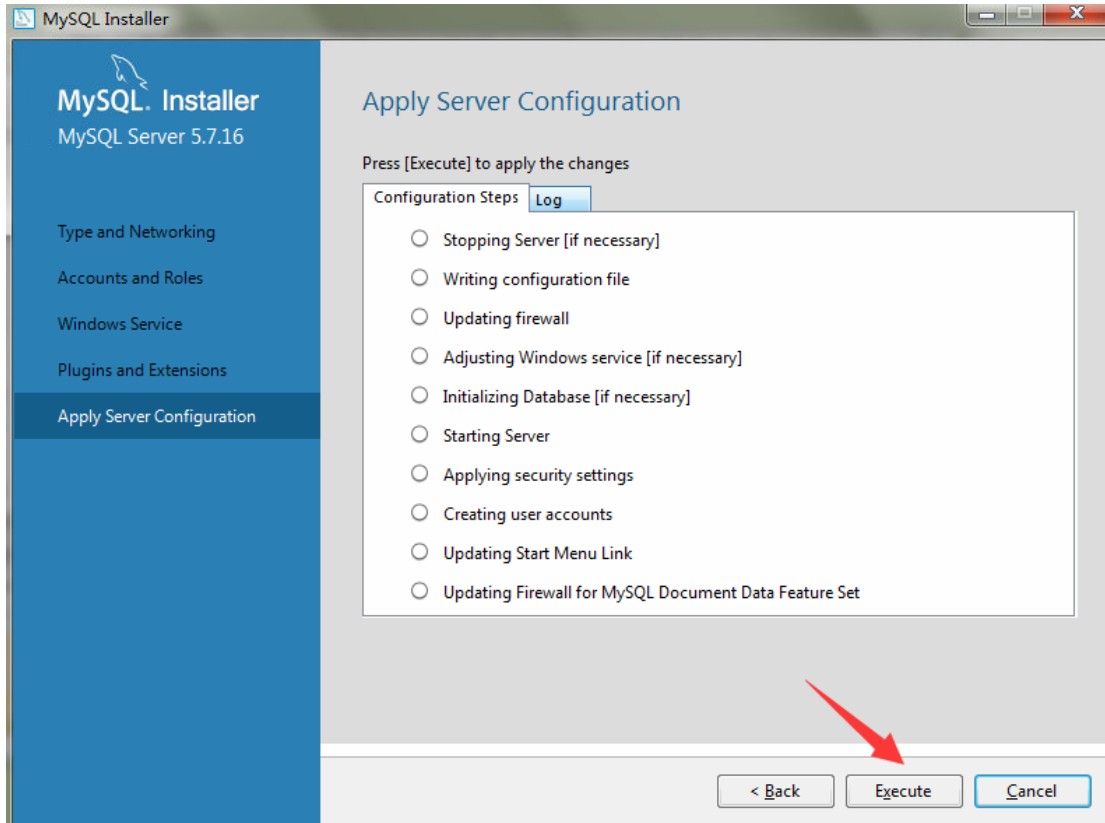


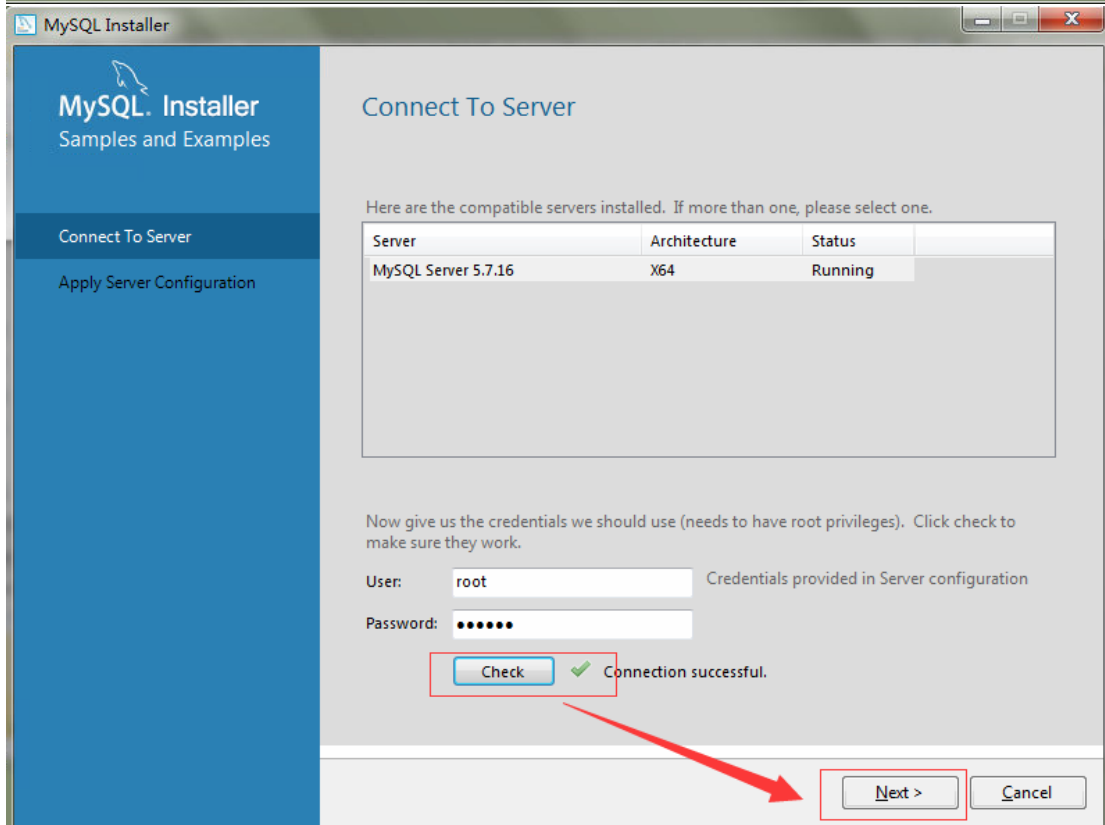
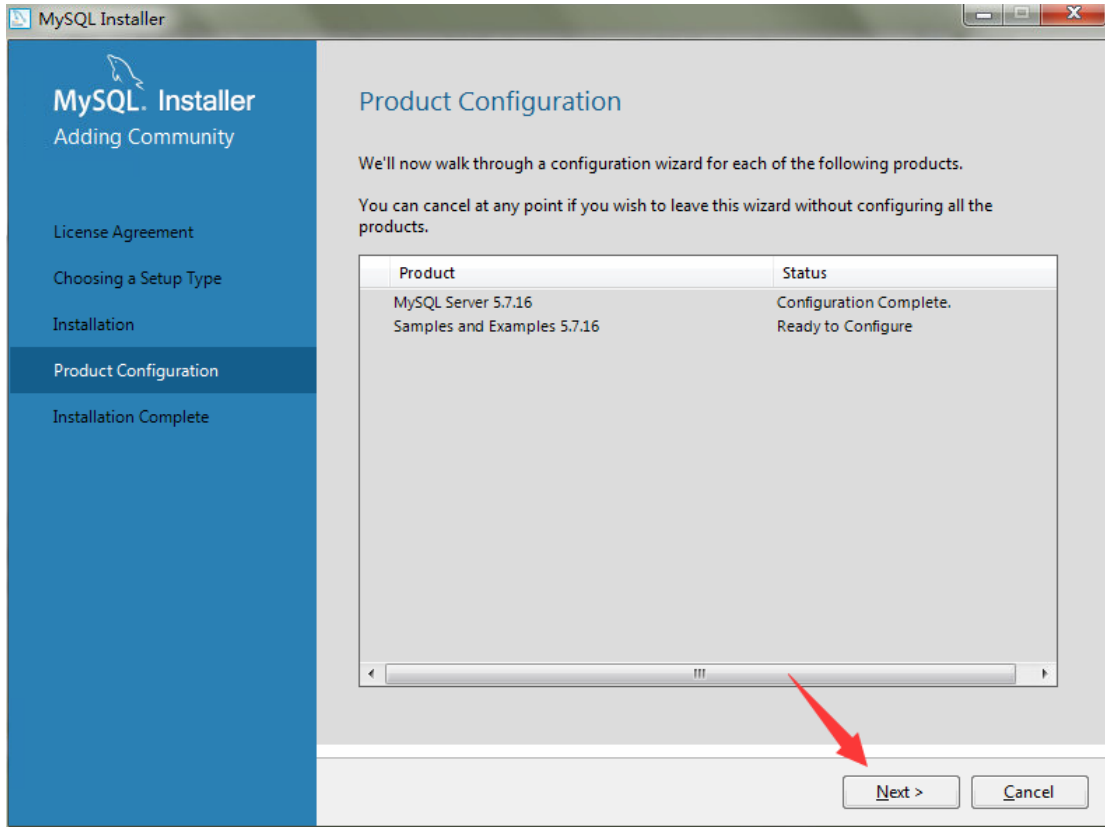


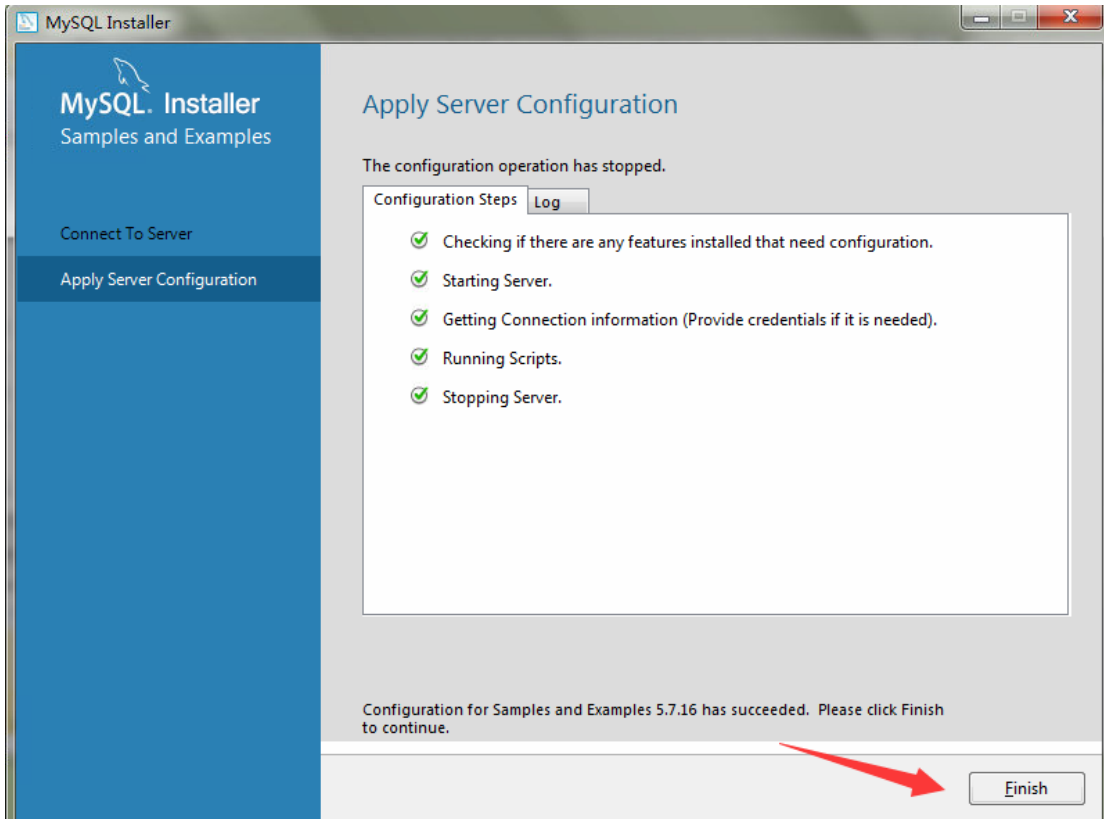
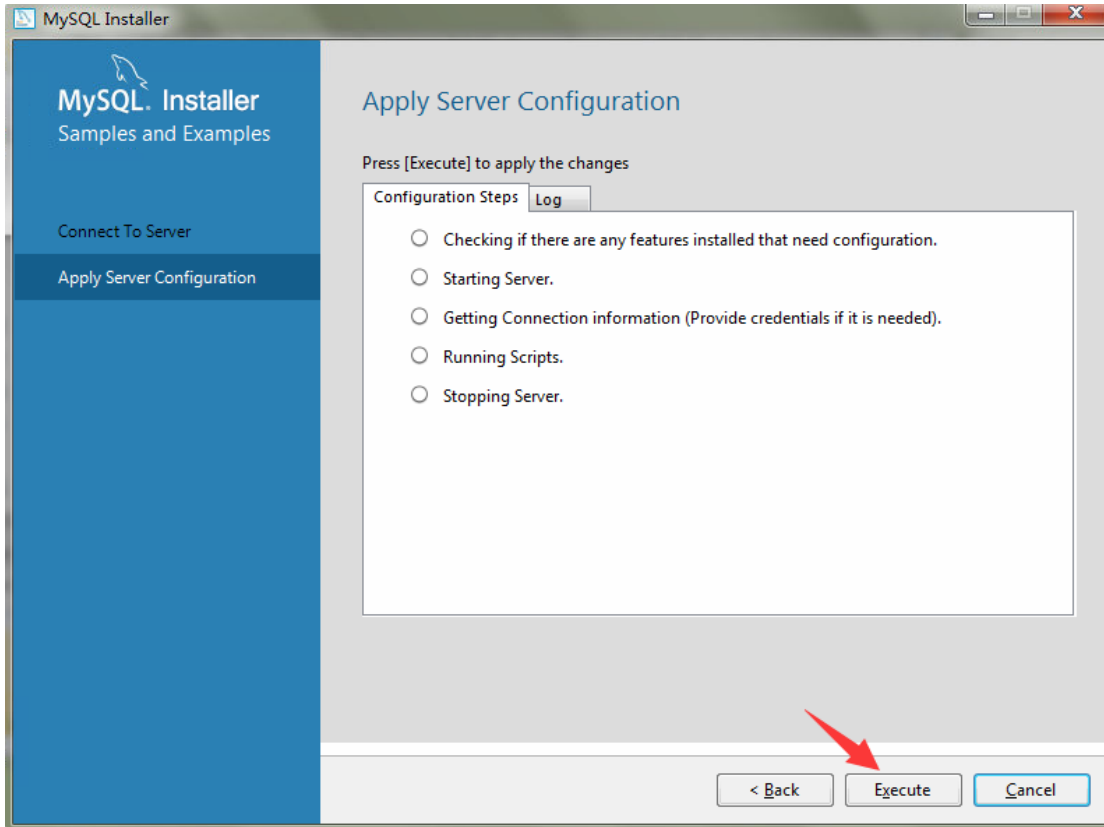


