Electronic Shelf Label (ESL) System

User Manual_Preliminary

2017/11/13

Table of contents

1 Introduce Electronic Shelf Label 1

2 NxESL System 2

2.1 Package 2

2.2 Package contents 2

2.2.1Software 2
2.2.2Coordinator 3
2.2.3Electronic Shelf Label (ESL) 4
2.2.4Label holders 6
2.2.5Adapter/Battery 7

2.3 Install requirements 8

2.3.1Hardware 8
2.3.2Environment 8
2.3.3Network configuration 8

3 How to set-up the NxESL system 8

3.1 NxESL functions 8

3.2 Start to use NxESL system 10

3.2.1Launch NxESL.exe 10
3.2.2Setting coordinator 15
3.2.3Import data 17
3.2.4Pair 23
3.2.5Composer 30
3.2.6NxEslScheduler 32

3.3 How to use barcode instruction 38

3.4 Other 44

3.4.1Import data of goods 44
3.4.2Importing data of label 47
3.4.3Design template 48
3.4.4Scheduler interface 66

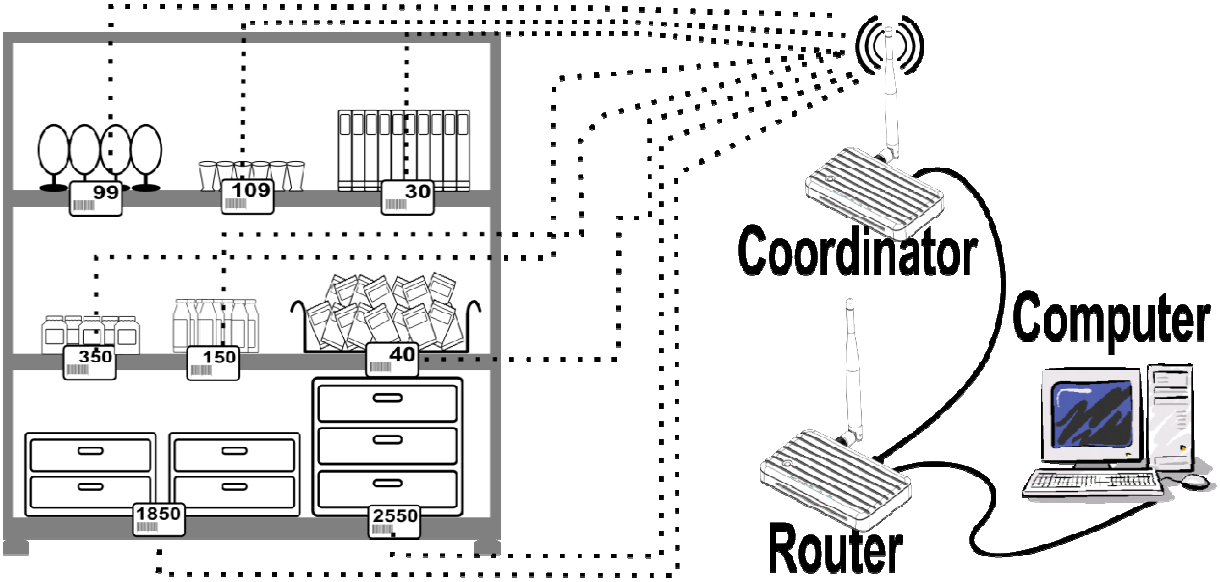
4 Q&A 68

5 Appendix..... 70

5.1 Notice for cleaning and Safety 70

5.2 Certification mark 71

1 Introduce Electronic Shelf Label



Electronic Shelf Label (ESL) is kind of electronic display panel label is used by retailers for displaying product pricing on shelves. It can show commodity price, barcode, commodity name up. You can use it in retail industry or warehousing that are need to storage or display commodity area. Electronic shelf label compare with traditional label, it has repeatability, accuracy, convenience and immediacy. Let you can reduce cost and get more flexible marketing strategy and increase your corporate identity. Because of those reasons above so will have below advantage:

- ESL is good for your marketing strategy. First, commodity price is immediately auto update, so you can increase customers with a flexible pricing strategy. Second, because of advantage of immediacy so you can change price of goods content is easiest. Even today your competitor change new price, you do not have to worry then ESL can help you change price immediately. Finally, you use ESL to present your goods and price that will let your store keep clean and tidy.

- Cost of ESL is not huge that is compare with you use traditional price tag. One is you can save cost of labors. Because of your employee do not have to change price tag so they have more time to deal with other task. The other one is one ESL can be used fiver year at least three times one day for changing or checking price. So you will save your cost of time and money.

- In the future store or warehouse, using ESL is a trend for corporate manage. You can show your logo or image in the ESL that is unique one and only for you. Customer will further understand your corporate, store or anything you want them know. ESL can help

you to promo your enterprise any time. Because of ESL is not only for you to present your price but also to show up your corporate idea and corporate identity.

2 NxESL System

2.1 Package

- Coordinator—Coordinator was received information from router through the wired network. Then pass the information to each ESL with Zigbee. Coordinator can handle 3,000 ESL at most.
- Electronic Shelf Label (ESL)—This package has two kind of ESL panel size. One is 2.9inch other one is 5.65inch. Average update three times per day that could use five years. You can change battery of 5.65inch. Other size cannot change battery by you. If you want to replace battery, please contact us as soon as possible.
- Adapter—Coordinator used.
- Software—The install system is including four of software, two windows component files and one excel file.

2.2 Package contents

2.2.1 Software

Windows component is below:

- AccessDatabaseEngine (32bit)

- Before launch NxESL.exe, please install the patch for helping execute Access database.

- NDP452-KB2901907-x86-x64-AllOS-ENU.exe

- Before launch NxESL.exe, please install the patch for helping execute Access database.

NxESL software is below:

- NxESL.exe

- Monitor ESL status of pair. To launch composer.exe program for pairing labels and goods.

- NxESL Composer.exe

- One function is continuous creating image for ESL Tags. The other one is that barcode

scanned was show up in the popup-window while using barcode scanner.

- NxTemplate.exe

- Design template for ESL.

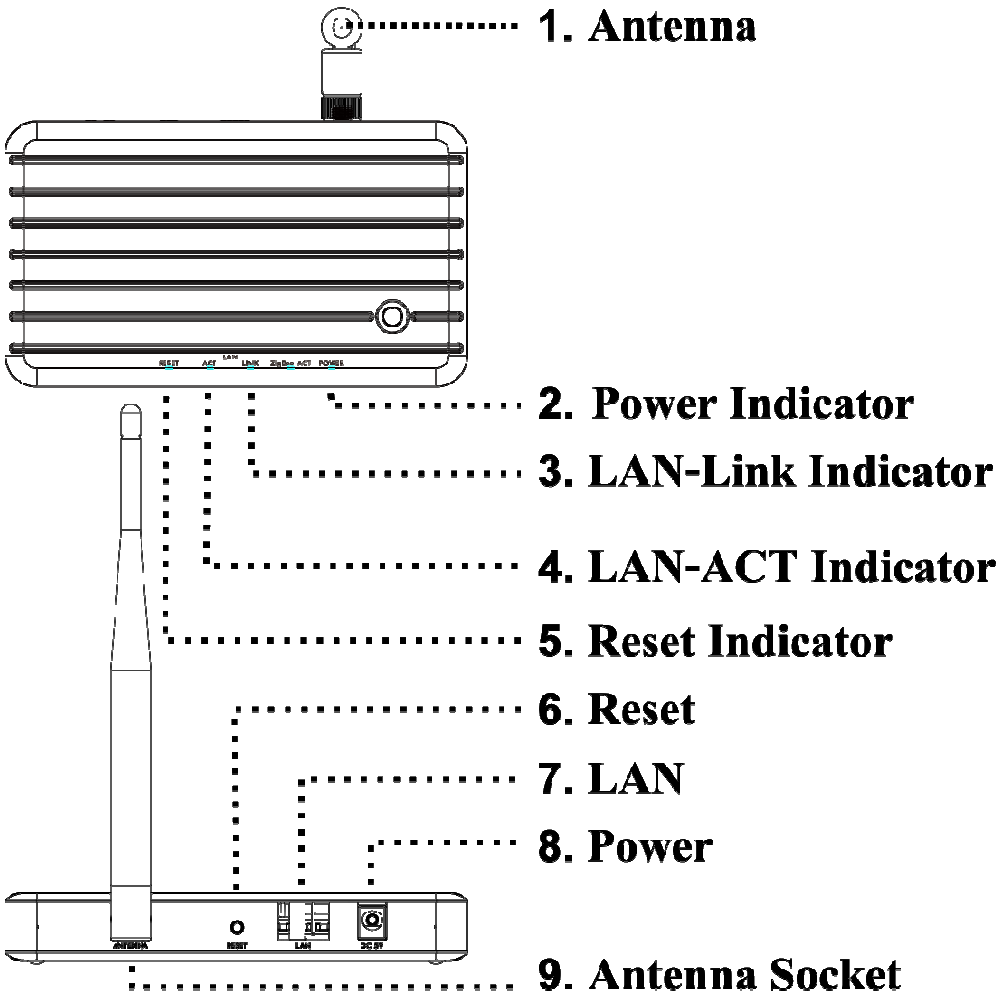
- NxEslScheduler.exe

- Regular to receipt information and to update ESL's contents.

- Excel file (customize labels information file)

- Original company will provide.

2.2.2 Coordinator

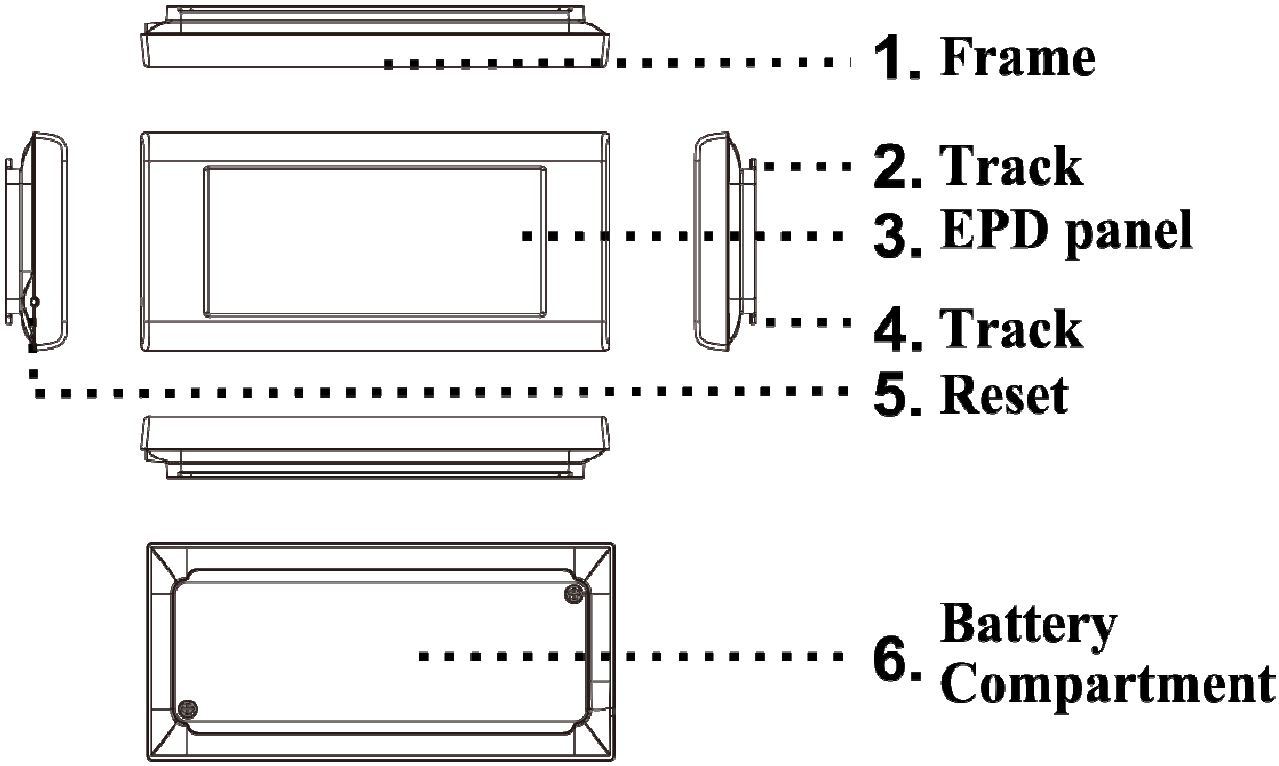


Item	Description
Model Name	P00105
Case Color	White
Status LED	5 LEDs, Power, ZigBee-ACT, LAN-Link/ACT, Reset
Ethernet	1 port, 10/100 Mbps
Key	Reset Key
Antenna	One Antenna 2.4G single band
Wireless Interface	ZigBee (2.4GHz)
Labels supported	Up to 3,000
Power supply	DC 5V/1A
Operating temperature	0~40°C
Dimension (WxHxD mm)	147.8 x 85 x 22.8
Weight	144.9g (including Antenna)
Certification	CE、FCC、NCC、BSMI