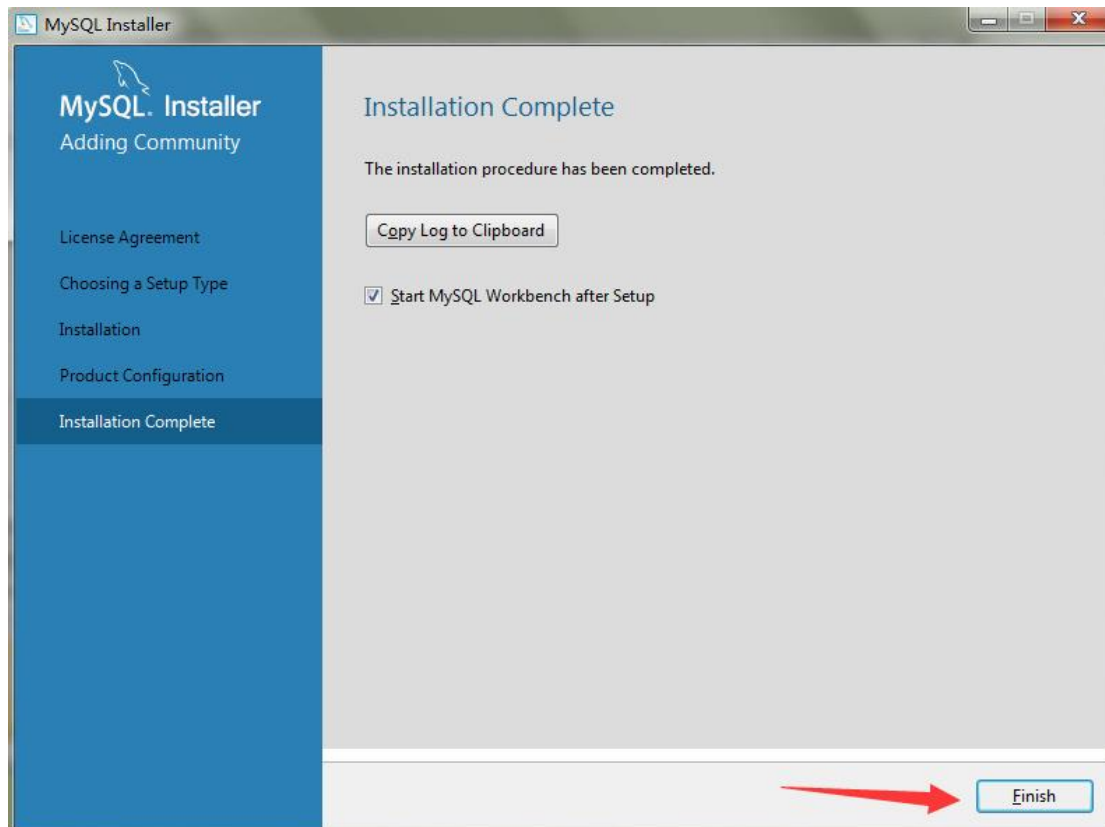
The default account for mysql in our war is root/123456











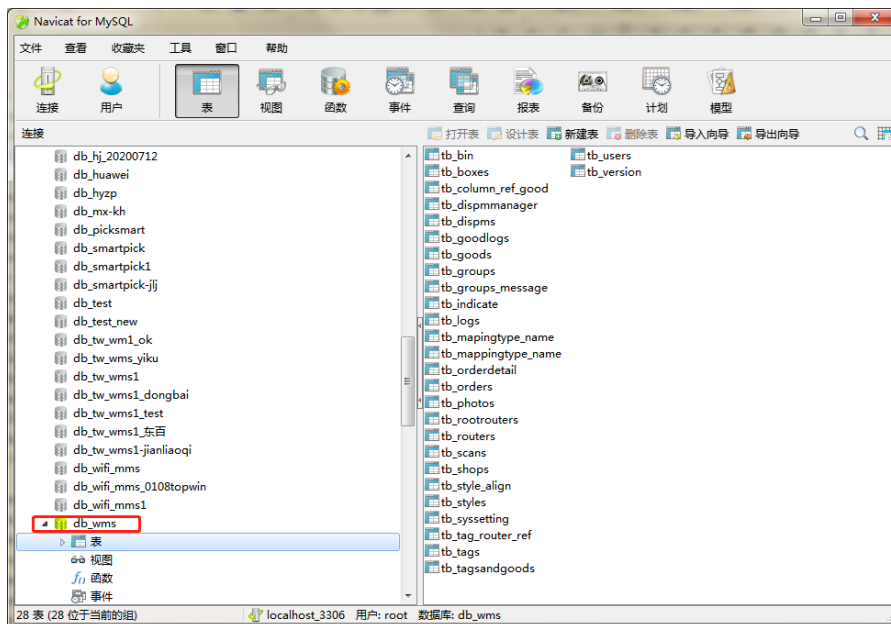
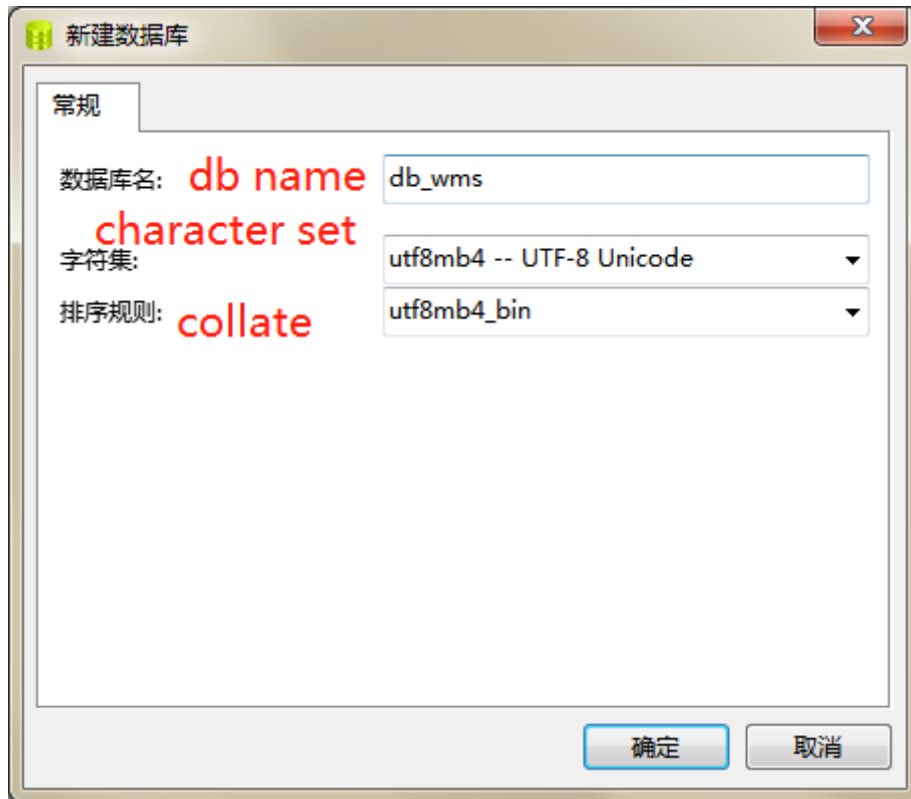
Use Navicat

Create new database named "db_wms" :

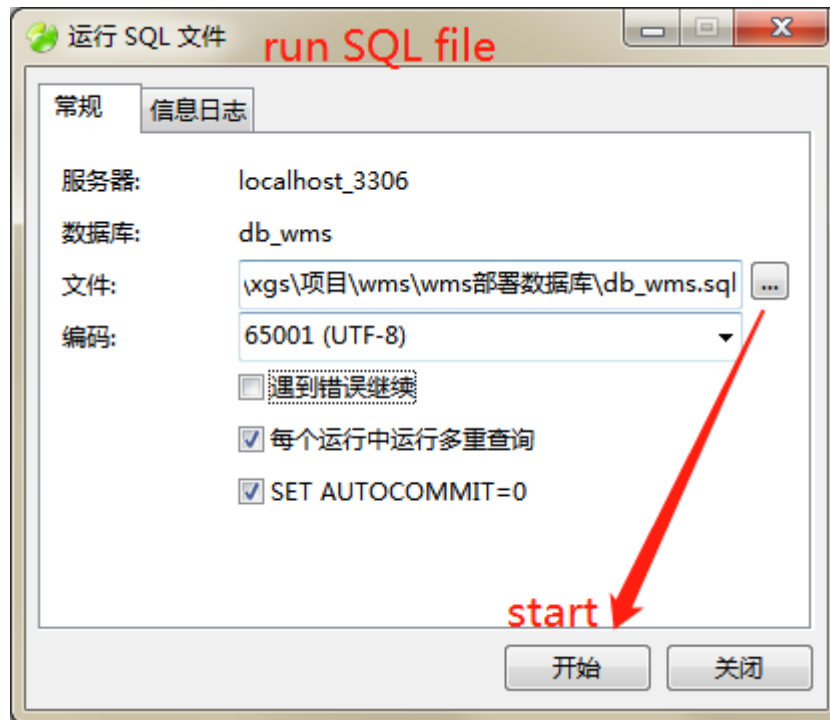
Db name: db_wms

Character set: utf8mb4 -- UTF-8 Unicode

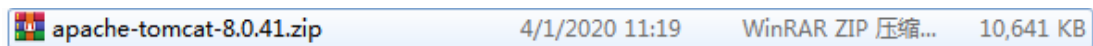
Colate: utf8mb4_bin



import the original database file “db_wms.sql” we provide.



1.1.2.1. Deploy tomcat

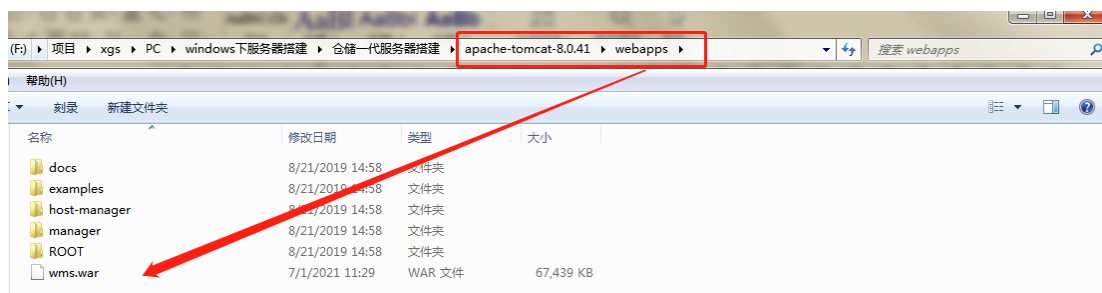


Just unzip the compressed package, and you can use it.

1.1.2.4 statup the server

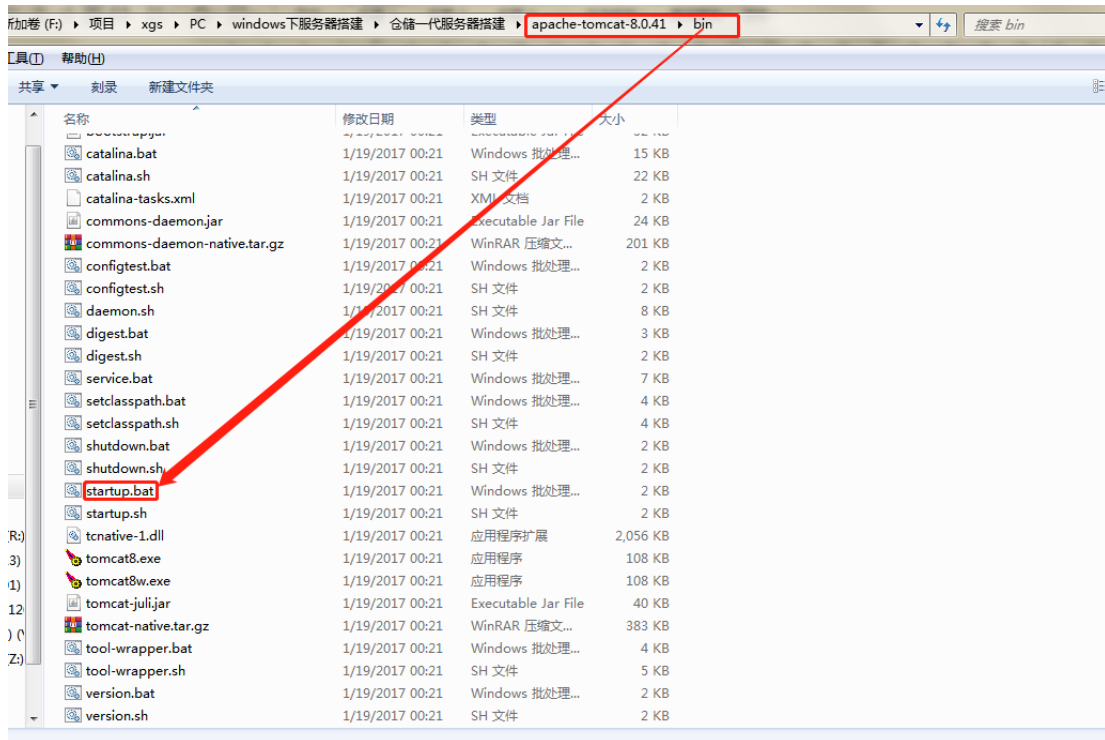
Deploy wms.war and start Tomcat.