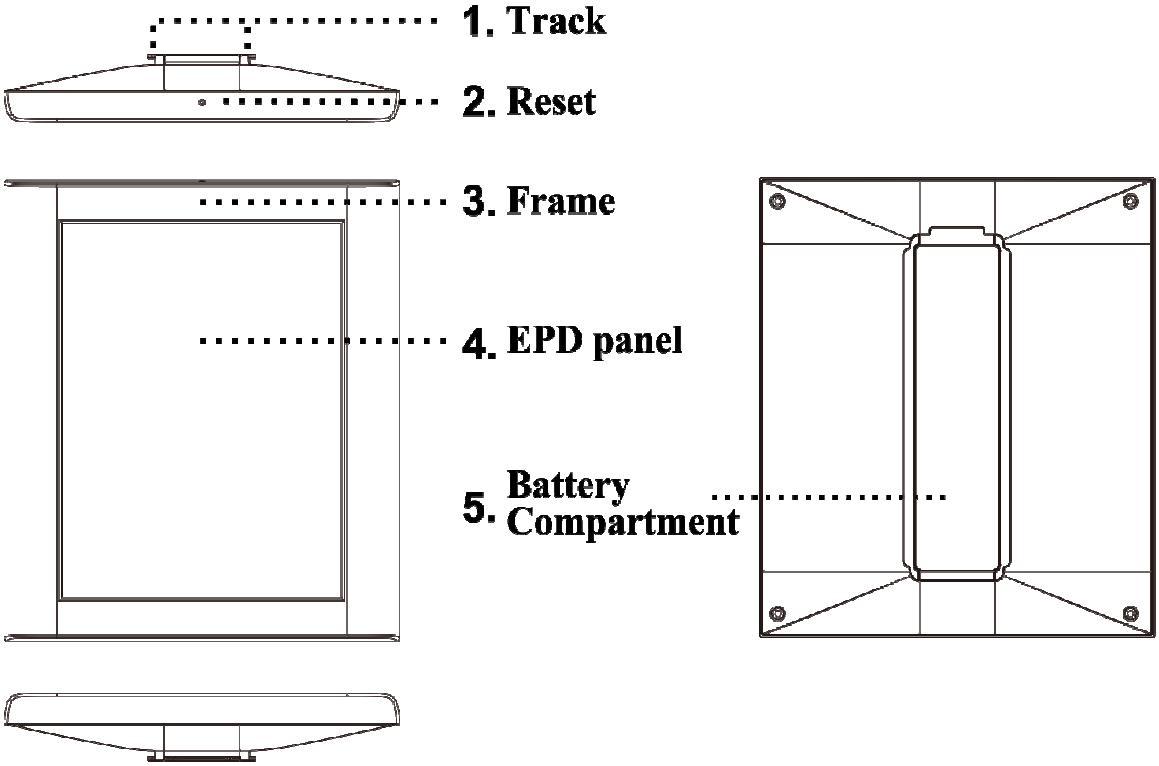
2.2.3 Electronic Shelf Label (ESL)

The package is including 2.9 inch (model name P29205 and P29215) and 5.65 inch (model name P56205) that two kind of product.

- Surface



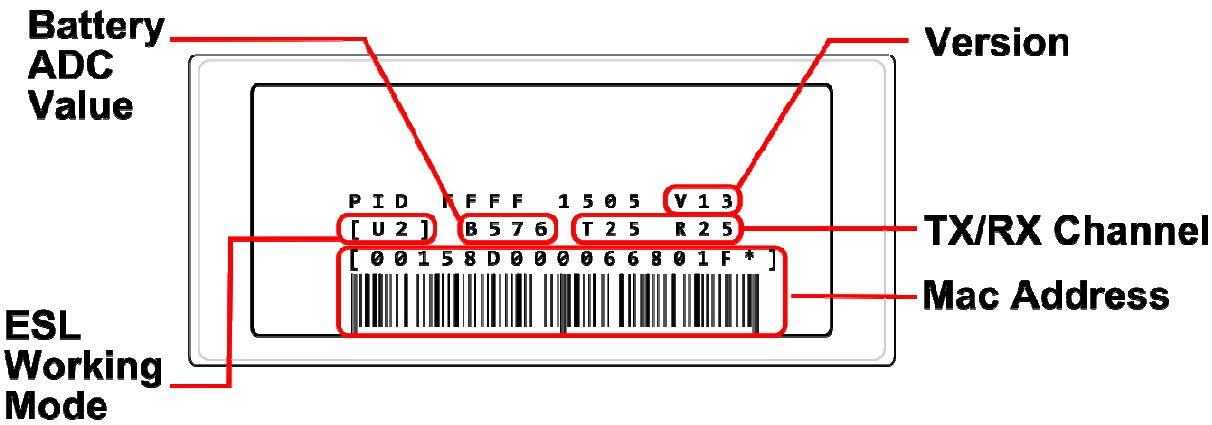
Item	Description	Description
Model	P29205	P29215
Display	2.9"	
Resolution	296×128 pixels (112 dpi)	
Color	Black/White	Black/White/Red
Wireless Interface	ZigBee (2.4GHz)	
Battery Type	CR2032 * 3pcs	
Battery Changeable	Yes	
Operating Voltage	3V	
Operating Temperature	0~40°C	
Dimension (WxHxD mm)	93.3 x 43.5 x 12.2	
Weight	39.4g (including battery)	
Certification	CE、FCC、NCC	



Item	Description
Model	P56205
Display	5.65"
Resolution	600 x 448 pixels (132 dpi)
Color	Black/White/Red
Wireless Interface	ZigBee (2.4GHz)
Battery Type	AAA*4pcs

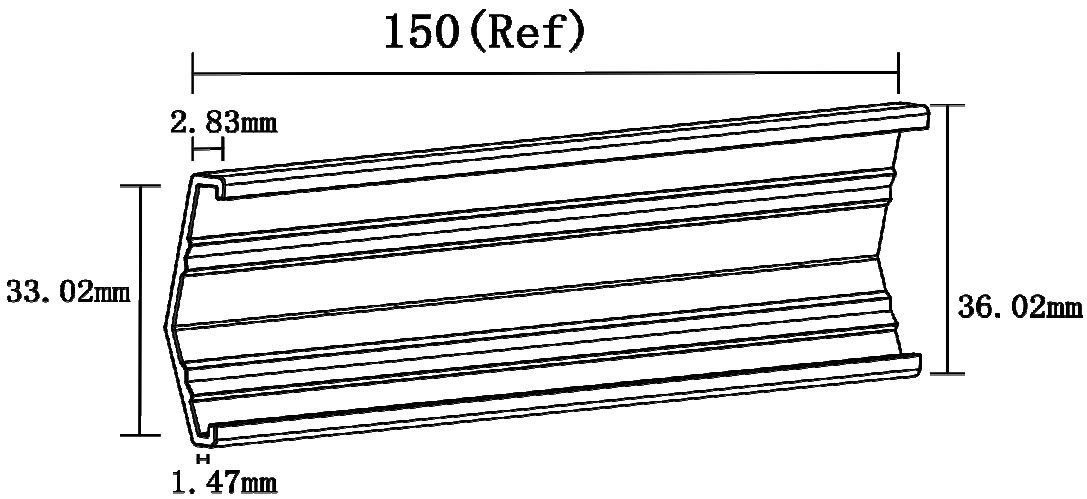
Battery Changeable	Yes
Operating Voltage	3V
Operating Temperature	10~40°C
Dimension (WxHxD mm)	140.7 x 121.0 x20.6
Weight	215.9g (without battery)

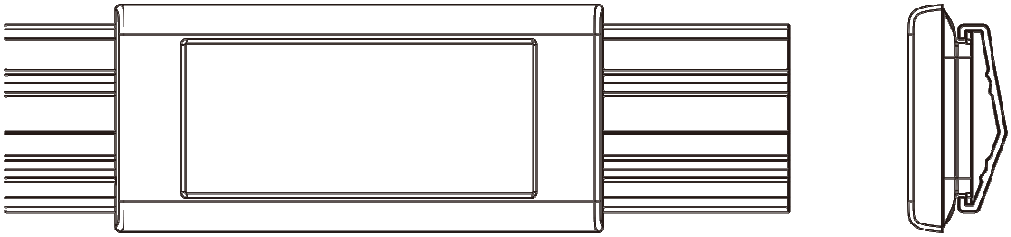
- ESL content



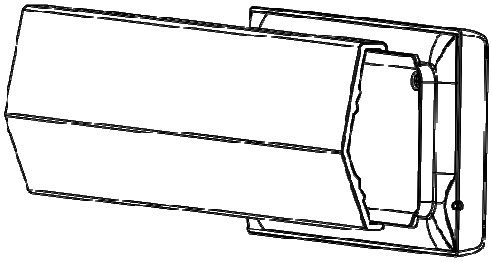
- ESL Working Mode ： Display U2 in here means working mode. Display U0 in here means sleeping mode.
- Version：Show up current NxESL version.
- TX/RX Channel：Radio frequency default setting is 25. Depends on environment conditions, the range between 11 to 25. ◦
- MAC Address ：ESL ID.

2.2.4 Label holders

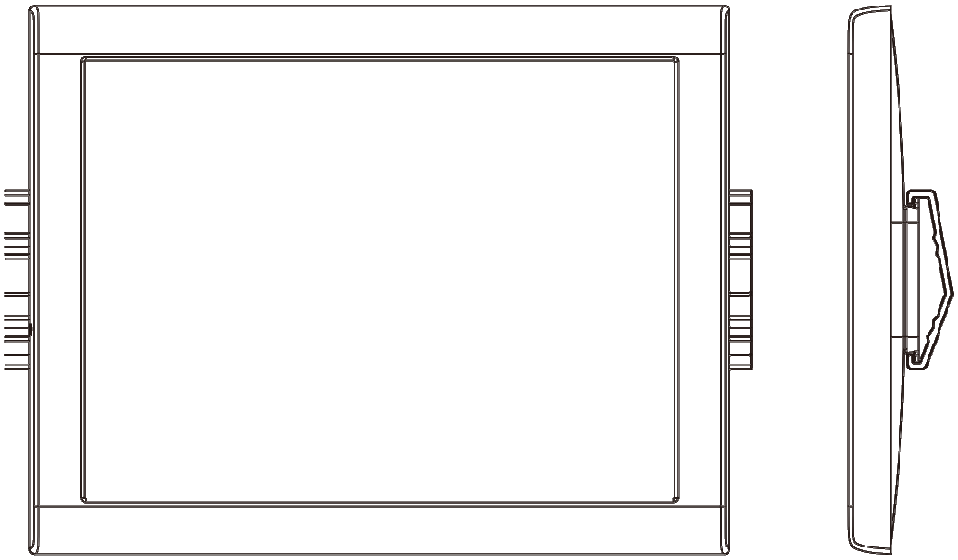




2.9" ESL Installation diagram (figure 1)



2.9" ESL Installation diagram (figure 2)



5.65" ESL Installation diagram

2.2.5 Adapter/Battery

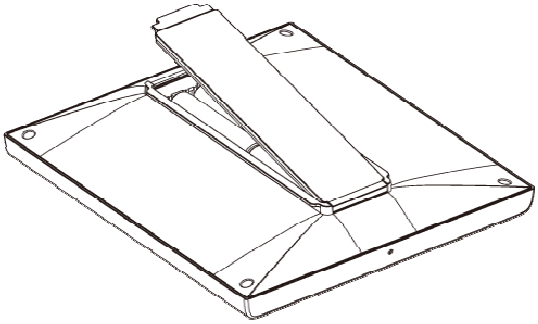
- Coordinator's Adapter

- It is packaged with coordinator. Do not use Non-original DC adapter. The adapter specification: input AC 100-240V, 50/60Hz. Output DC 5V1A.

- ESL battery

- 2.9 inch ESL use three button cell batteries CR2032. Please contact us while the battery is running out.

- 5.65 inch ESL use four AAA batteries. You can replace batteries while batteries are running out. Such as figure, you just open the battery compartment then replace batteries.



2.3 Install requirements

2.3.1 Hardware

- Desktop computer (Not in NTX ESL system)

- Basically the computer system need windows 7 or above.

- Barcode scanner(Not in NTX ESL system)

- We suggest you use barcode scanner that is support Serial Port or Virtual COM Port.

- Router(Not in NTX ESL system)

- It has DHCP Server feature.

- Coordinator

- It is a machine for transmission and reception.

2.3.2 Environment

We suggest your coordinator is put in spacious space. The coordinator is the same as every ESL distance, do not over 20 meter.

2.3.3 Network configuration

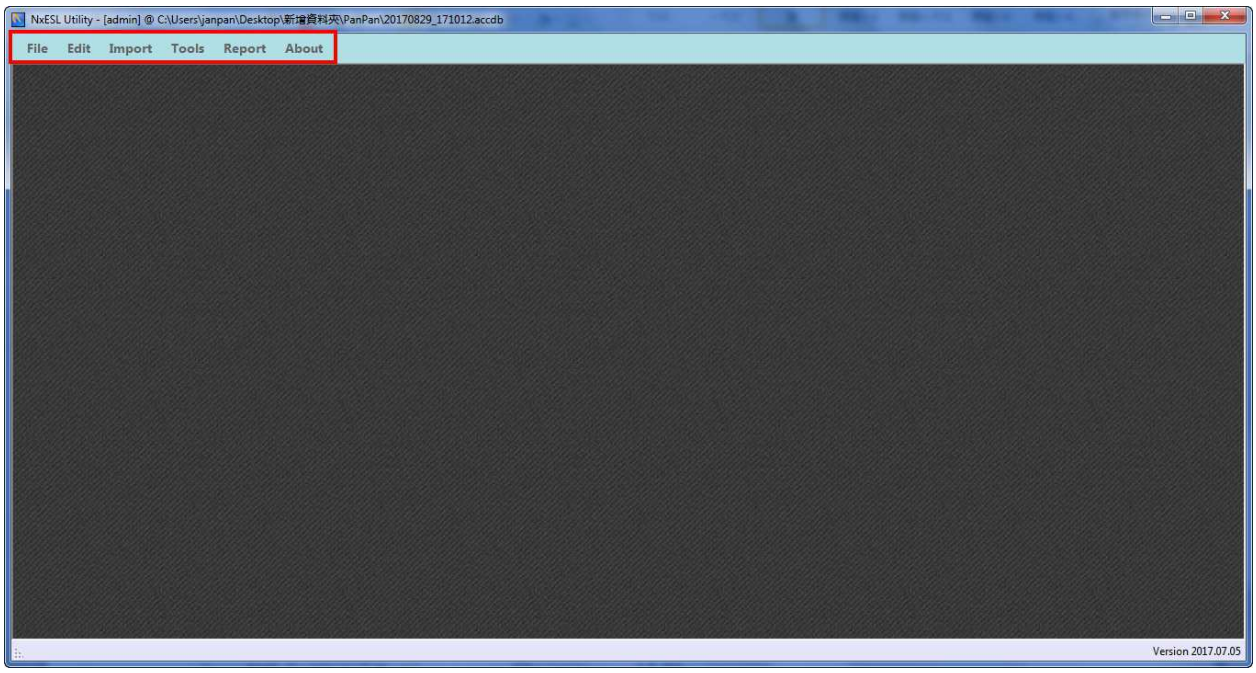
Desktop computer, router and coordinator are used wired network for their data transfer. Coordinator with ESL is use Wi-Fi to transfer. The coordinator and ESL are set same TX and RX.

3 How to set-up the NxESL system

3.1 NxESL functions

Launch NxESL software then you will see a toolbar show up at top of the windows. The

functions are below.



- File
- ➢ DB Backup：Backup the file that is used.
- ➢ DB Restore：Recovery from other file.
- ➢ DB Setting：Setting a new file or open old file.
- ➢ Account：Login、change password、add new account, delete account
- ➢ Exit：Exit NxESL.exe

- Edit
- ➢ Article Date： To edit information of article and to pair with labels.
- ➢ Label Binder：To click “active” and choose template for ESL.

- Import
- ➢ Article：Convert information format to fit with NxESL system. And you can choose coding format then import article information to access database. You have three ways to save the database:
  - ✧ Insert and keep old records
  - ✧ Update existing data and insert new records
  - ✧ Delete all before insert record
- ➢ Label：Import labels information to access database.
- ➢ Coordinator：Configure coordinator and add new coordinator.

- Tool
- ➢ Composer Task：To apply template to making real ESL image after pairing. On the other hand

when you use barcode scanner as receive and pass tool. Using barcode scanner to pair goods and labels, disassemble goods and labels, update information of content and change template.

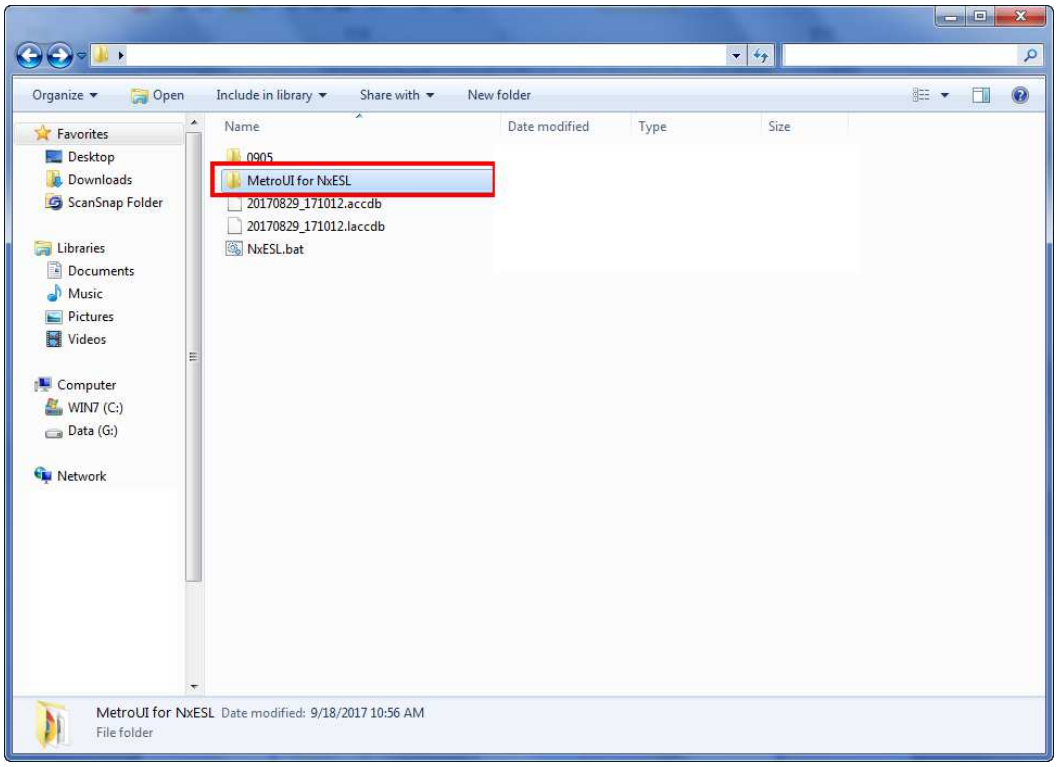
- ➢ Template Designer：You can design template for your need.

- Report
- ➢ Export BCR CMD Image：Export ten barcode images. There are respectively PAIR、REFRESH、ACTIVATION、DEACTIVATION、CANCEL、EZ-PAIR、EZ-REFRESH、EZ-ACTIVATION、EZ-DEACTIVATION、EZ-MODE-EXIT。

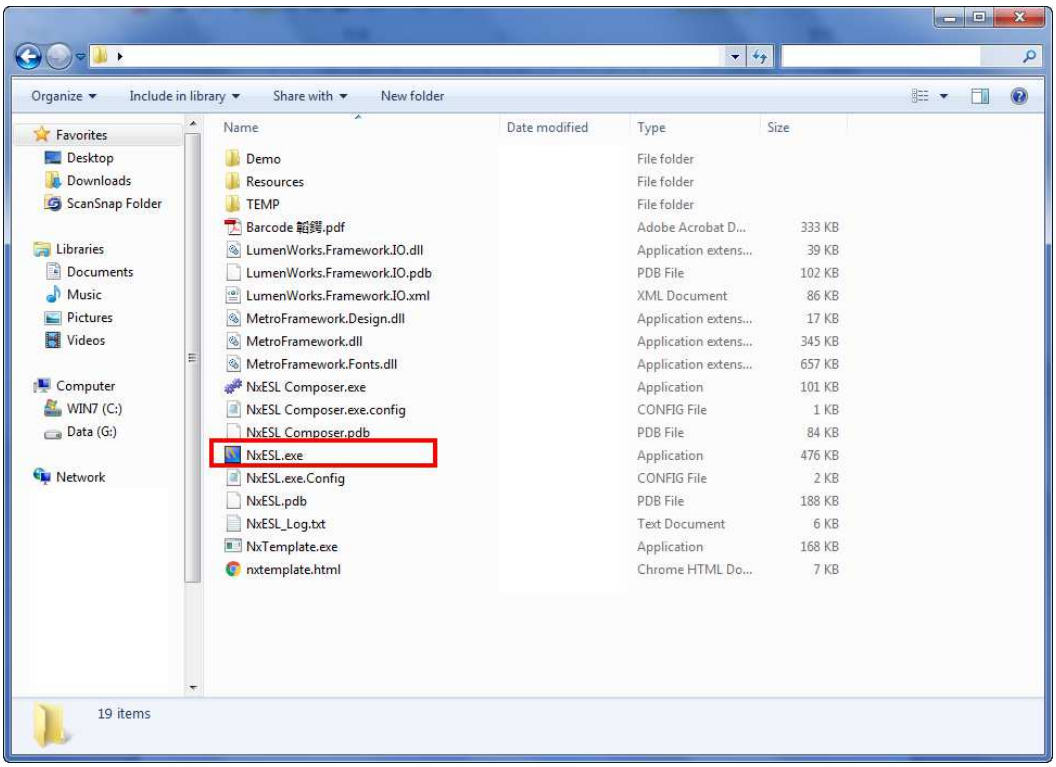
3.2 Start to use NxESL system

3.2.1 Launch NxESL.exe

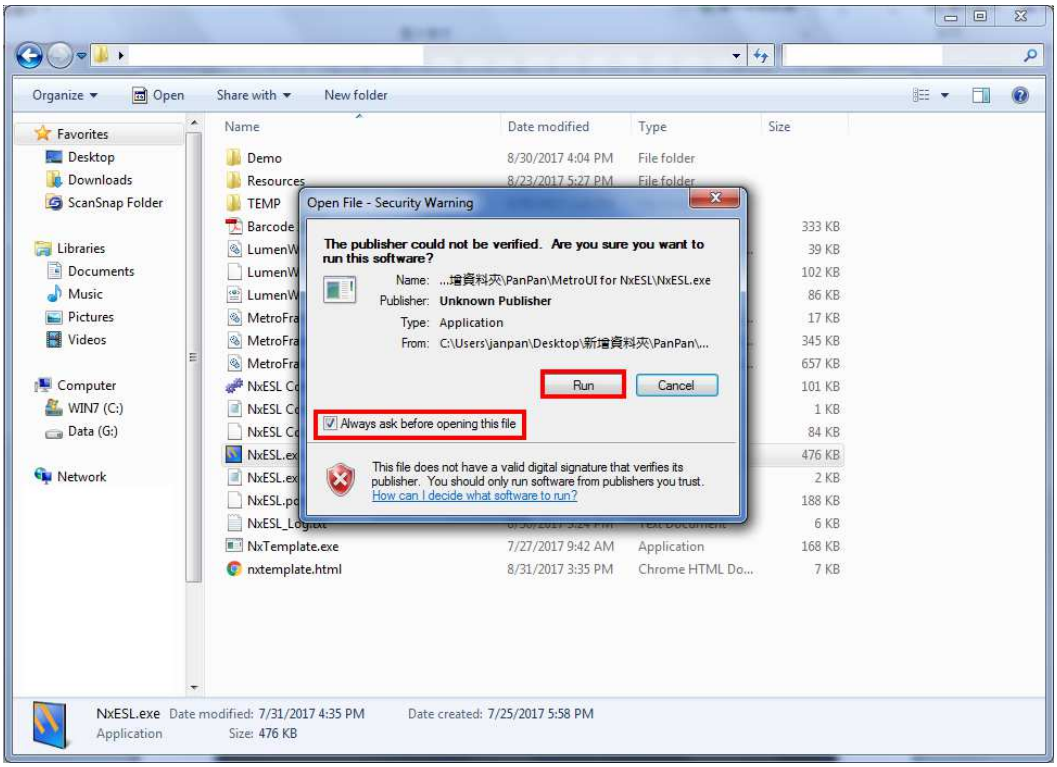
1) Launch software then find MetroUIforNxESL and click it.



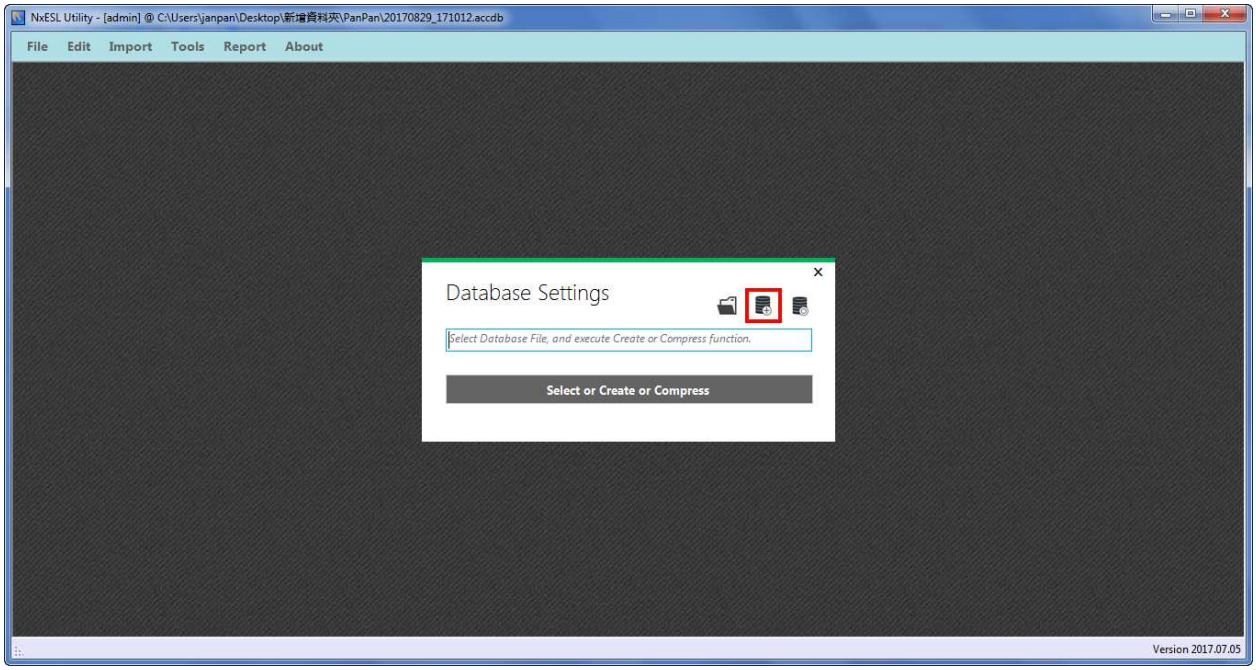
2) Launch the execution file NxESL.exe



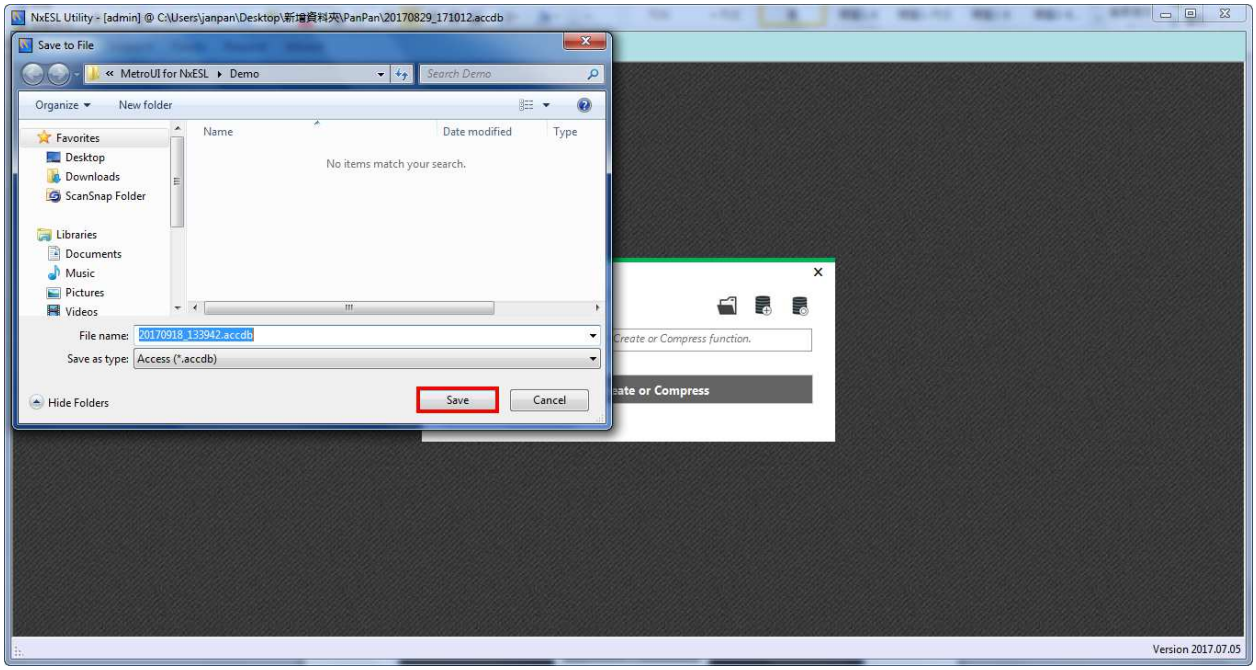
3) You will see the warning. Please cancel the tick then click “run”.