a. Copy wms.war to dir: apache-tomcat-8.0.41\webapps



b. Startup tomcat

Double-click "startup.bat" to start



When tomcat starts successfully, it will show as below:

```

questHandler#23'
2021-07-14 10:42:20.864 INFO [org.springframework.web.servlet.handler.SimpleUrlHandlerMapping] Mapped URL path [/dispMM/images/**] onto handler 'org.springframework.web.servlet.resource.ResourceHttpRequestHandler#24'
2021-07-14 10:42:20.867 INFO [org.springframework.web.servlet.handler.SimpleUrlHandlerMapping] Mapped URL path [/dispMM/css/**] onto handler 'org.springframework.web.servlet.resource.ResourceHttpRequestHandler#25'
2021-07-14 10:42:20.871 INFO [org.springframework.web.servlet.handler.SimpleUrlHandlerMapping] Mapped URL path [/dispMM/js/**] onto handler 'org.springframework.web.servlet.resource.ResourceHttpRequestHandler#26'
2021-07-14 10:42:20.874 INFO [org.springframework.web.servlet.handler.SimpleUrlHandlerMapping] Mapped URL path [/index/*.html] onto handler 'org.springframework.web.servlet.resource.ResourceHttpRequestHandler#27'
2021-07-14 10:42:20.876 INFO [org.springframework.web.servlet.handler.SimpleUrlHandlerMapping] Mapped URL path [/**] onto handler 'org.springframework.web.servlet.resource.DefaultServletHttpRequestHandler#0'
2021-07-14 10:42:20.910 INFO [org.springframework.web.servlet.DispatcherServlet] FrameworkServlet 'wms': initialization completed in 868 ms
14-Jul-2021 10:42:20.935 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployWAR Deployment of web application archive F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\wms.war has finished in 27,989 ms
14-Jul-2021 10:42:20.938 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\docs
14-Jul-2021 10:42:21.028 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\docs has finished in 90 ms
14-Jul-2021 10:42:21.030 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\examples
2021-07-14 10:42:21.270 INFO [io.netty.handler.logging.LoggingHandler] [id: 0x4007a075] REGISTERED
2021-07-14 10:42:21.277 INFO [io.netty.handler.logging.LoggingHandler] [id: 0x4007a075] BIND: 0.0.0.0/0.0.0.0:9083
2021-07-14 10:42:21.282 INFO [io.netty.handler.logging.LoggingHandler] [id: 0x4007a075, /0:0:0:0:0:0:0:9083] ACTIVE
14-Jul-2021 10:42:21.539 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\examples has finished in 509 ms
14-Jul-2021 10:42:21.541 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\host-manager
14-Jul-2021 10:42:21.567 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\host-manager has finished in 25 ms
14-Jul-2021 10:42:21.568 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\manager
14-Jul-2021 10:42:21.611 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\manager has finished in 43 ms
14-Jul-2021 10:42:21.623 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\ROOT
14-Jul-2021 10:42:21.659 信息 [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory F:\项目\sgs\PC\windows下服务器搭建\仓储一代服务器搭建\apache-tomcat-8.0.41\webapps\ROOT has finished in 36 ms
14-Jul-2021 10:42:21.667 信息 [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["http-apr-80"]
14-Jul-2021 10:42:21.684 信息 [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["ajp-apr-8009"]
14-Jul-2021 10:42:21.688 信息 [main] org.apache.catalina.startup.Catalina.start Server startup in 25186 ms

```

And then you can login the server system.

c. Config mysql account

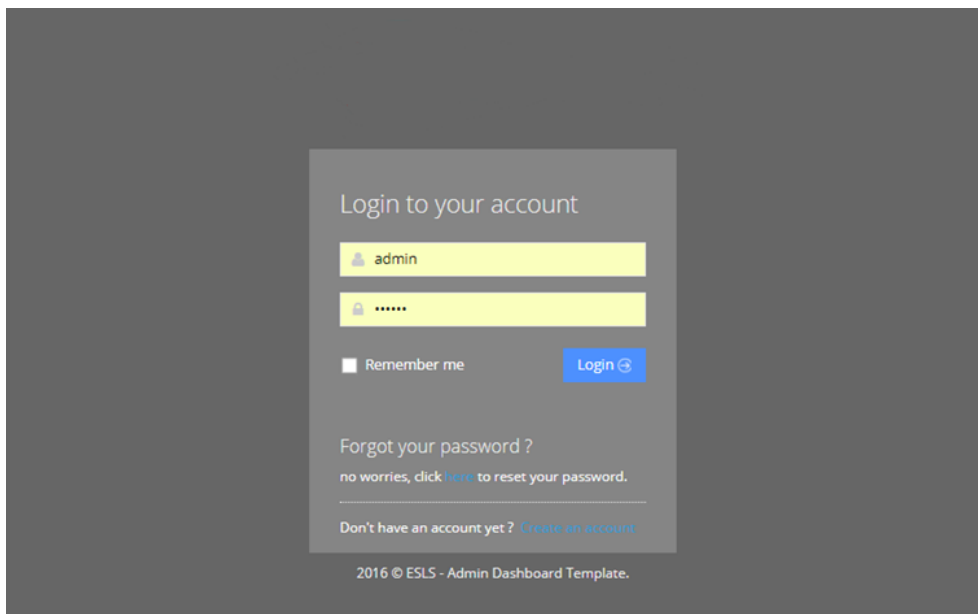
If you want modify the default mysql account of wms, you can config the file: apache-tomcat-8.0.41\webapps\wms\WEB-INF\classes\persistence-mysql.properties

```
File Edit Selection Find View Goto Tools Project Preferences Help
persistence-mysql.properties x
1 # jdbc.X
2 jdbc.driverClass=com.mysql.jdbc.Driver
3 jdbc.jdbcUrl=jdbc:mysql://localhost:3306/db_wms?createDatabaseIfNotExist=true&characterEncoding=utf8&serverTimezone=Asia/Shanghai
4 jdbc.user=root
5 jdbc.password=123456
6
7 # hibernate.X
8 # com.mysql.jdbc.Driver
9 hibernate.connection.driverClass=com.mysql.jdbc.Driver
10 hibernate.connection.url=jdbc:mysql://localhost:3306/db_wms
11 hibernate.dialect=org.hibernate.dialect.MySQLDialect
12 hibernate.connection.username=root
13 hibernate.connection.password=123456
14 hibernate.hbm2ddl.auto=update
15 hibernate.show_sql=false
16 hibernate.format_sql=false
17 hibernate.use_sql_comments=false
```

The file will appear after you start it once. After modification, you need to restart tomcat to take effect.

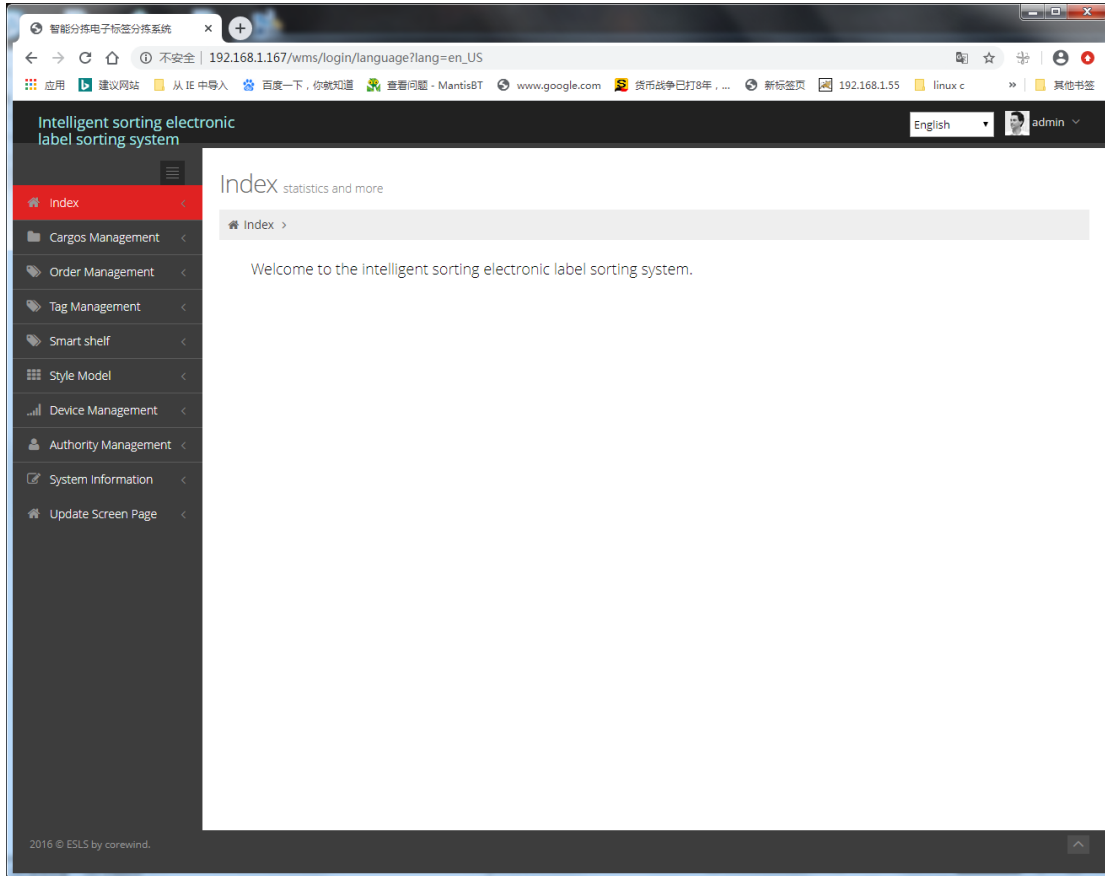
1.2 Login Server

Assuming that the IP address of the server is 192.168.1.167 and the Tomcat port number is 80, the login address of the server is:
192.168.1.167/wms or 192.168.1.167:80/wms



Type in username and password to login the system.

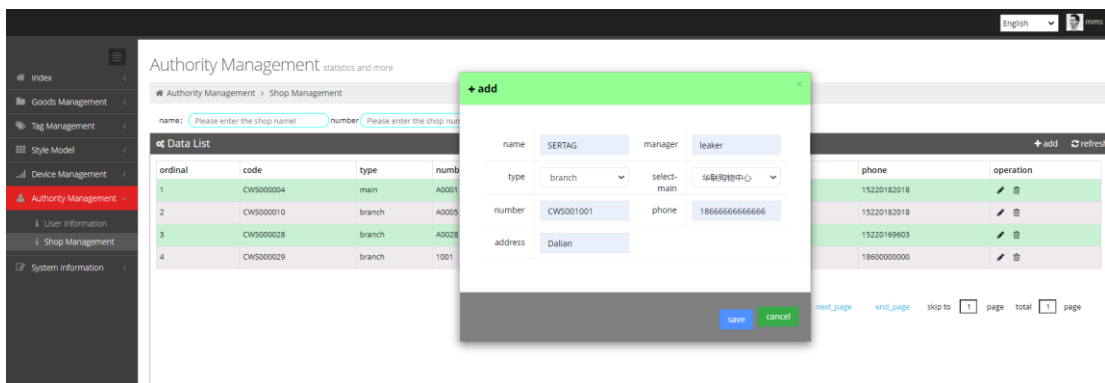
Default account: admin/123456



2. Shop Management

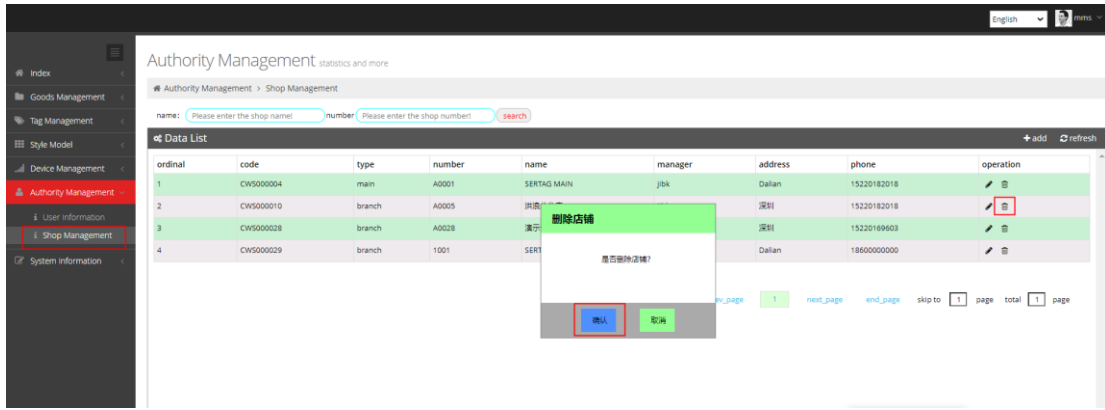
2.1 Add branch shops

Enter authority management > shop management and click add:



2.2 Delete branch shop

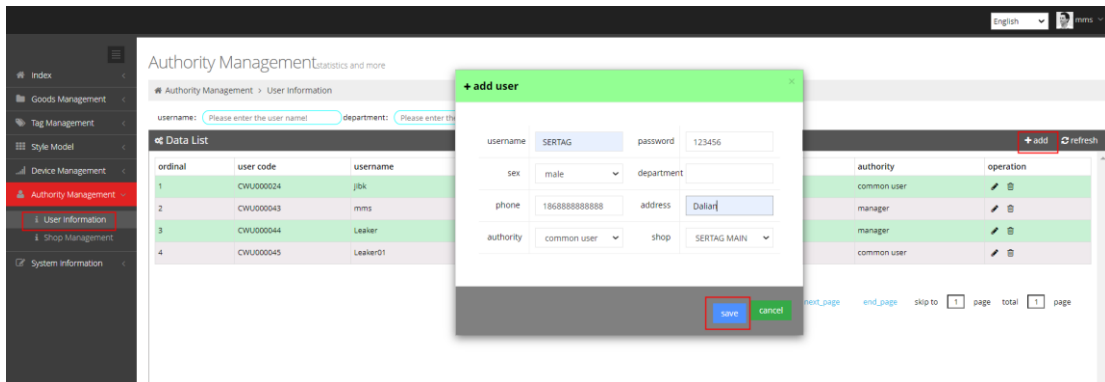
The shop can be deleted only the store does not bind users and base stations



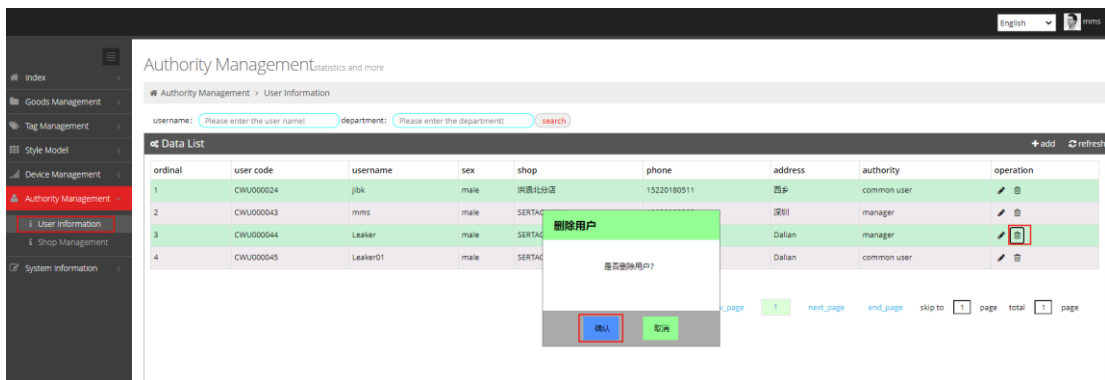
3. User Management

3.1 Add user

Enter authority management > user information, click add, fill in user information and select user authority and shop:



3.2 Delete User



4. Configure Base station

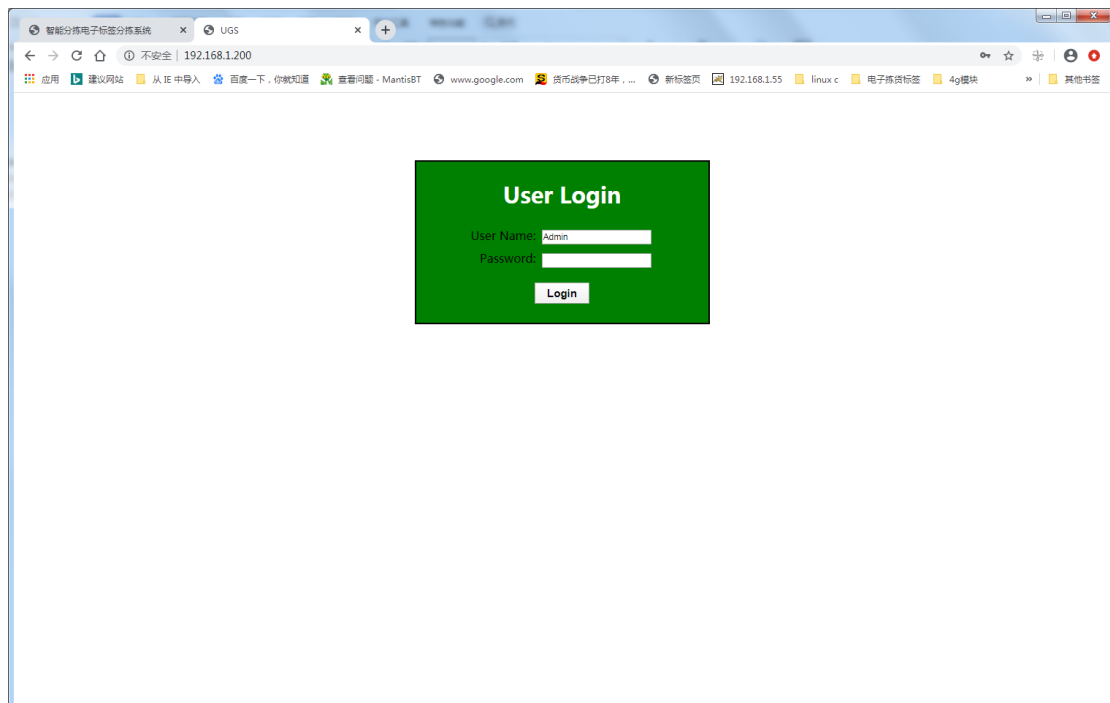
Prepare a computer with a network segment of 192.168.1. X (IP cannot be 192.168.1.200), and connect the base station and computer with network cable.

You can also login base station with hotspot. The WiFi name is "eslwifi2", and the password is 123456789. In the case of WiFi login, the address of the login system is 10.254.117.1:8080.

4.1 Login configure interface of Base station

4.1.1 Router V1.2

Browser login: 192.168.1.200 (base station factory default IP)

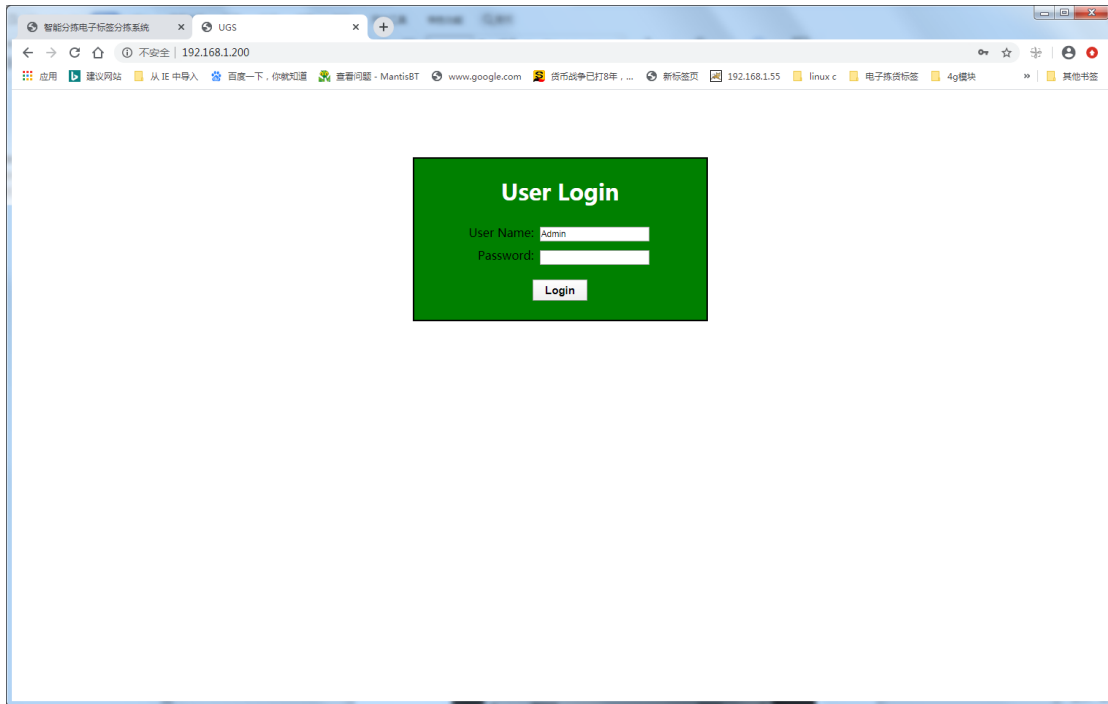


UserName: Admin

Password: 7834

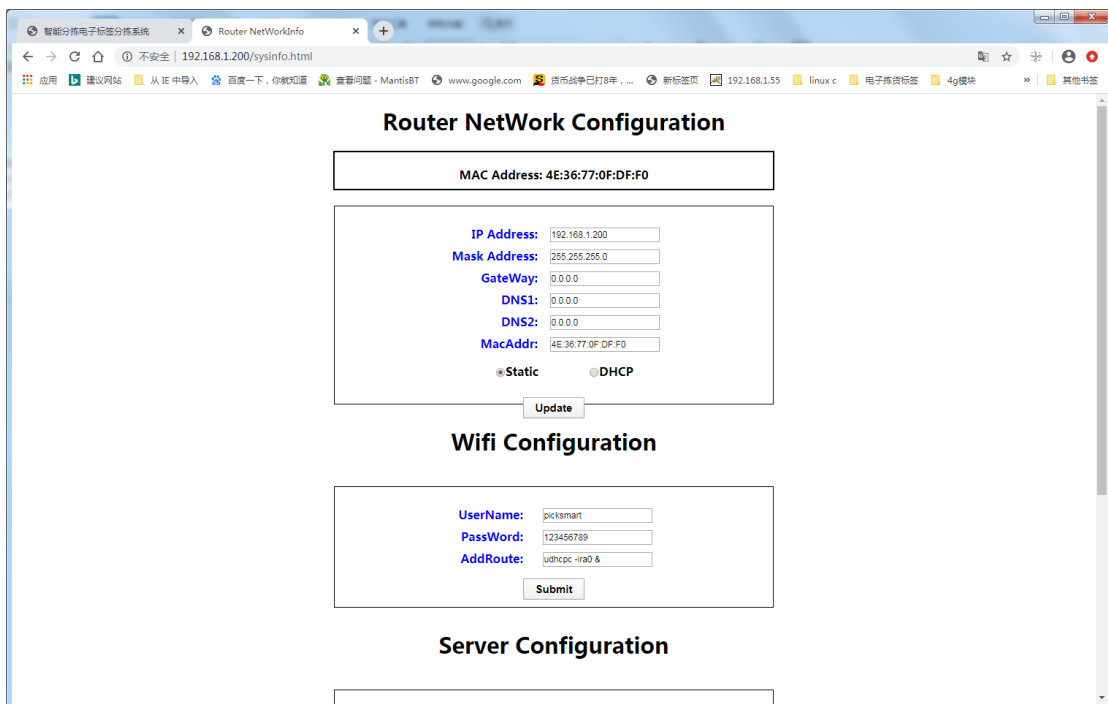
4.1.2 Router V1.4

Browser login: 192.168.1.200:8080 (base station factory default IP), You can also connect to the hotspot login base station. The WiFi name is "eslwifi2", and the password is 123456789. In the case of WiFi login, the address of the login system is 10.254.117.1:8080



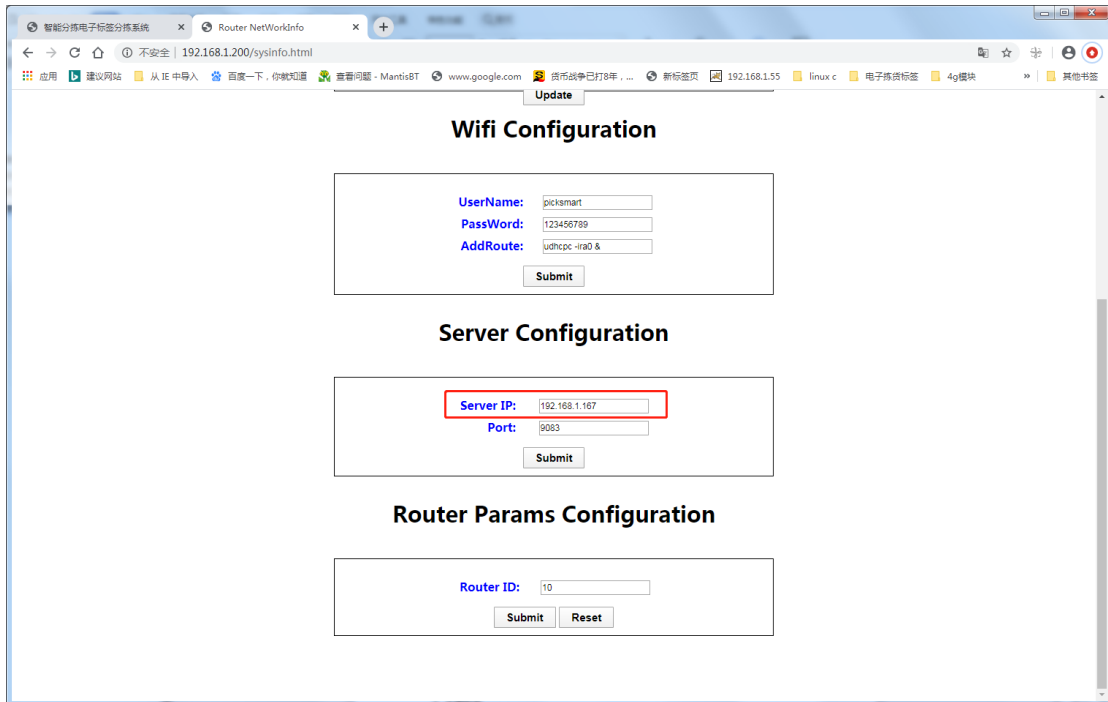
UserName: Admin

Password: 7834



4.2 Setting Server IP

Get option Server Configuration, modify server IP to server IP: 192.168.1.167

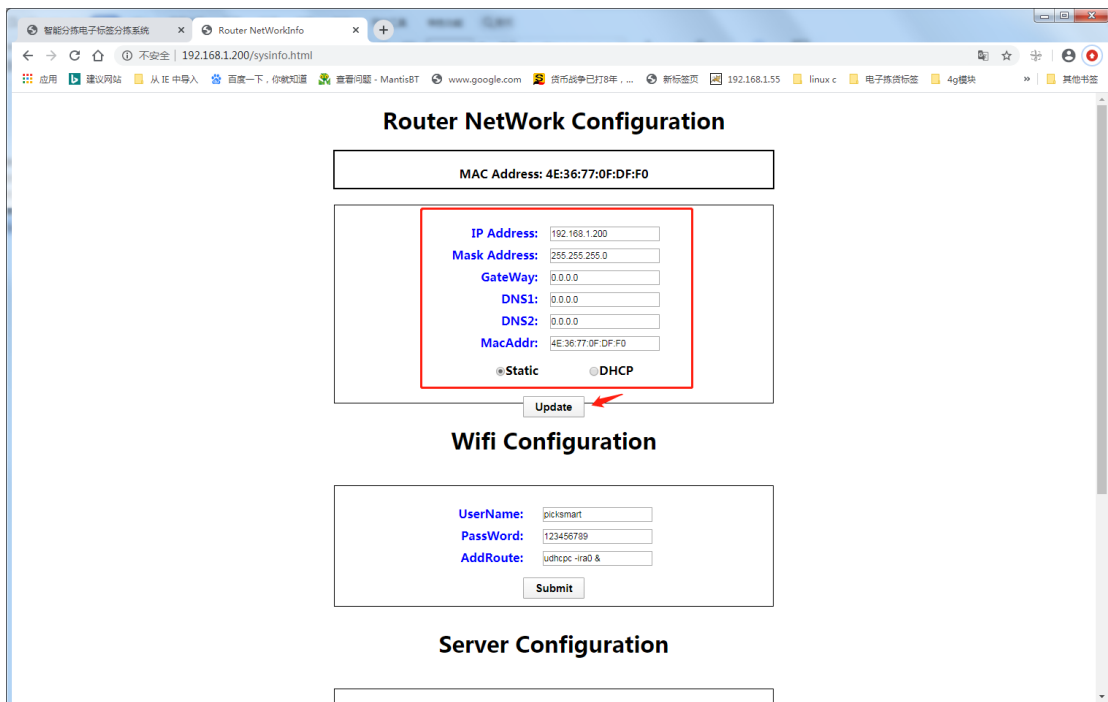


Click Submit to save it, Restart to take effect it.

Pick_Router_V1.4, Server IP is 127.0.0.1.

4.3 Setting Base station IP

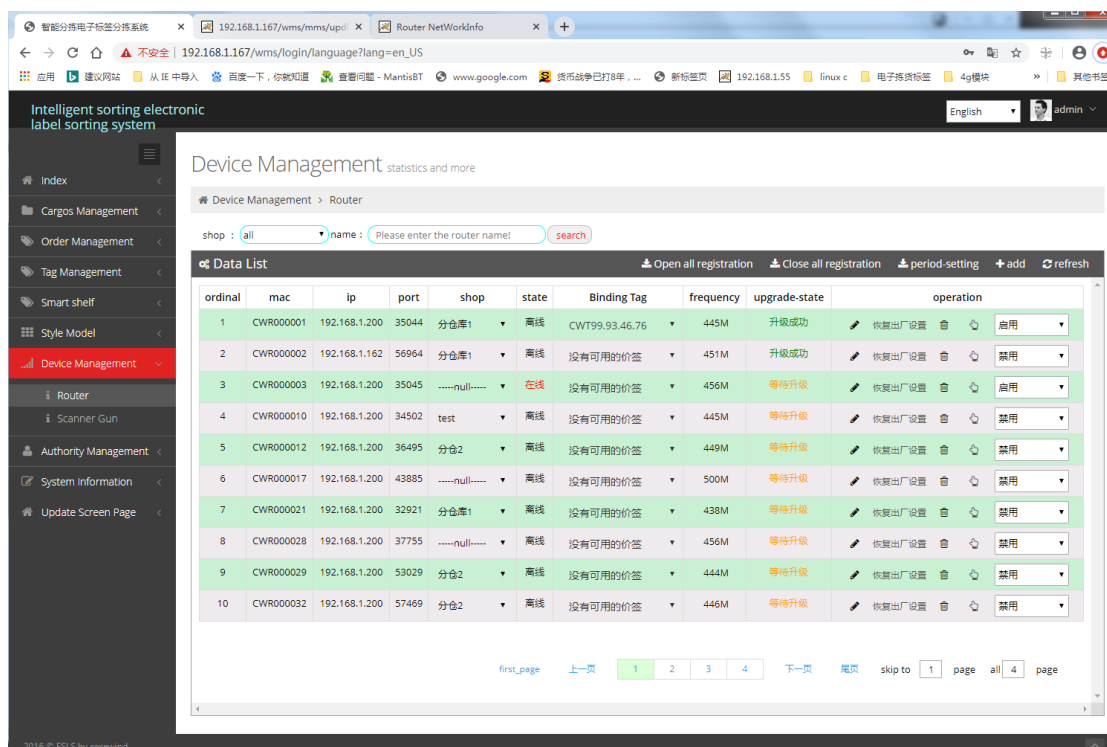
Modify the base station IP as needed:



After setting, click Update to save (after saving, the interface will refresh to the current IP and restart), and the restart will take effect;

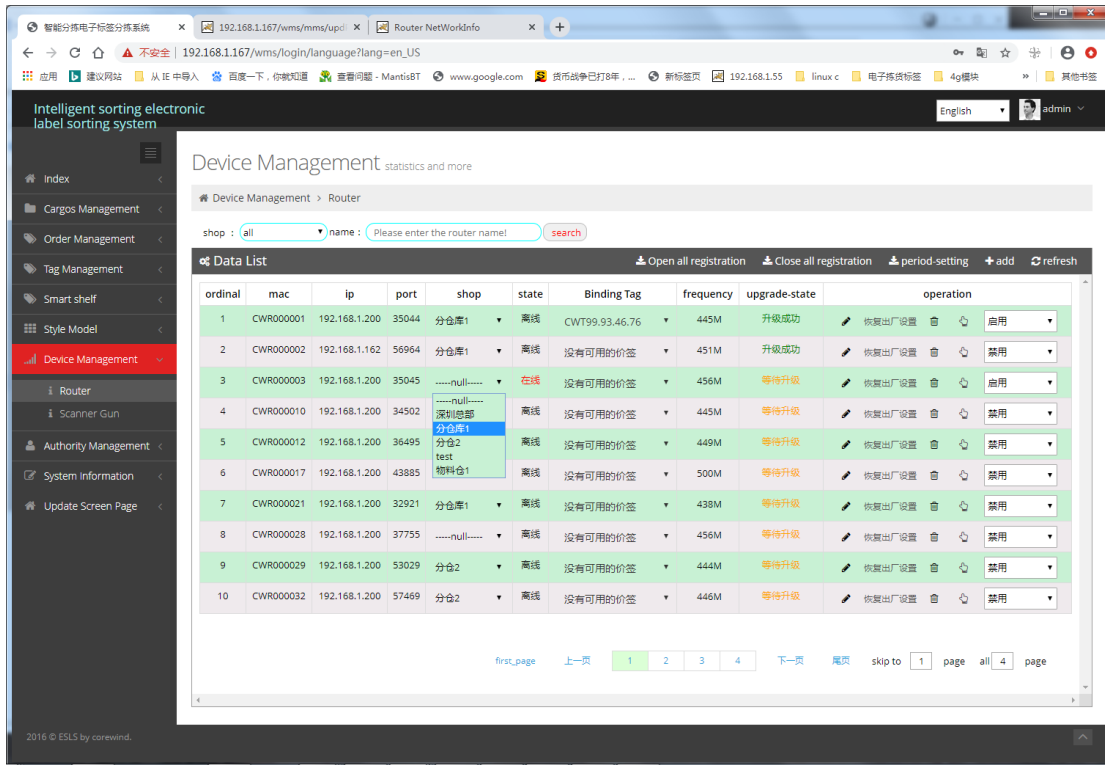
4.4 Router status

On the front of the base station, it is indicating that the base station has successfully connected to the server if the second light flashes, and the third light is always on. Only in this way can follow-up operations be carried out. You can also login base station with the hotspot. The WiFi name is "eslwifi2", and the password is 123456789. In this case, the login address is 10.254.117.1/wms, and the user name is admin and password is 123456, The system will display that the base station is online.



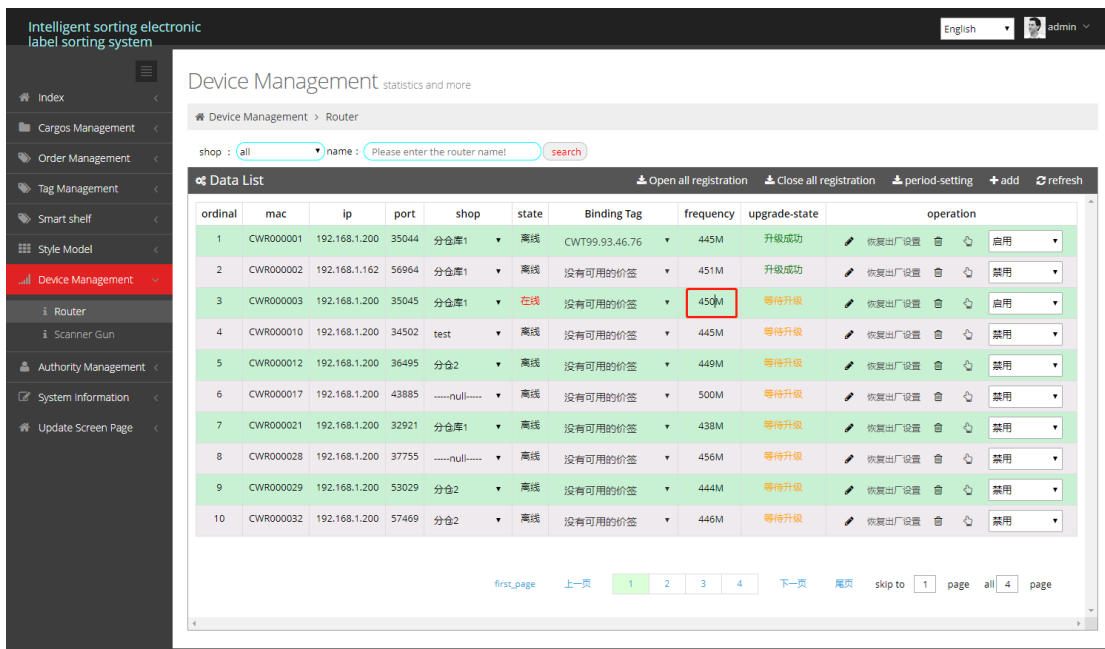
4.5 Binding Shop

Select the shop to be bind to the base station:



4.6 Modify Base Station Frequency

Base station frequency range: 434 ~ 464, other values are not available. After modification, click the blank space to prompt whether saving is successful or failed. After saving, restart the base station to take effect



4.7 Disable / Enable Base Btation Registration

Click Open all registration or close all Registration button to turn on or off the registration label function of all base stations;

Click the disable button behind a single base station to disable the registration label function of a base station.

The screenshot shows the 'Device Management' interface for a 'Router'. It features a table with columns: ordinal, mac, ip, port, shop, state, Binding Tag, frequency, upgrade-state, and operation. Two buttons at the top, 'Open all registration' and 'Close all registration', are highlighted with red boxes. The 'operation' column for the third row is also highlighted, showing a dropdown menu with options: '启用', '禁用', and '副基站'.

ordinal	mac	ip	port	shop	state	Binding Tag	frequency	upgrade-state	operation
1	CWR000001	192.168.1.200	35044	分仓库1	离线	CWT99.93.46.76	445M	升级成功	恢复出厂设置 启用
2	CWR000002	192.168.1.162	56964	分仓库1	离线	没有可用的价签	451M	升级成功	恢复出厂设置 禁用
3	CWR000003	192.168.1.200	35045	分仓库1	在线	没有可用的价签	450M	等待升级	恢复出厂设置 启用
4	CWR000010	192.168.1.200	34502	test	离线	没有可用的价签	445M	等待升级	恢复出厂设置 禁用
5	CWR000012	192.168.1.200	36495	分仓2	离线	没有可用的价签	449M	等待升级	恢复出厂设置 禁用
6	CWR000017	192.168.1.200	43885	-----null-----	离线	没有可用的价签	500M	等待升级	恢复出厂设置 禁用
7	CWR000021	192.168.1.200	32921	分仓库1	离线	没有可用的价签	438M	等待升级	恢复出厂设置 禁用
8	CWR000028	192.168.1.200	37755	-----null-----	离线	没有可用的价签	456M	等待升级	恢复出厂设置 禁用
9	CWR000029	192.168.1.200	53029	分仓2	离线	没有可用的价签	444M	等待升级	恢复出厂设置 禁用
10	CWR000032	192.168.1.200	57469	分仓2	离线	没有可用的价签	446M	等待升级	恢复出厂设置 禁用

5. Label Using

5.1 Power interface



5.2 Registration label

PTL-V3(battery power supply):

right button+left-bottom button

PTL-V3(external power supply):

Press left-middle button three times

PTL-V10:

Hold the magnet close to the right side of tag to trigger registration, and when the green light turns red, registration is successful.

The label changes from flashing green to red, indicating successful registration. The label screen will display as follows:



rssi: -xxdB, xx greater than 0, the smaller the xx, the stronger the signal; it is recommended to use the label with the signal strength of rssi: -70dB

5.3 Registration failed

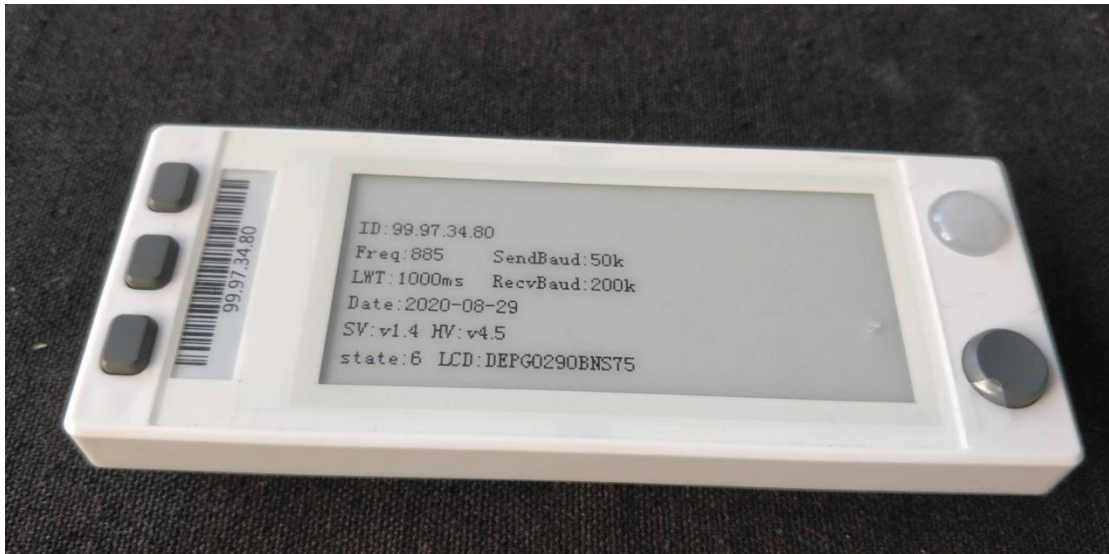
rssi: 0dB, indicates that the label registration failed:



After the tag is registered successfully, it can be accessed to the client system normally.

5.4 Label Version

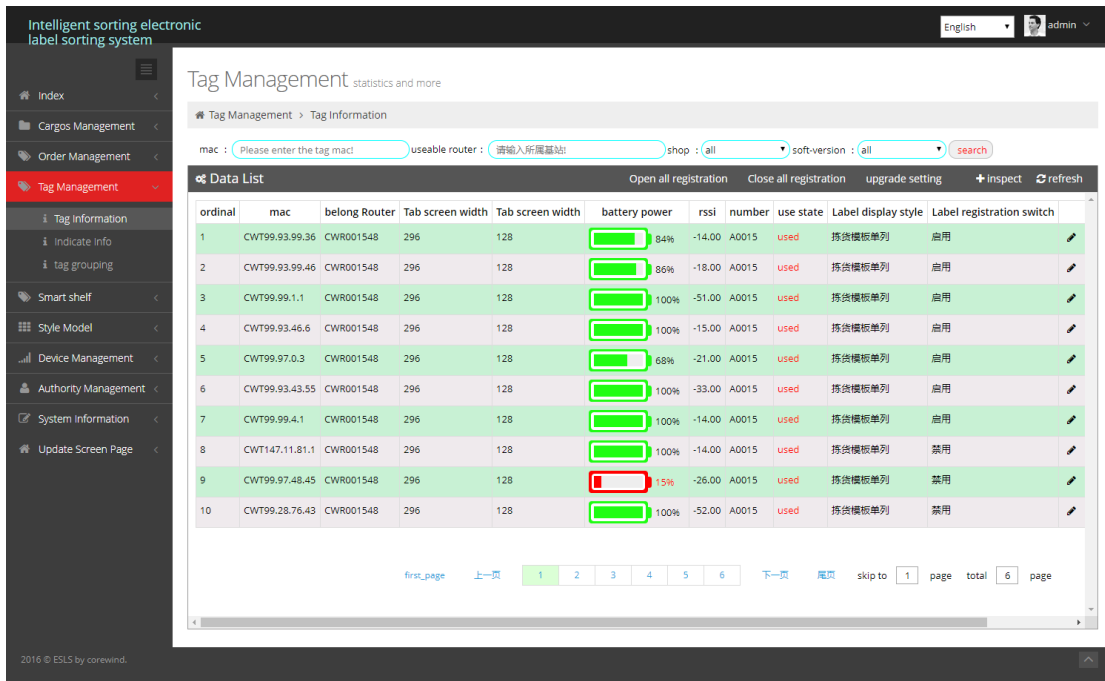
Press the label combination key: press the button in the lower corner and the button in the upper left corner. After the success, the screen will display the basic parameters of the label.