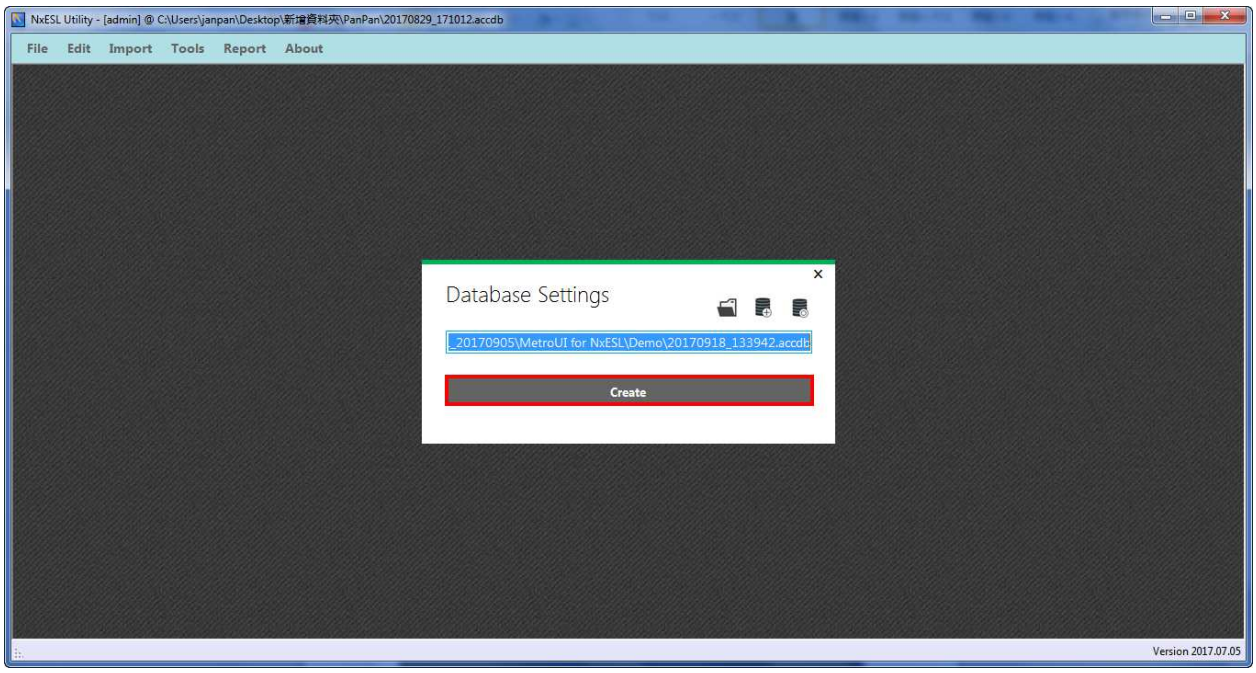
4) First time to use the software. You have to create a new access database. Please to click from the right to the second icon on top side in popup-window.



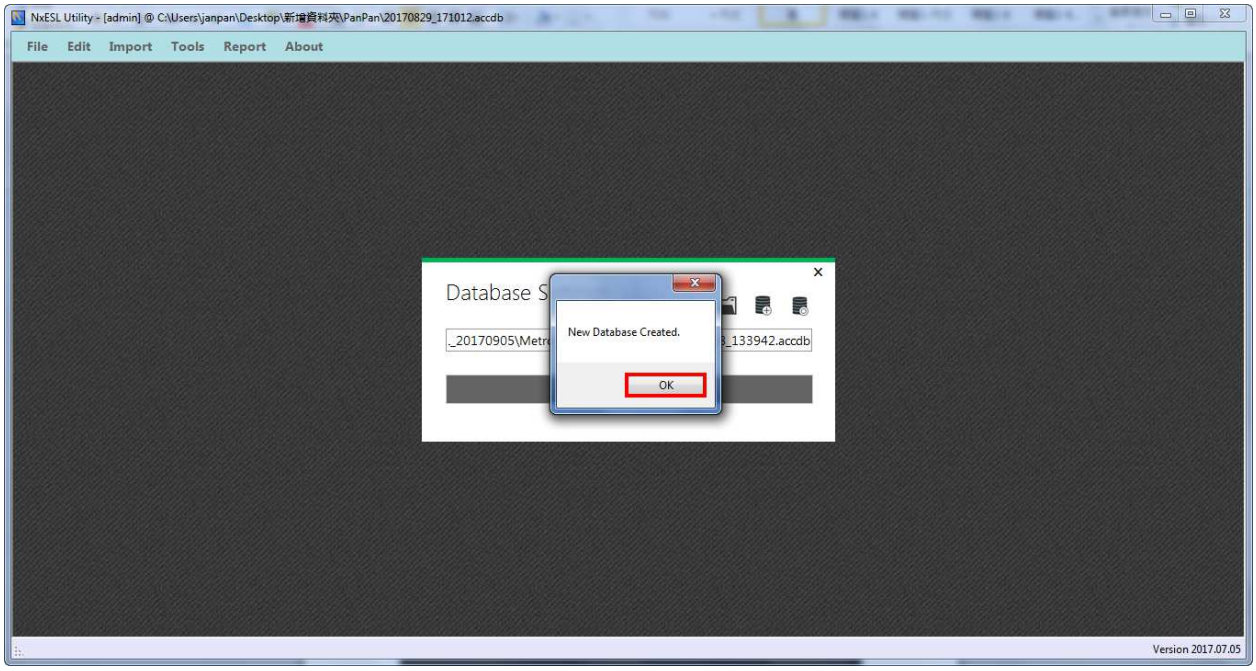
5) You can specify a non-default path of save for the database.



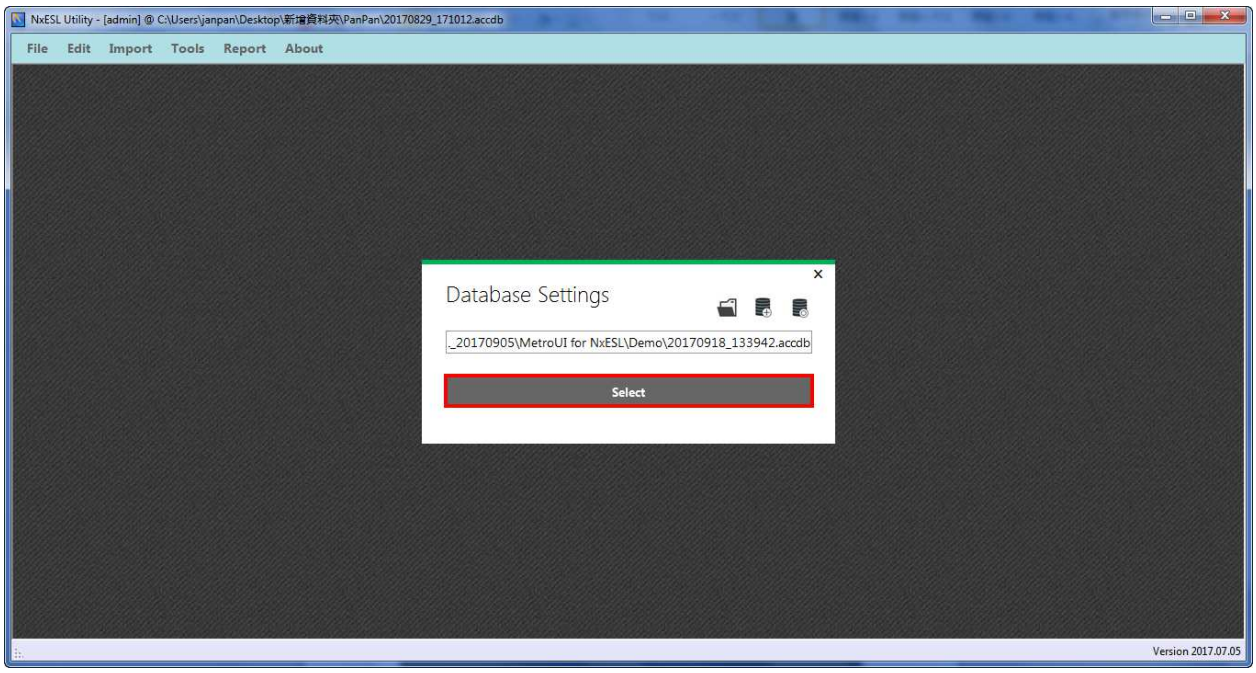
6) Click “create”.



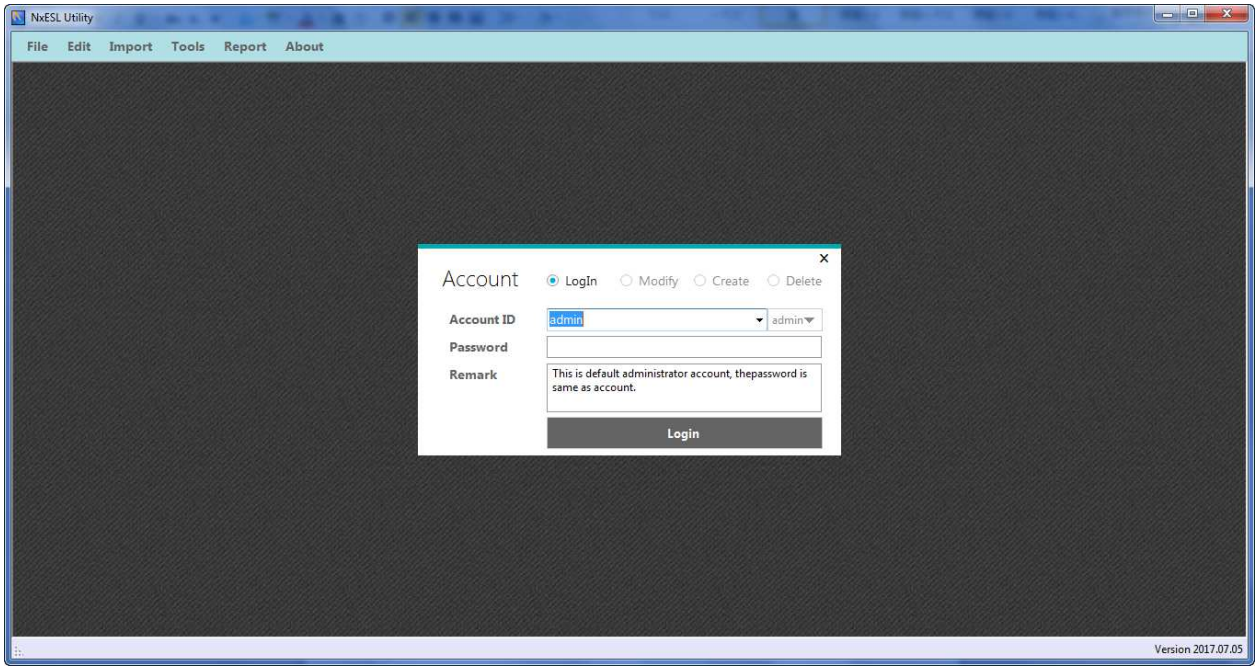
7) Click “ok”.



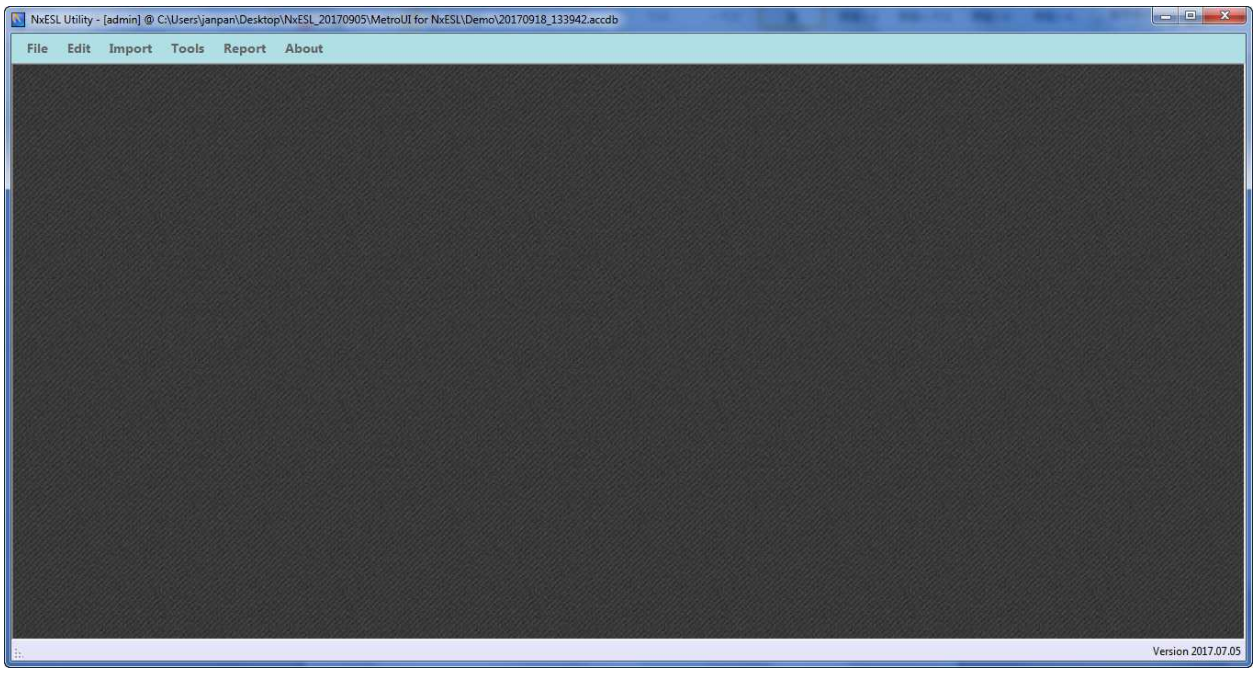
8) Click “select”.



9) For the first time launch the program, the system default ID and password are admin then login.

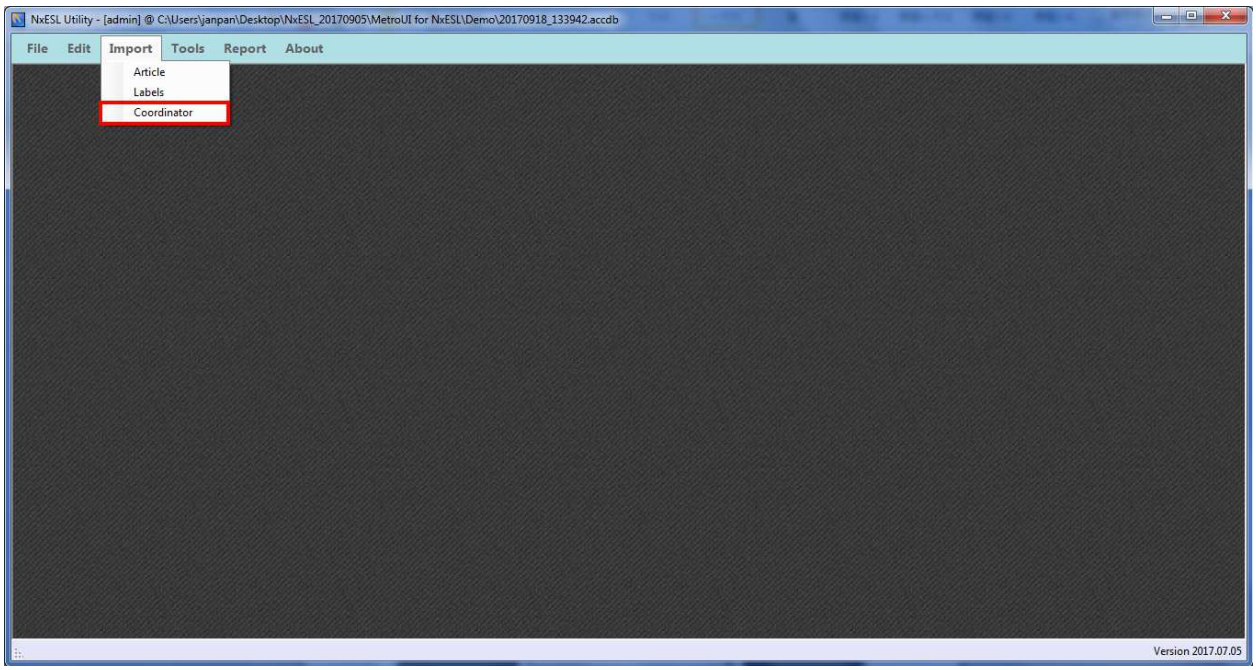


10) Enter the system

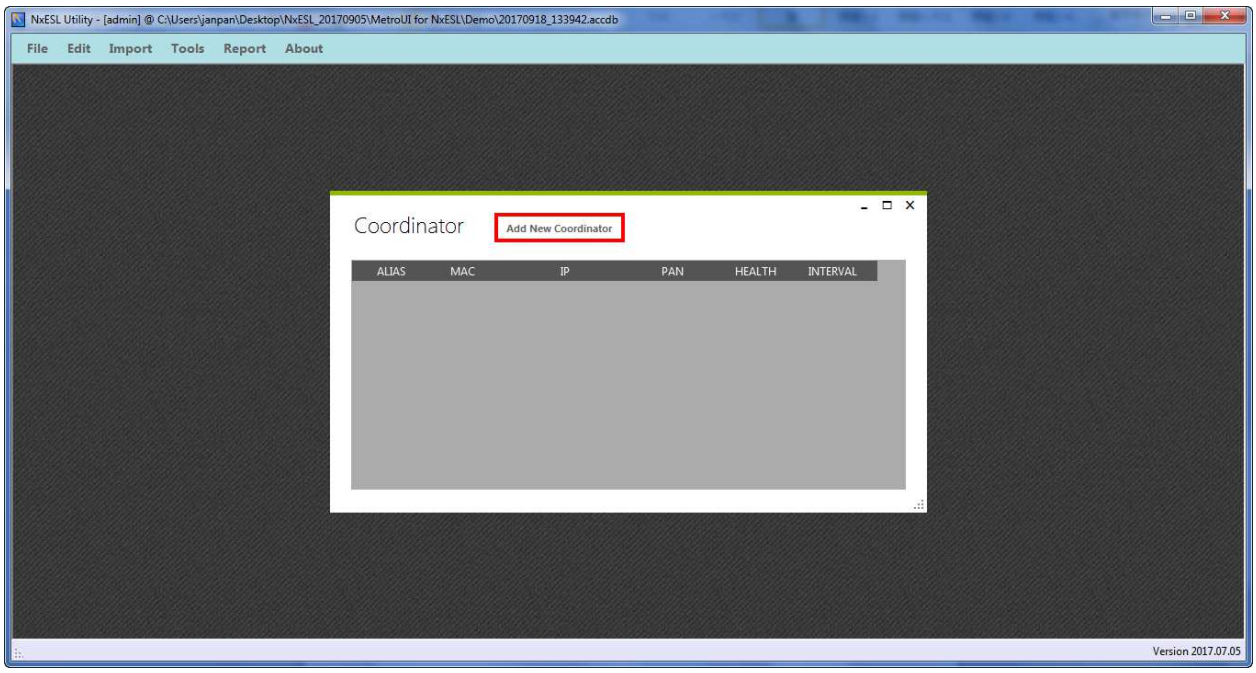


3.2.2 Setting coordinator

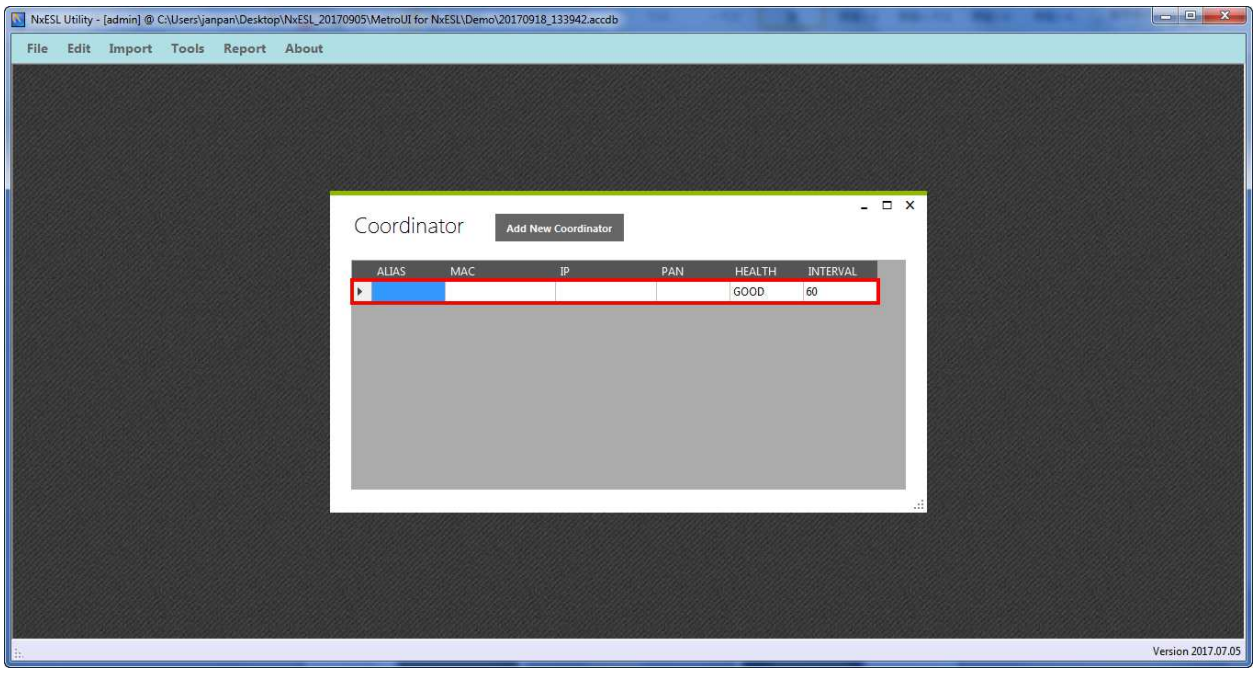
1) Click Import > Coordinator



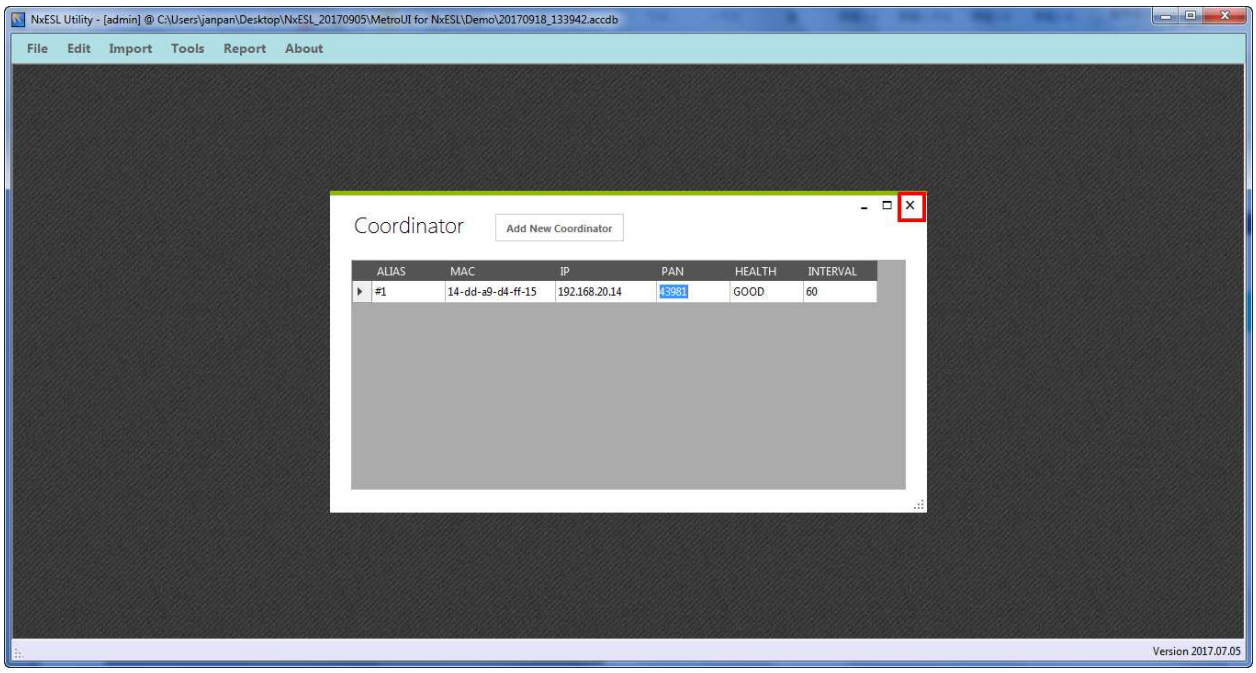
2) Click icon of add new coordinator



3) Original company will offer info of coordinator. To fill in the data.