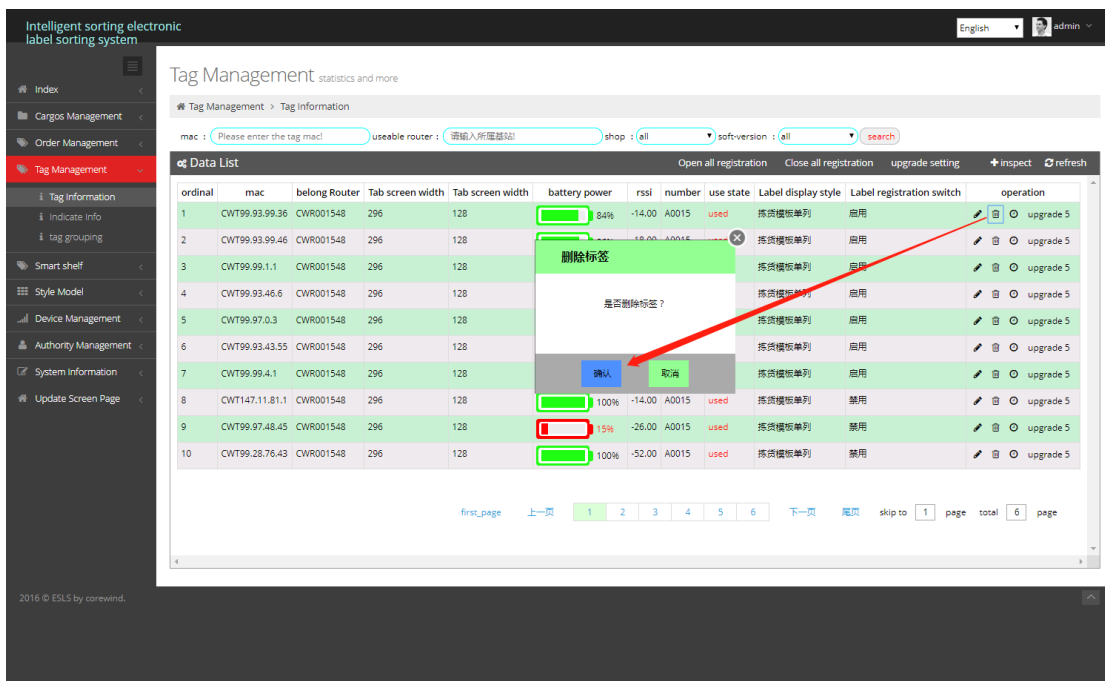
5.5 View Label Information

Login tag management > tag information to view the information of the tags that

have been successfully registered in the system.



5.6 Delete Label

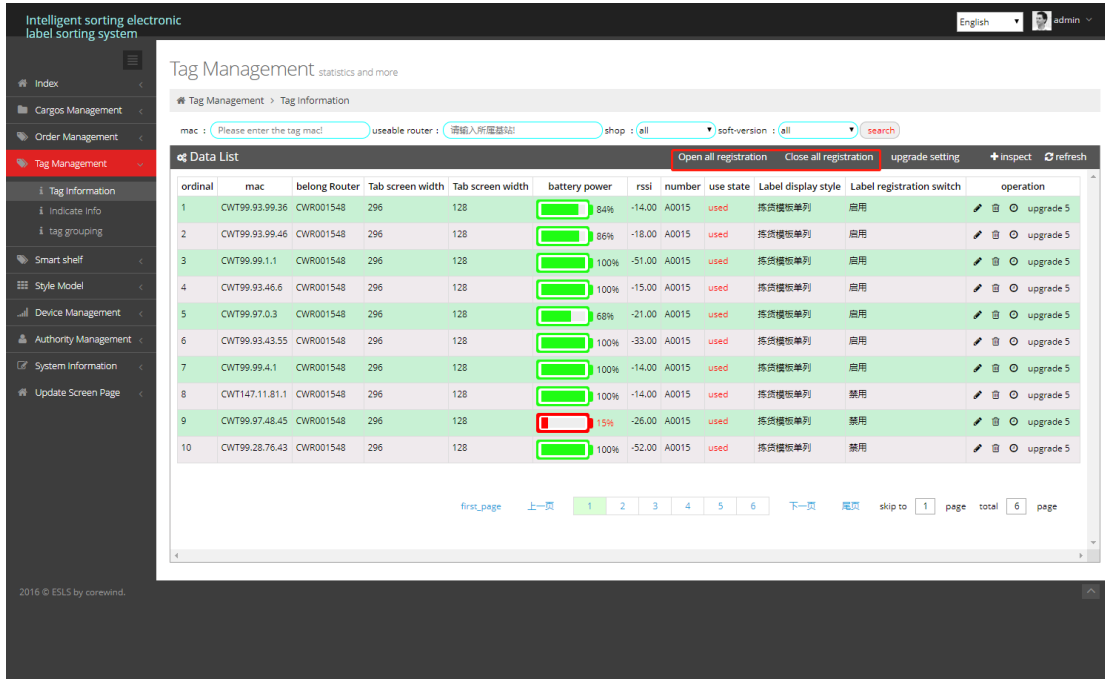


5.7 Disable label registration

Once the label registration is successful, the registration will be closed by default. If

you need to re-register, you can manually open the label registration;

It is suggested that after debugging, all tags should be closed to prevent the tags from mistakenly registering and causing abnormal communication;

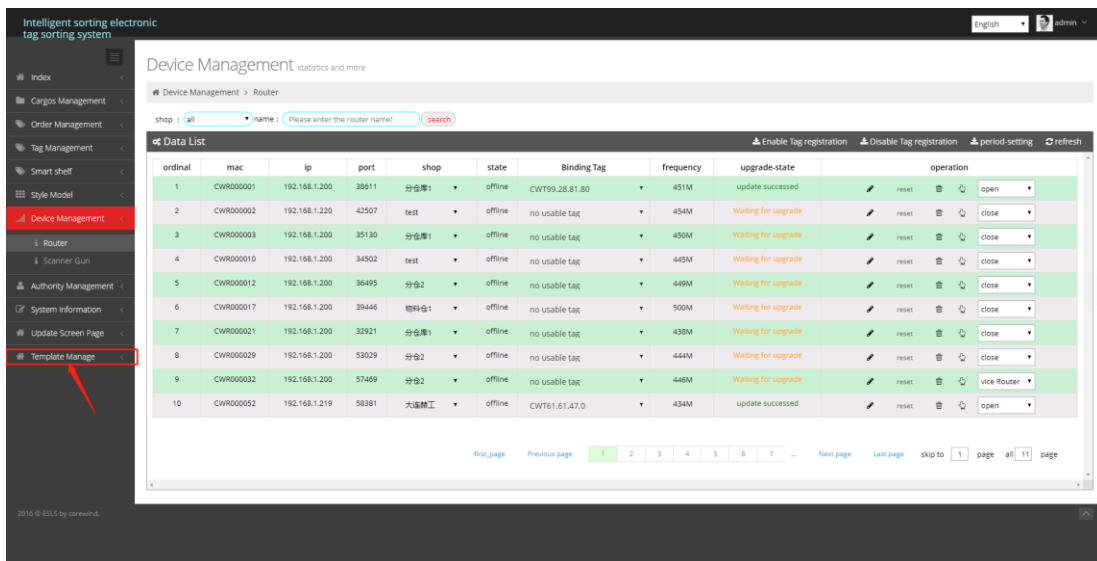


6. Create Template and Test

Login PTL system: <http://ServerIp:Port/wms>

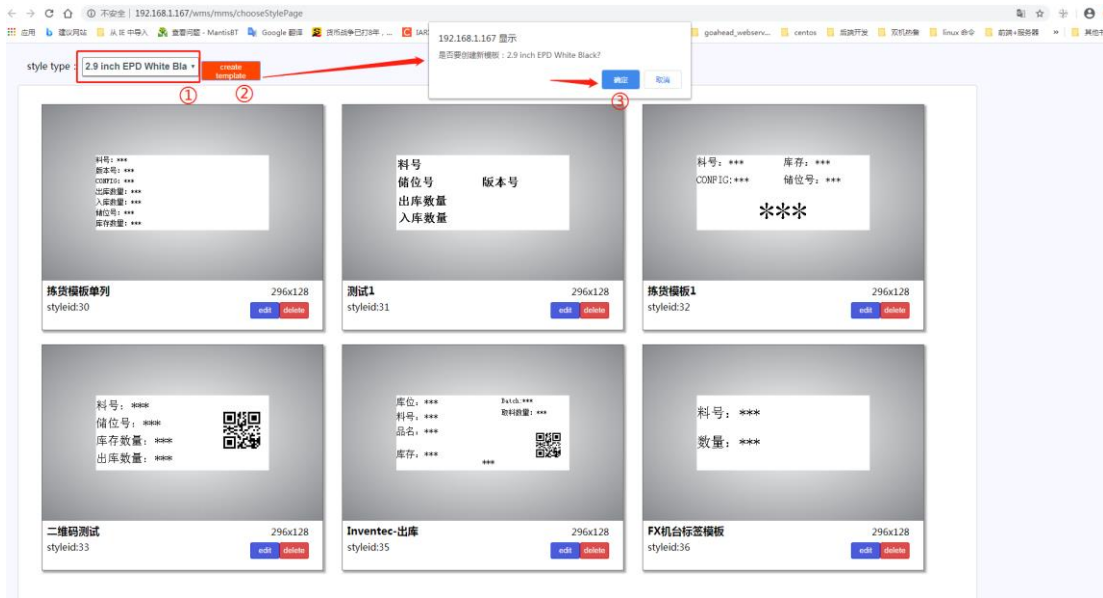
6.1 Create Template

a. Enter the “Template Manage” page

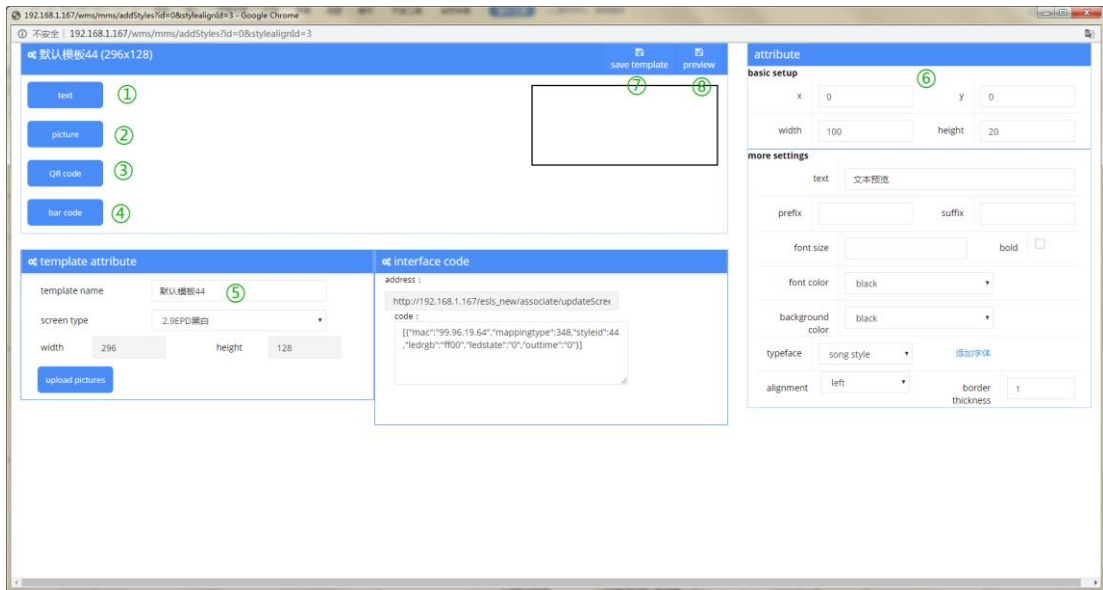


b. Add new Template

Click “create template” button:



Enter the template editing page:



- ① Add text field
- ② Add picture field
- ③ Add QR code
- ④ Add Bar code
- ⑤ Modify template name
- ⑥ Modify field properties area
- ⑦ Save template

⑧ Preview template

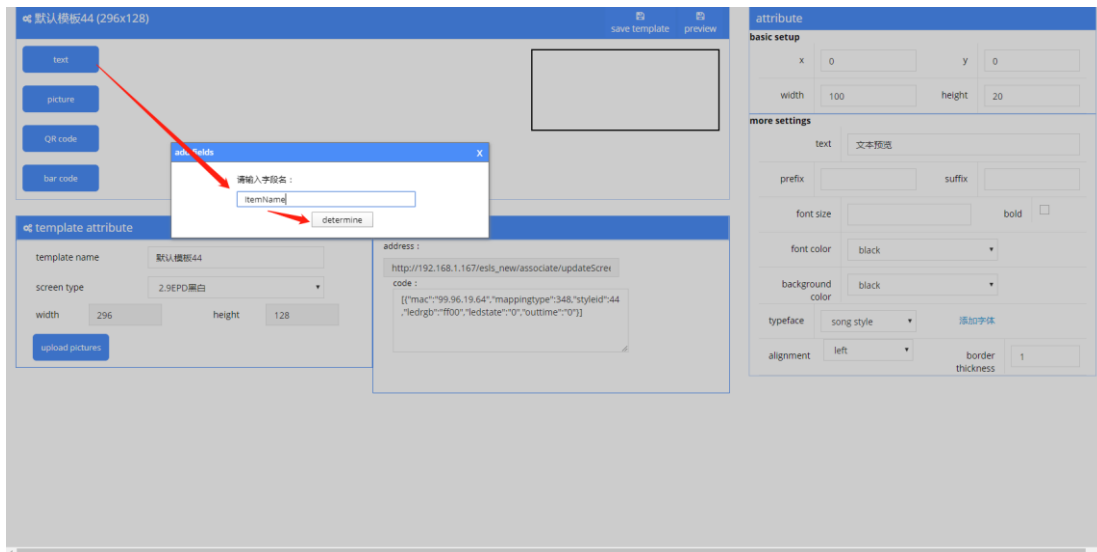
Field properties:

Field attribute	type	description	note
text	character string	Display the content according to the parameters	
QR code	character string	According to the parameters generated QRcode, displayed on the screen	
Bar code	Number type	According to the parameters generated Barcode, displayed on the screen	