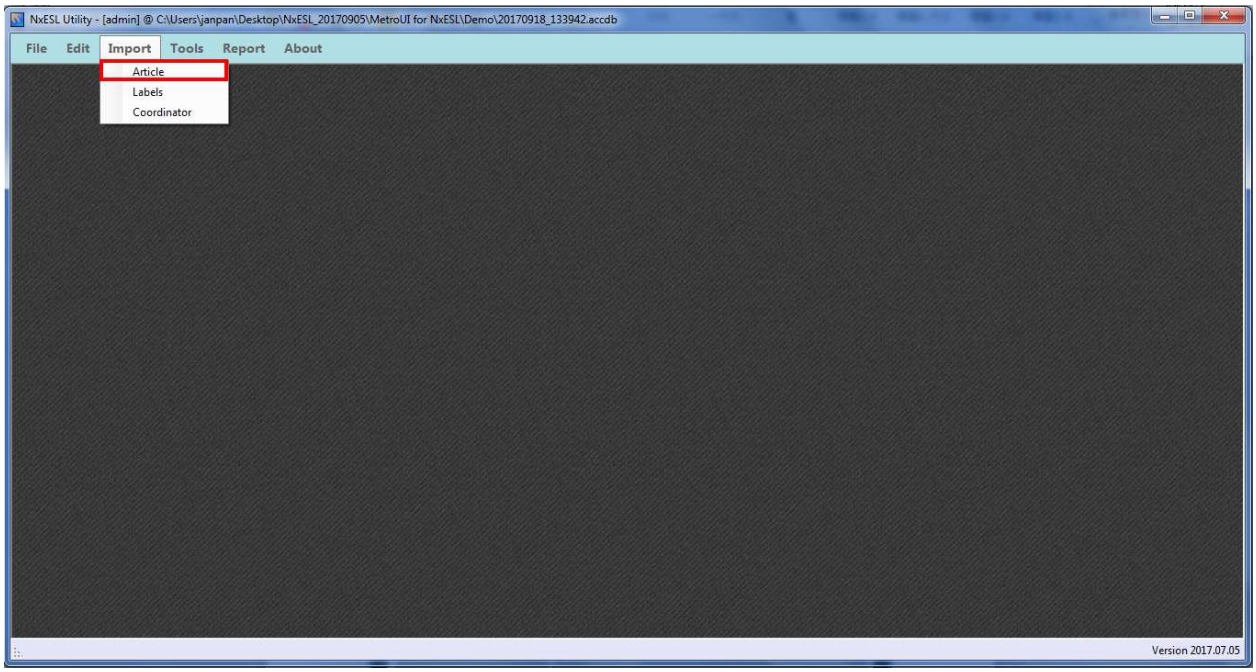


4) After you fill in the data then closes the popup-window.

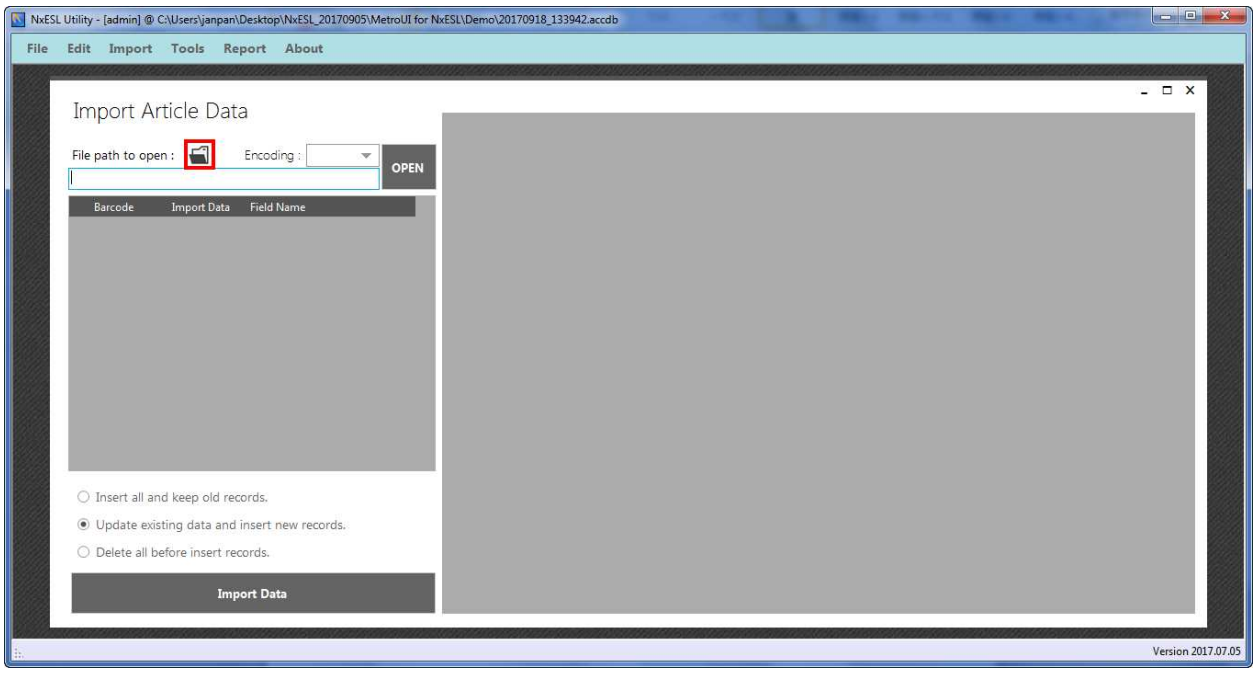


3.2.3 Import data

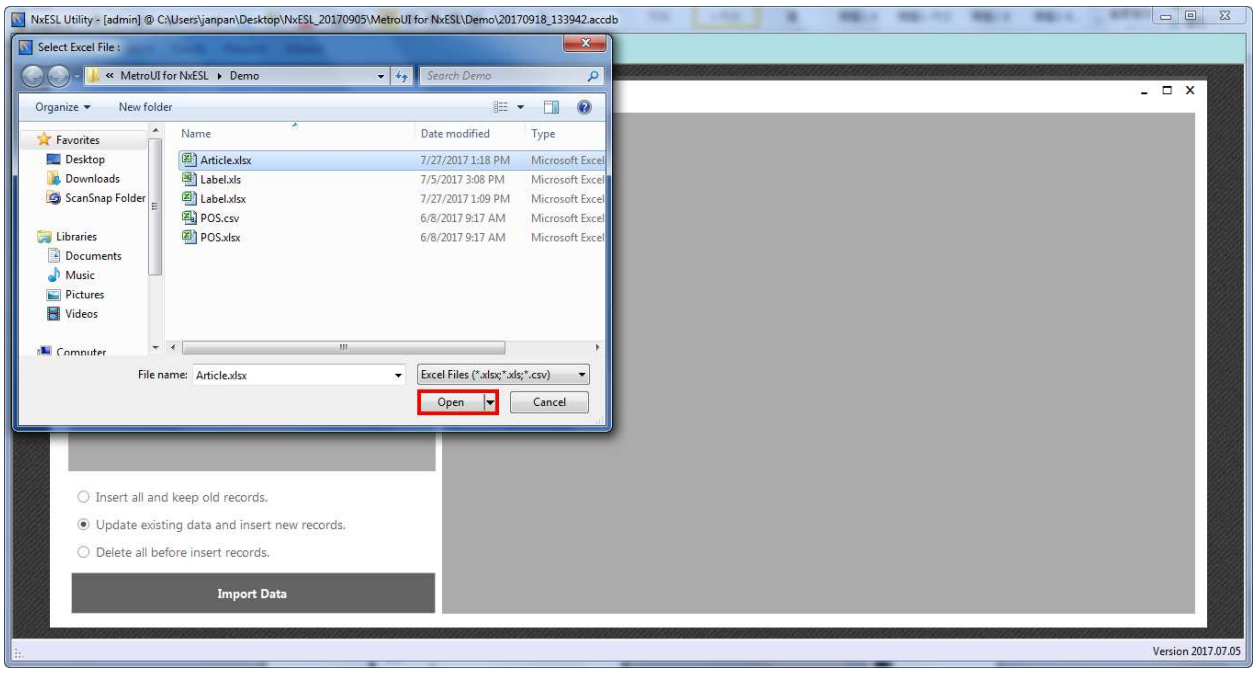
1) When you first time use the system. You must import article information.
   Import > Article。



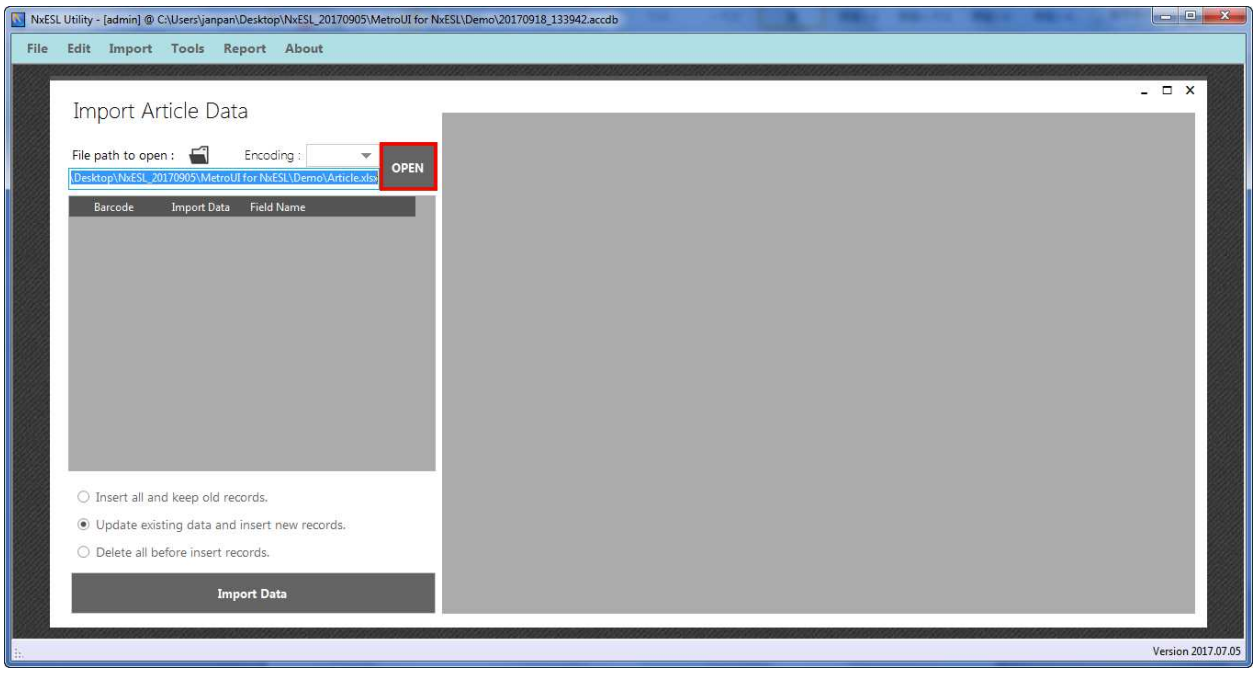
2) Click icon of file path to open.



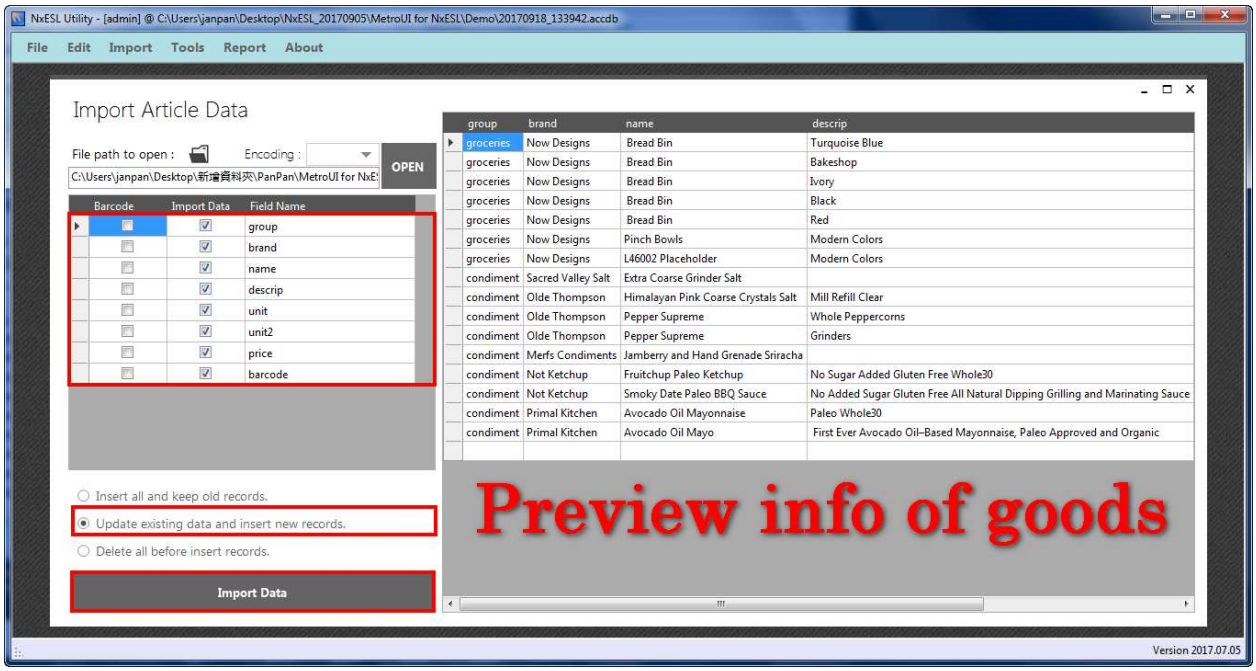
3) Find the document of article and open it.