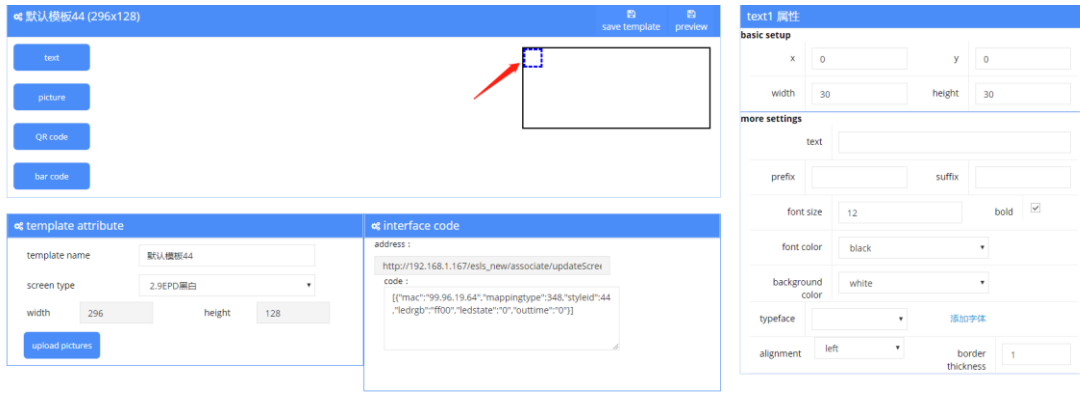
c. Edit the Template

Add field:

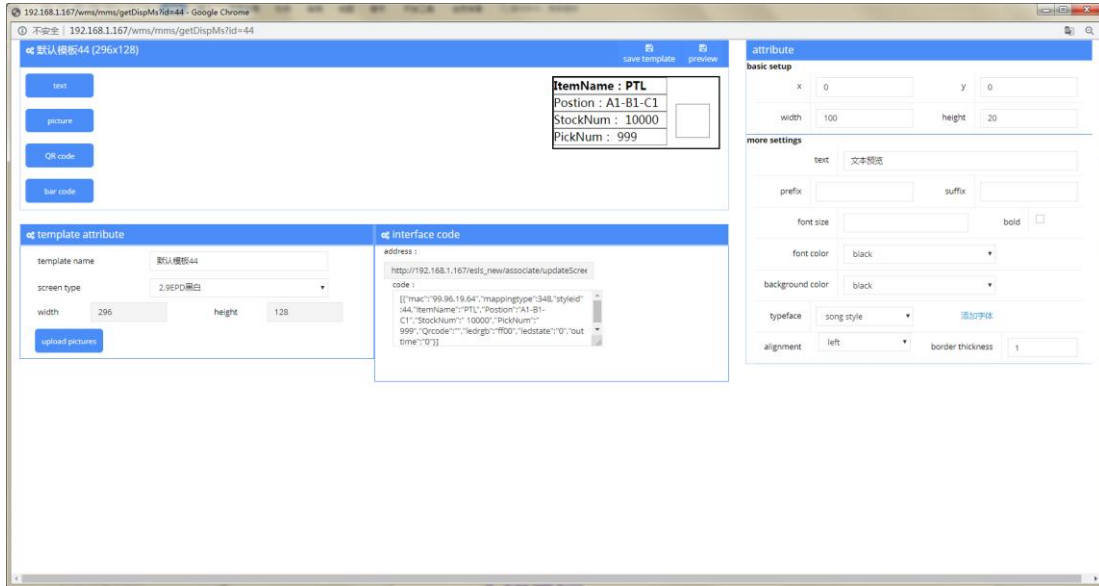
Click the field button that you want to display:



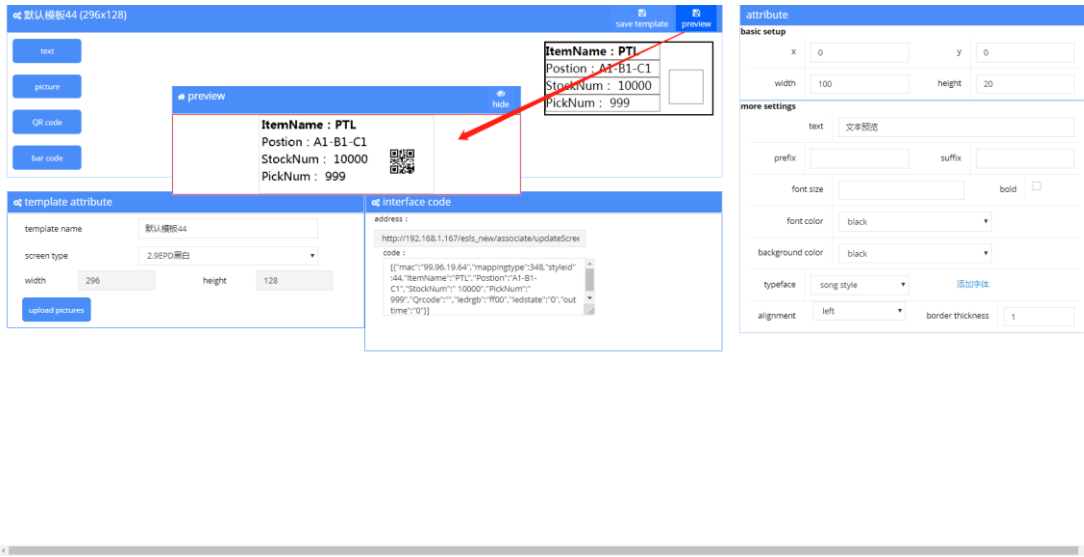
Selected the field:



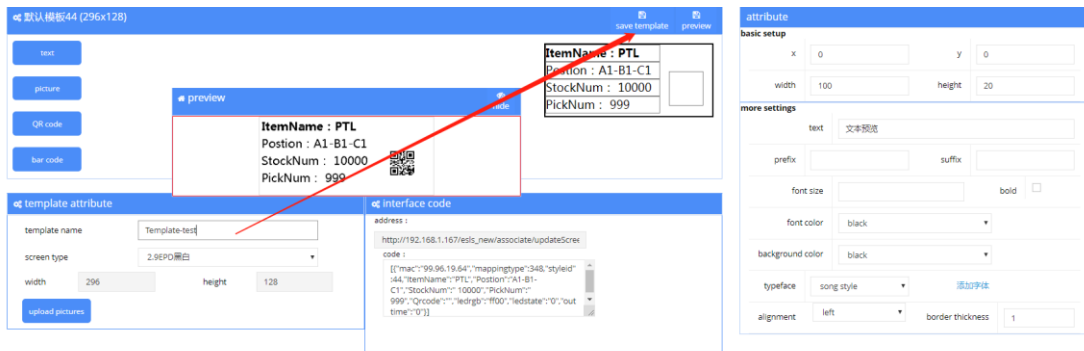
Edit:



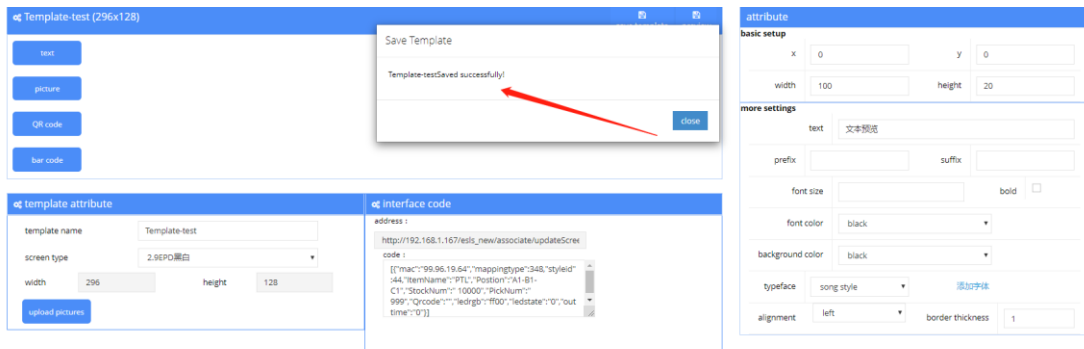
Preview:



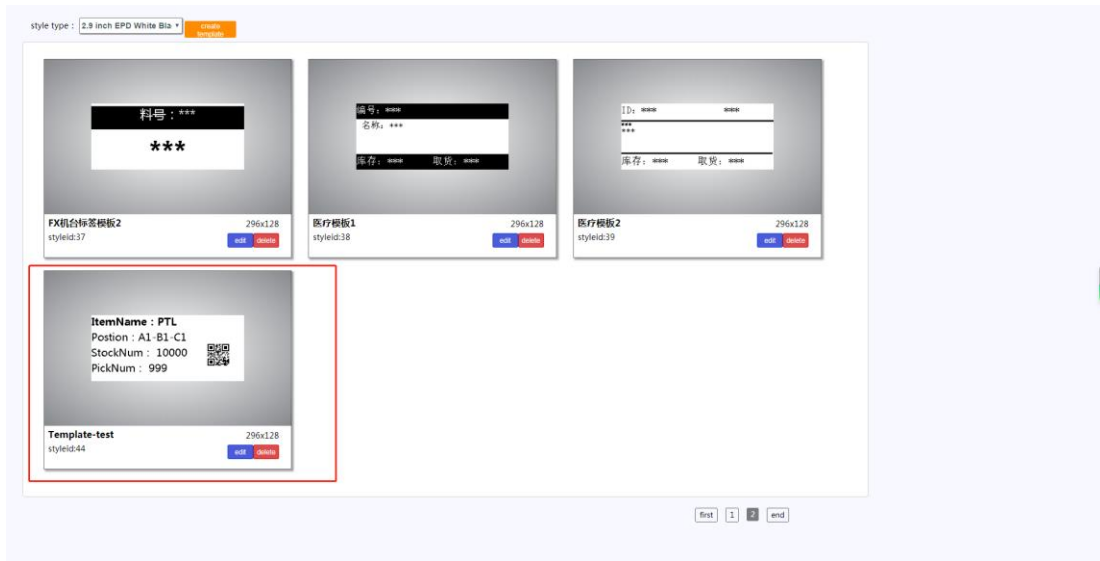
Save:



Save successful:



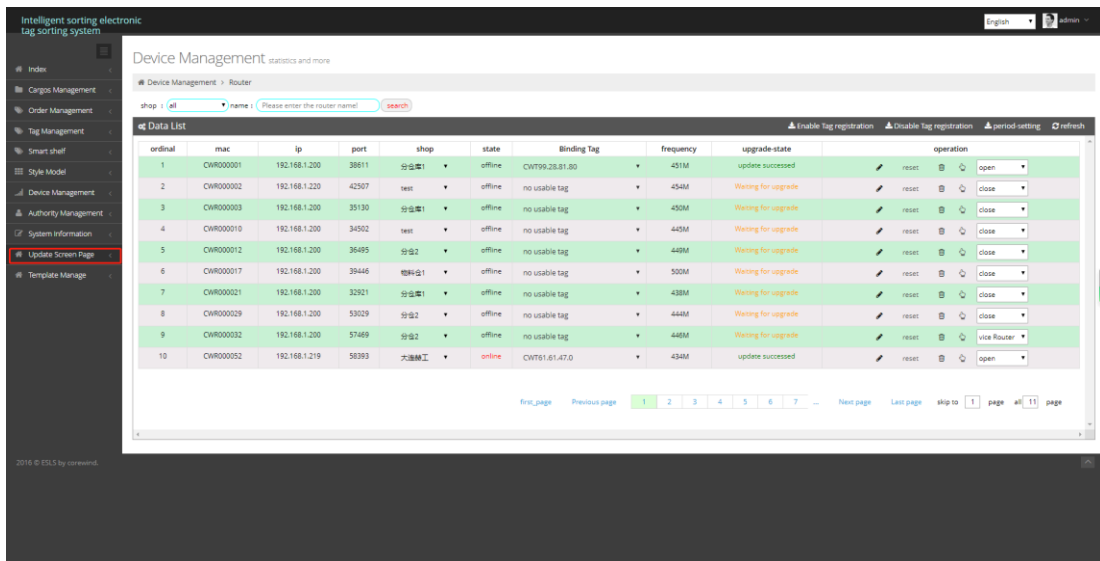
You can see and Re-edit in this page:



6.2 Testing template

a. Enter Update Screen Page

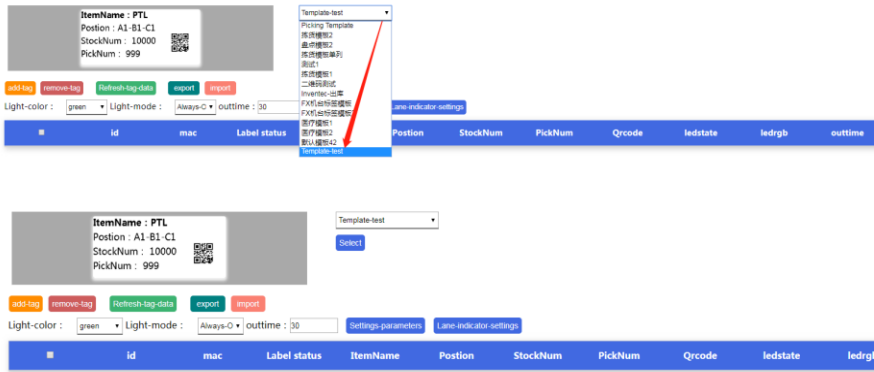
Click “Update Screen Page”, as follow:



Enter Update Screen Page:

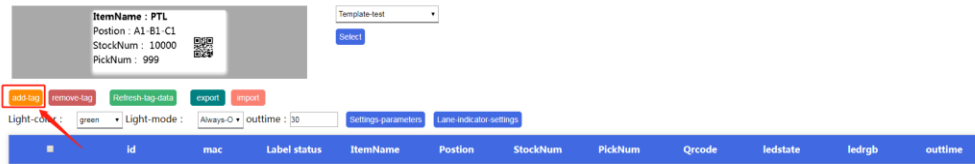


b. Select Template

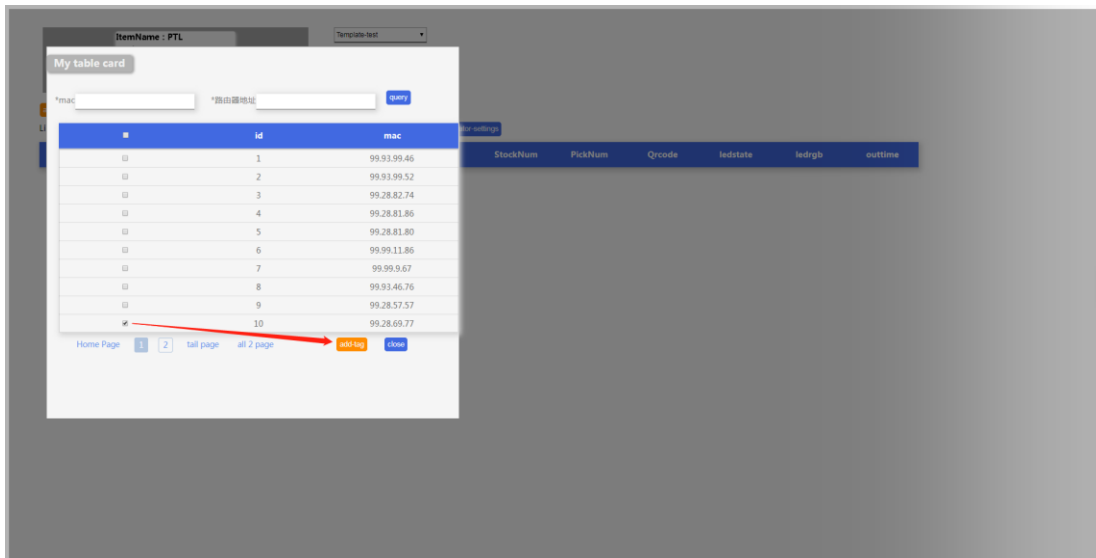


c. Add tag

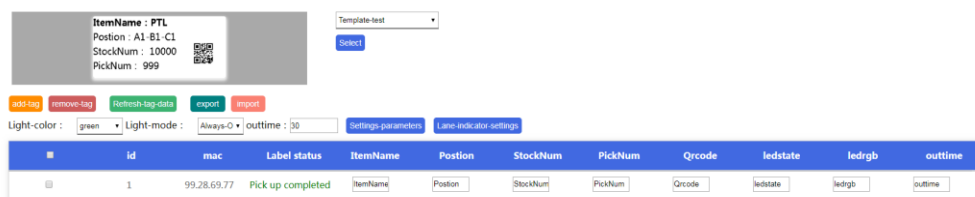
click Add tag button:



select the tags that you need and click add button:

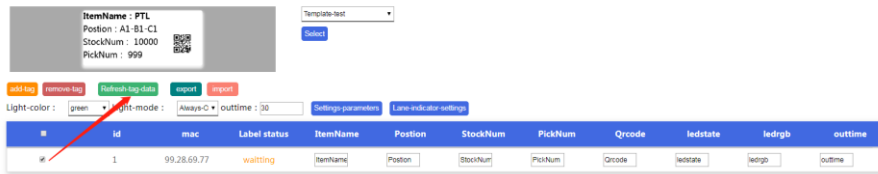


The successful addition is as follows:

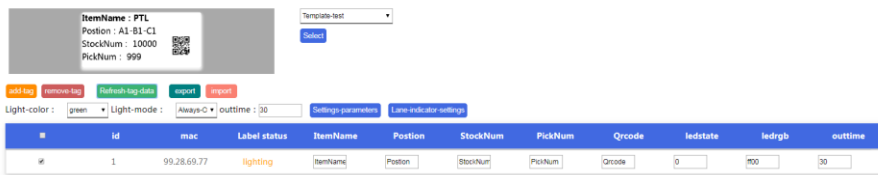


d. Update Screen Display

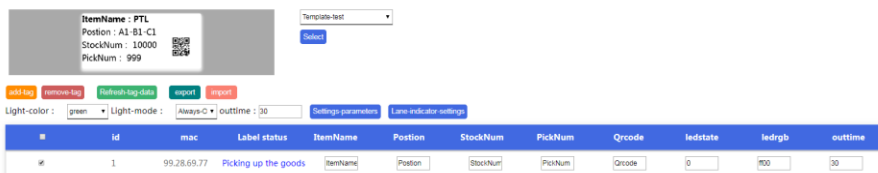
Select the label you want to update , and click Refresh-tag-data. Then you can see the “Label Status” change :



“waiting” means: waiting for update

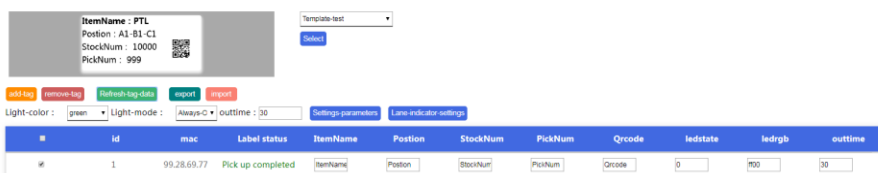


“lighting” means: The label is updating.



“Picking up the goods” means: The label updated successfully. 0

The label is shown below:

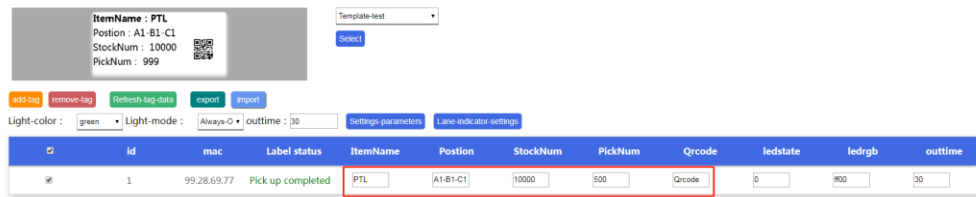


After the label screen displays stably and stops flashing, press the picking complete confirmation button in the lower right corner of the label, the label light goes out, and the label status changes to picking complete:

“Pick up completed ” means: Picking is complete, the picking confirmation button

of label is pressed.

You can modify the parameter content of the template field



The label is shown below:



7. API for update E-ink interface (JSON)

Determine the styleid and mappingtype of the template

post,

Content-Type: application/json

Code:

```
{
url : http://192.168.1.167/wms/associate/updateScreen,
requestMethod : POST,
requestParameter:{
[
{
"mac":"99.97.10.59",
"mappingtype":995,
"styleid":35,
"ledstate":0,
"ledrgb":"ff00",
```

```
"outtime":0,  
"LGPLA":"D02-001-003",  
"MATNR":"6051B0013504",  
"KNMAT":"Bracket rear board",  
"STOCK":"10000",  
"BATCH":"XXXXXXXX",  
"MENGE":"2000",  
"QRCODE":"库位: D02-001-003; 料号: 6051B0013504; 品名: Bracket rear board;  
库存: 10000",  
"Inventec":"Inventec"  
},  
{  
"mac":"99.97.01.86",  
"mappingtype":995,  
"styleid":35,  
"ledstate":0,  
"ledrgb":"ff00",  
"outtime":0,  
"LGPLA":"D02-001-002",  
"MATNR":"6051B0013504",  
"KNMAT":"Bracket rear board",  
"STOCK":"10000",  
"BATCH":"XXXXXXXX",  
"MENGE":"2000",  
"QRCODE":"库位: D02-001-003; 料号: 6051B0013504; 品名: Bracket rear board;  
库存: 10000",  
"Inventec":"Inventec"  
}
```



```
]response:{  
true  
}  
}
```

8. Configure Callback interface Address

Longin system mangement -> third-party configuration

please fill in the default address if no callback:

<http://127.0.0.1/wms/associate/printMsgRes>

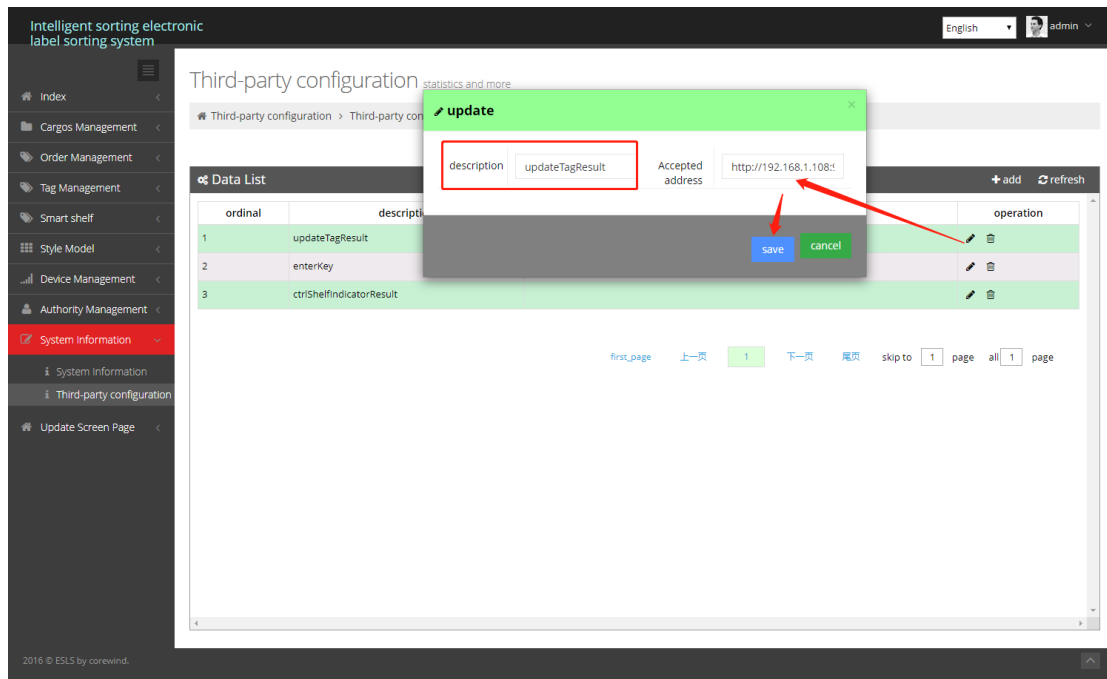
Or leave it blank

Tomcat port is 8080:

<http://127.0.0.1:8080/wms/associate/printMsgRes>

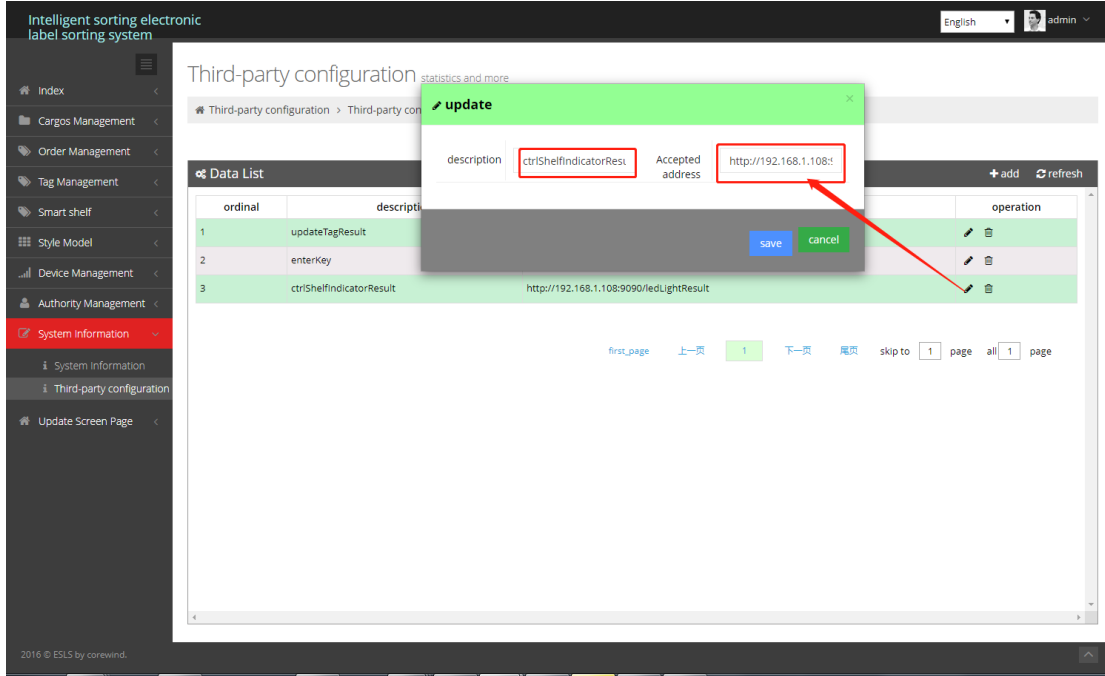
8.1 Refresh screen result callback

Modify the receiving address of updateTagResult as the callback interface address of the third party:



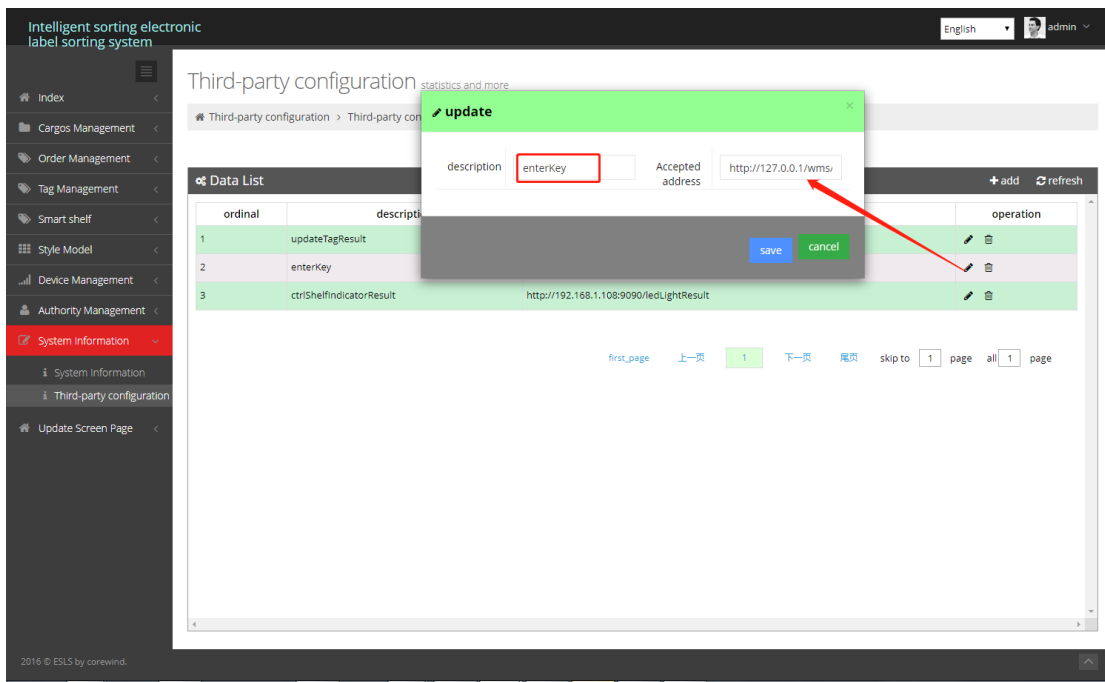
8.2 Separate lighting and roadway lighting

Modify the receiving address of ctrlShelfIndicatorResult as third party callback address:



8.3 Press Button Callback

Modify the receiving address of enterKey as third party callback address:



After setting, after lighting the label, press the label confirmation key to call the SAP interface.

9. Label test

Only supports testing lable of 24v external power supply version. Not for 3.3v version.

9.1 Lighting Test

Login <http://192.168.1.167/wms/associate/lightTest>

Select which router's label needs to be lit, select the lighting mode and color, and click light all button, then the server will issue instructions to light all the selected routers' tags, and display the feedback of label failure.