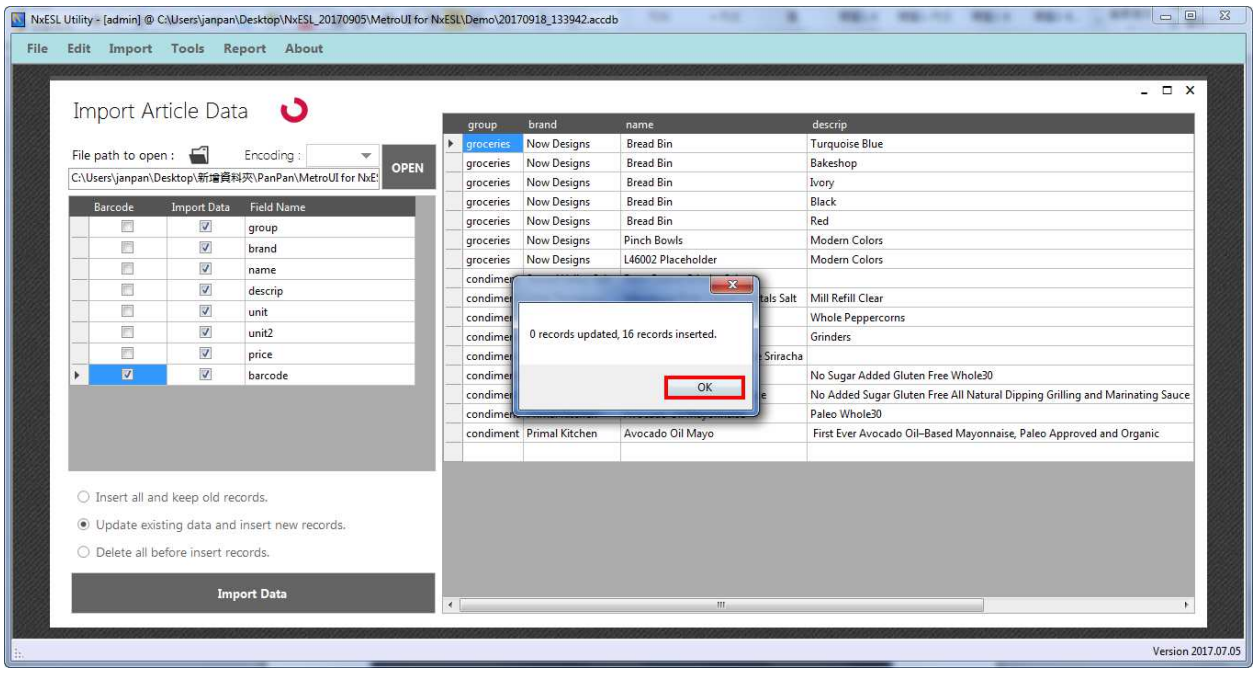
4) Click “open”.



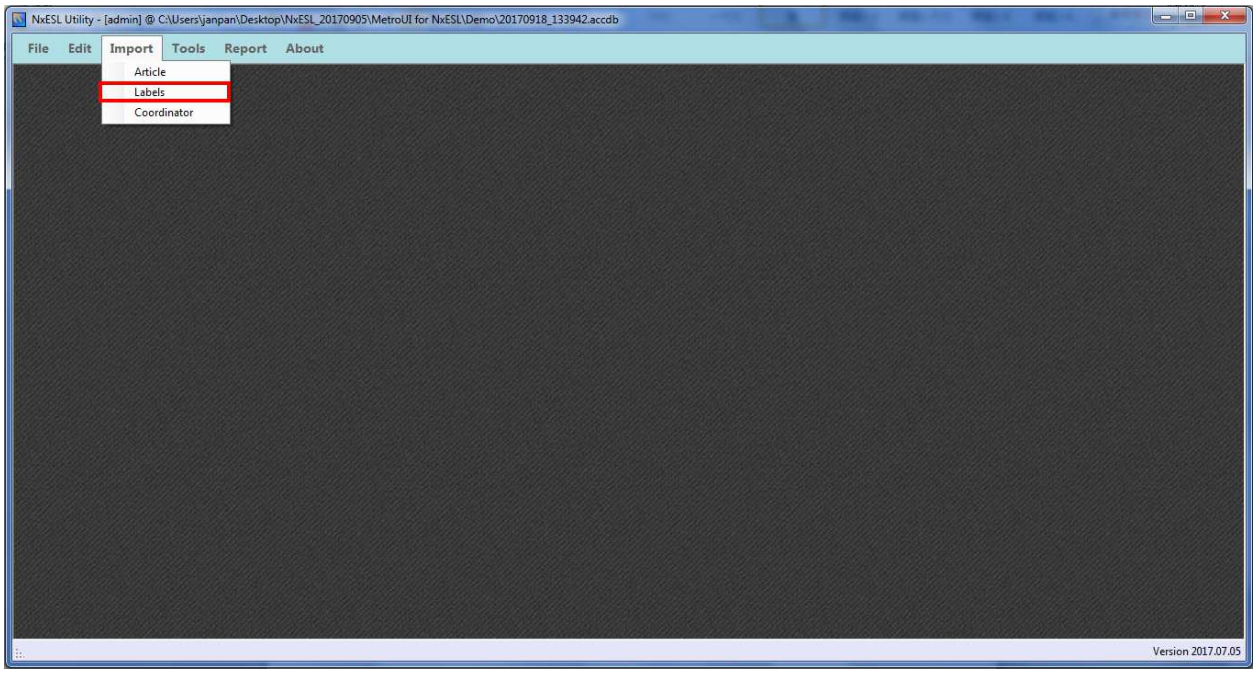
5) You will see preview info of goods was showed up in right of popup-window and goods title column was showed up in left of popup-window. You have to do two things in left side column. First, you have to tick one of them that will as barcode source and import to database. Second, you have to tick which ones title column will import to database. Finally choose "Update existing data and insert new records" then click "Import Data".
※Suggest to setting for goods barcode as barcode source and import all of title column to database.



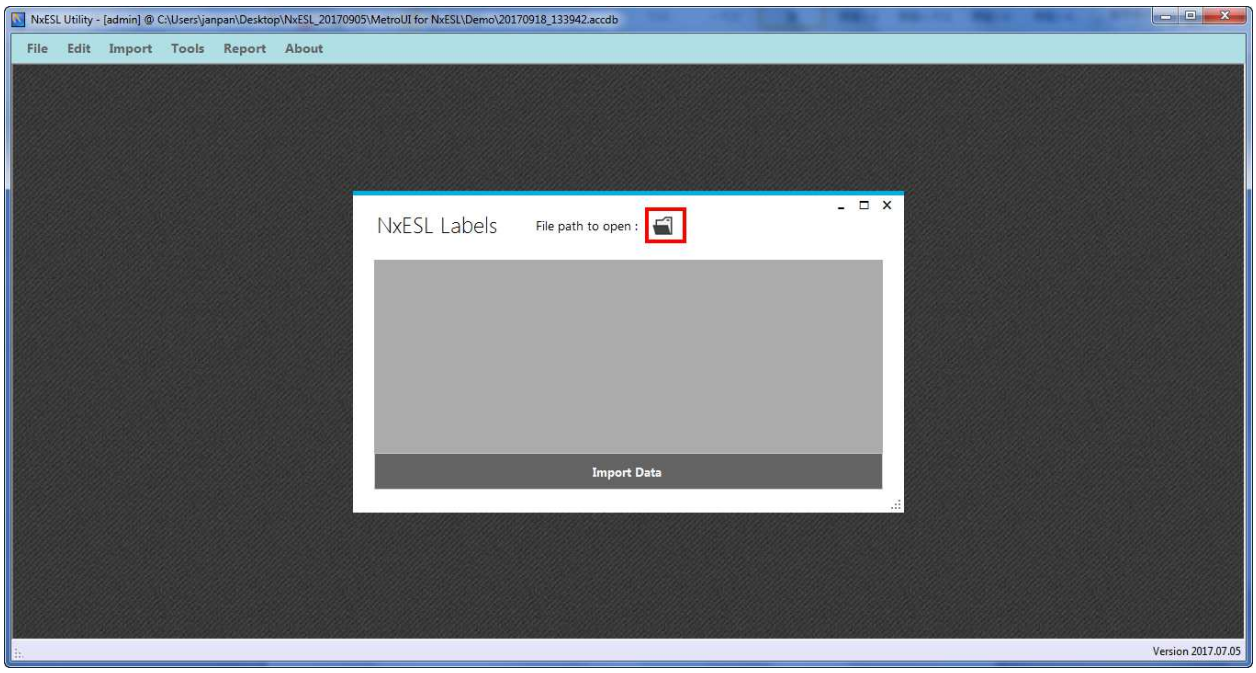
6) Click “ok”.



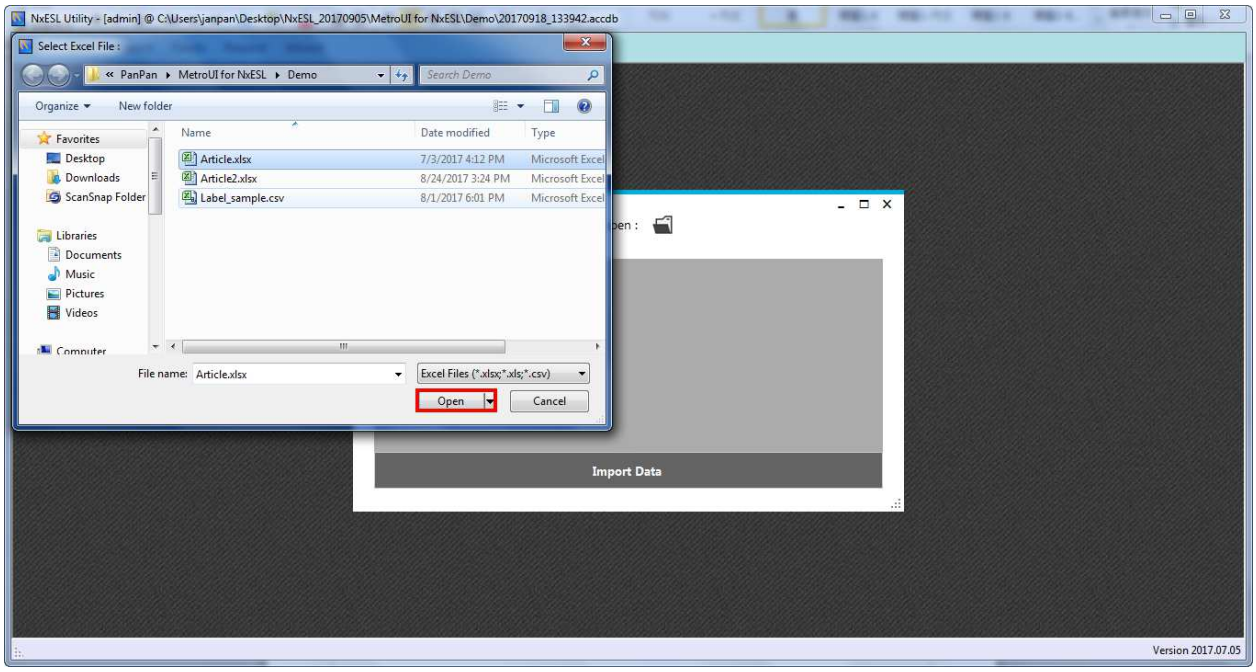
7) After import article then import labels. Import > Labels。



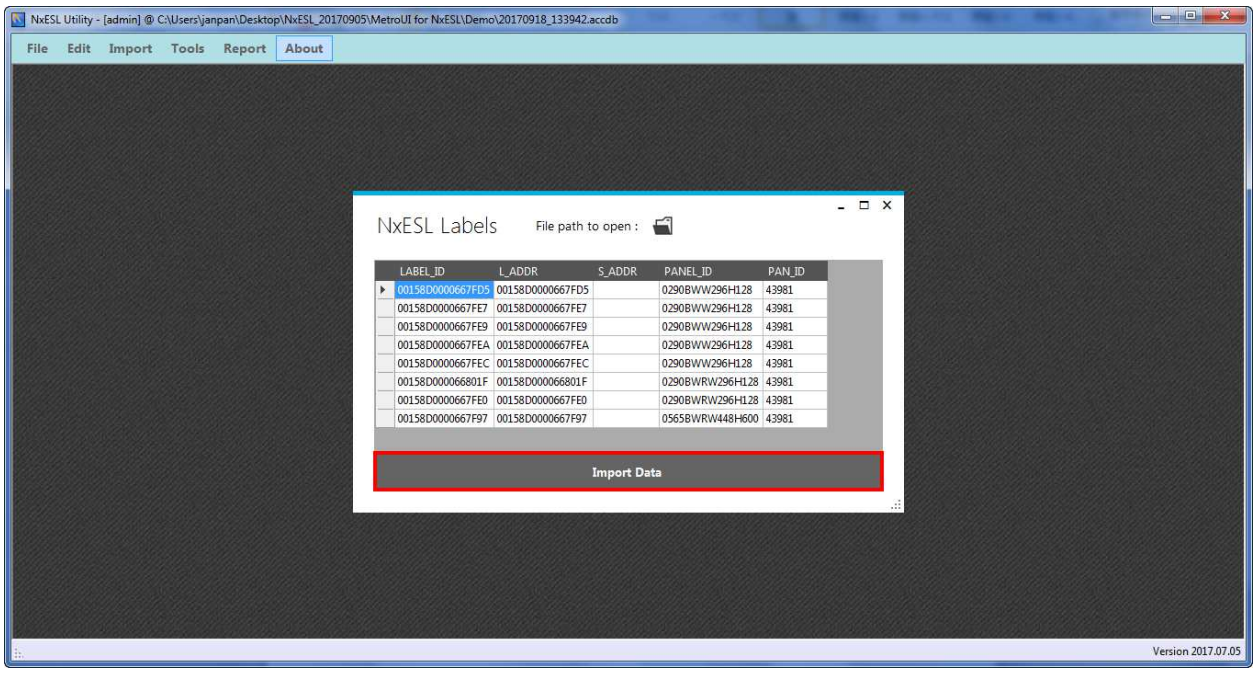
8) Click icon of file path to open. The file is provided by original company.



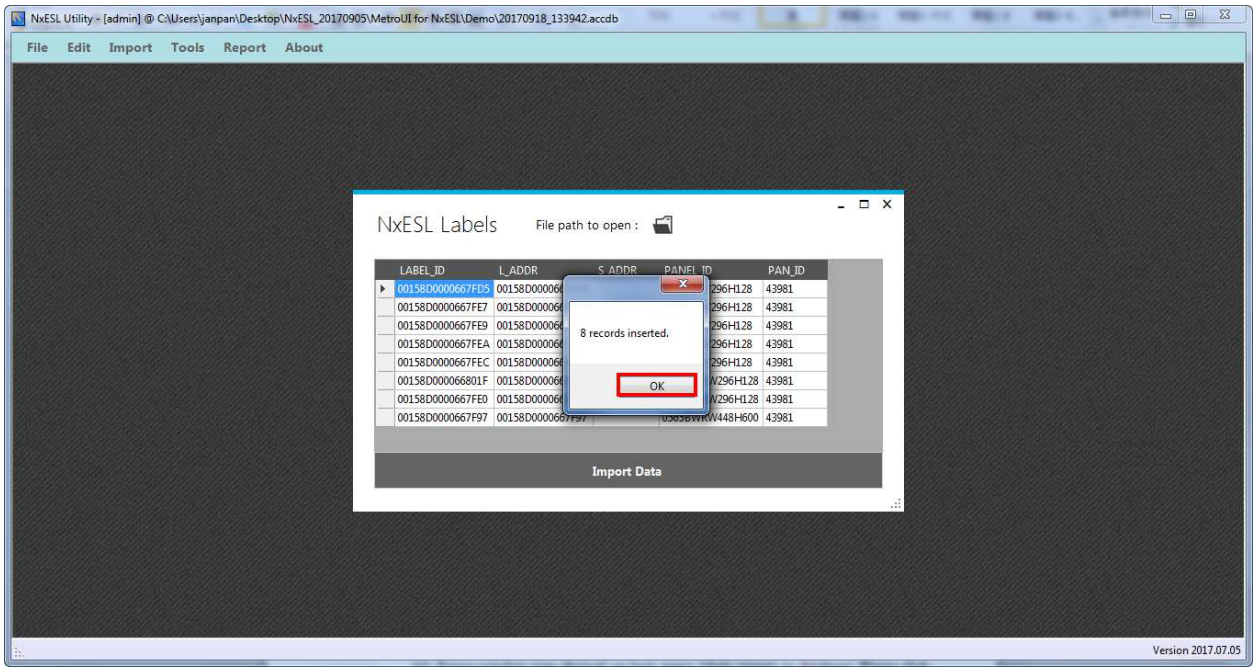
9) Find the document of label and open it.



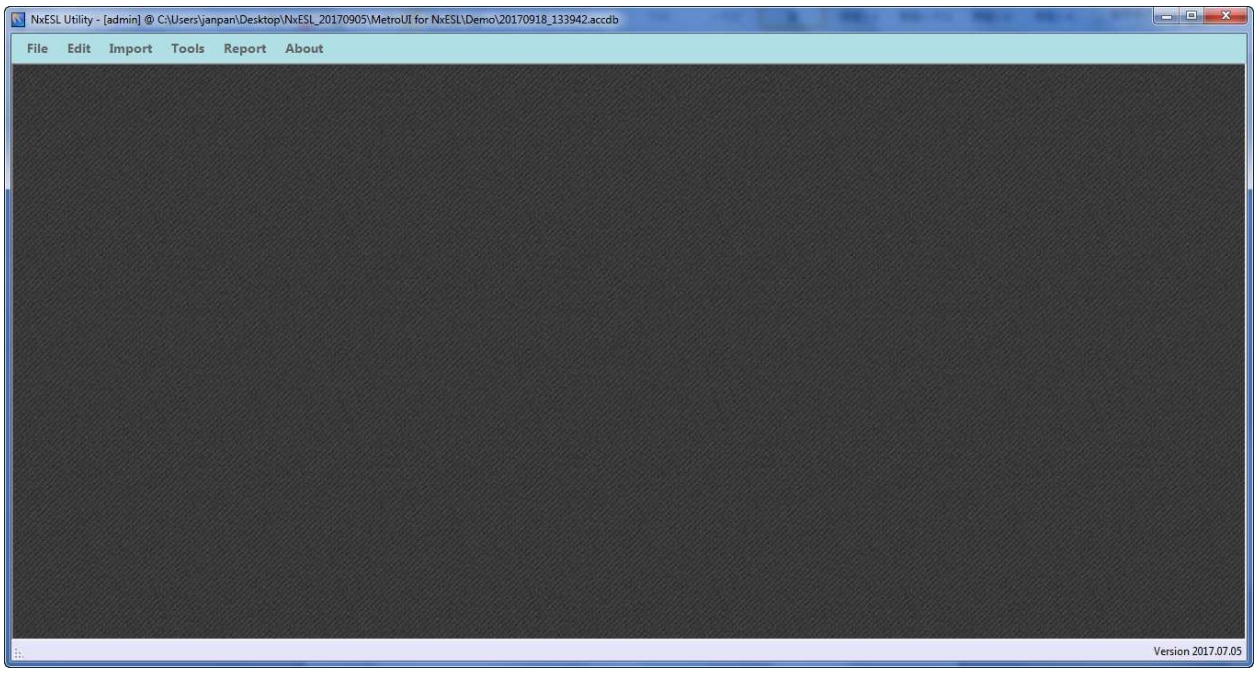
10) Click “Import Data”.



11) Popup-window was showed up how many labels import to database. Please click “Ok”.

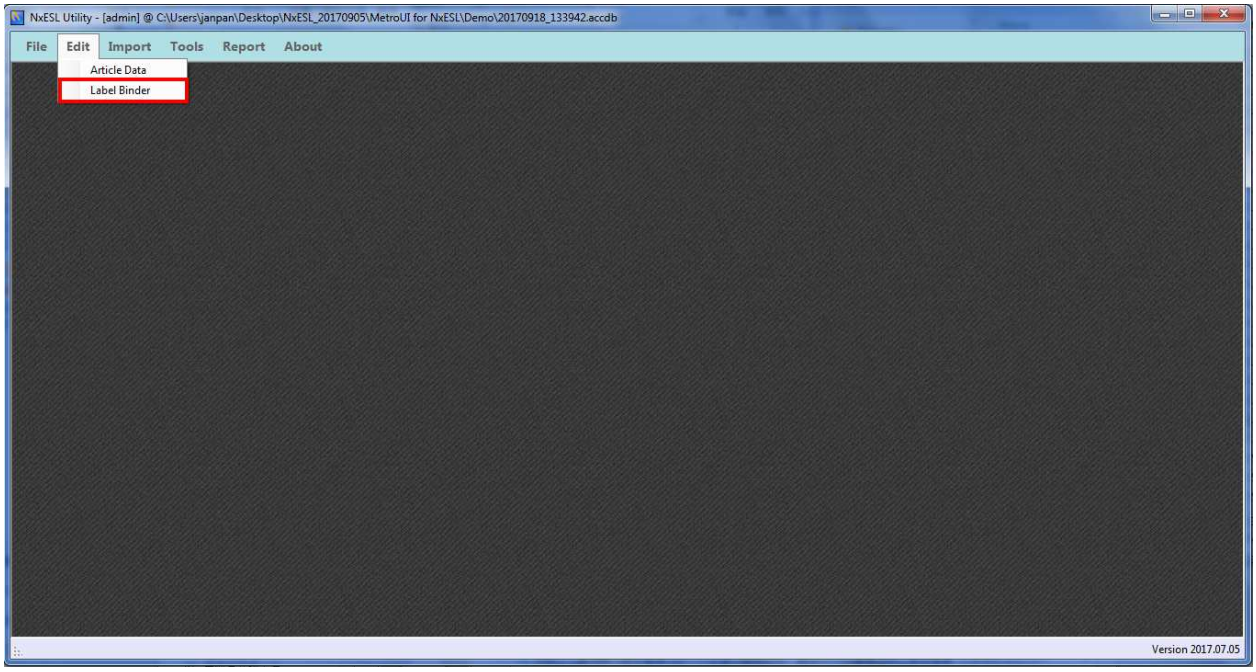


12) Articles and labels were imported to database completely.



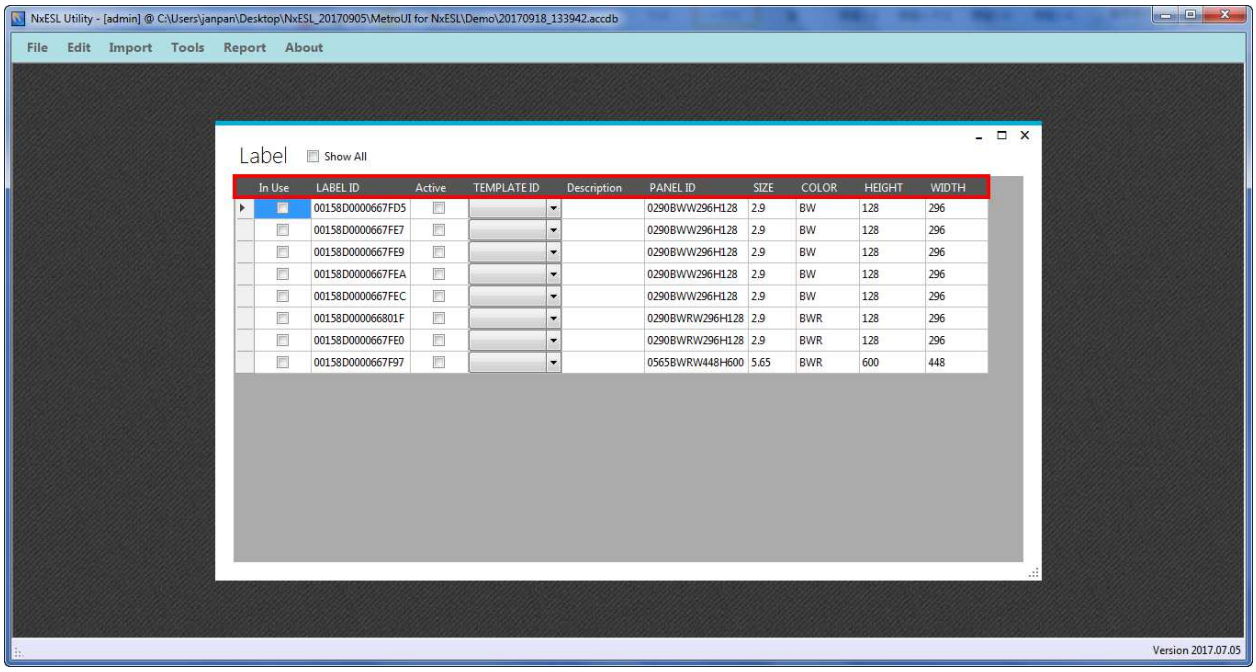
3.2.4 Pair

1) Before pairing you should setting which ones you want to be template. So you have to open label binder and setting them. Edit > Label Binder



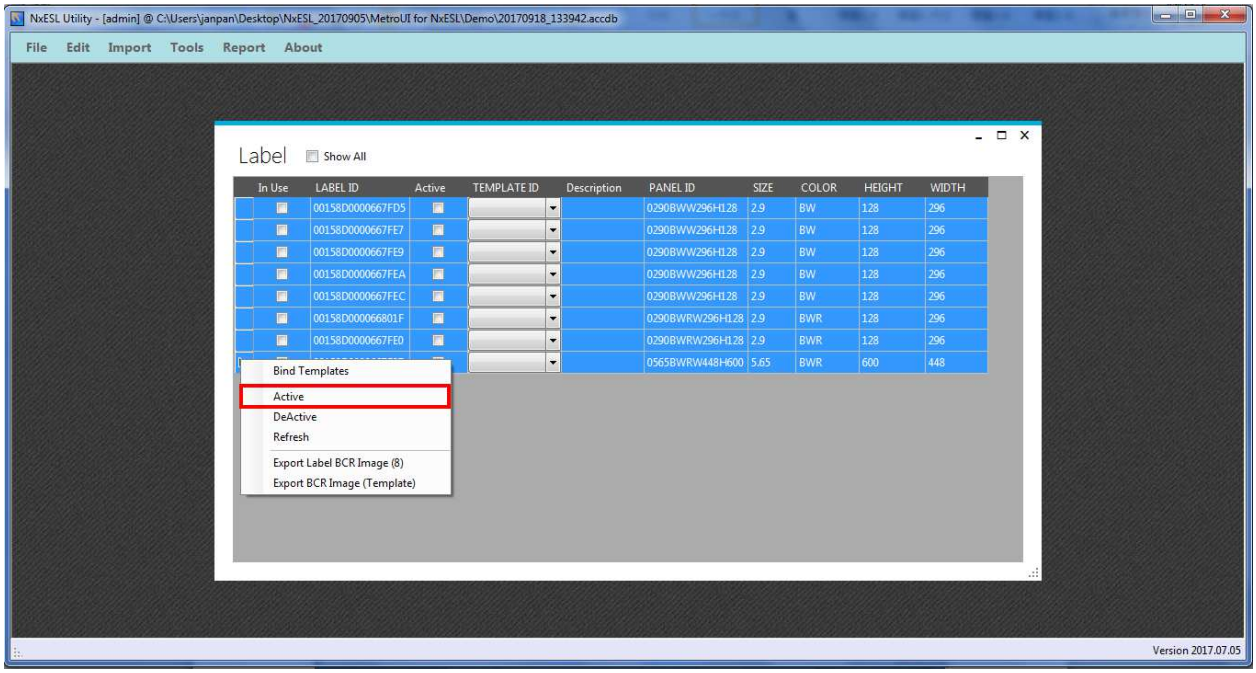
2) Window of label show as in the figure below.

- In Use：The label is using now.
- Label ID：Label identification code.
- Active：When image complete make the ESL were synchronized or not? If tick means synchronize. If cancel tick means do not synchronize.
- Template ID：Identification code of template.
- Description：Template model descript.
- Panel ID：Panel identification code.
- Size, Color, Height, Width：Each ESL of size, color, height and width.

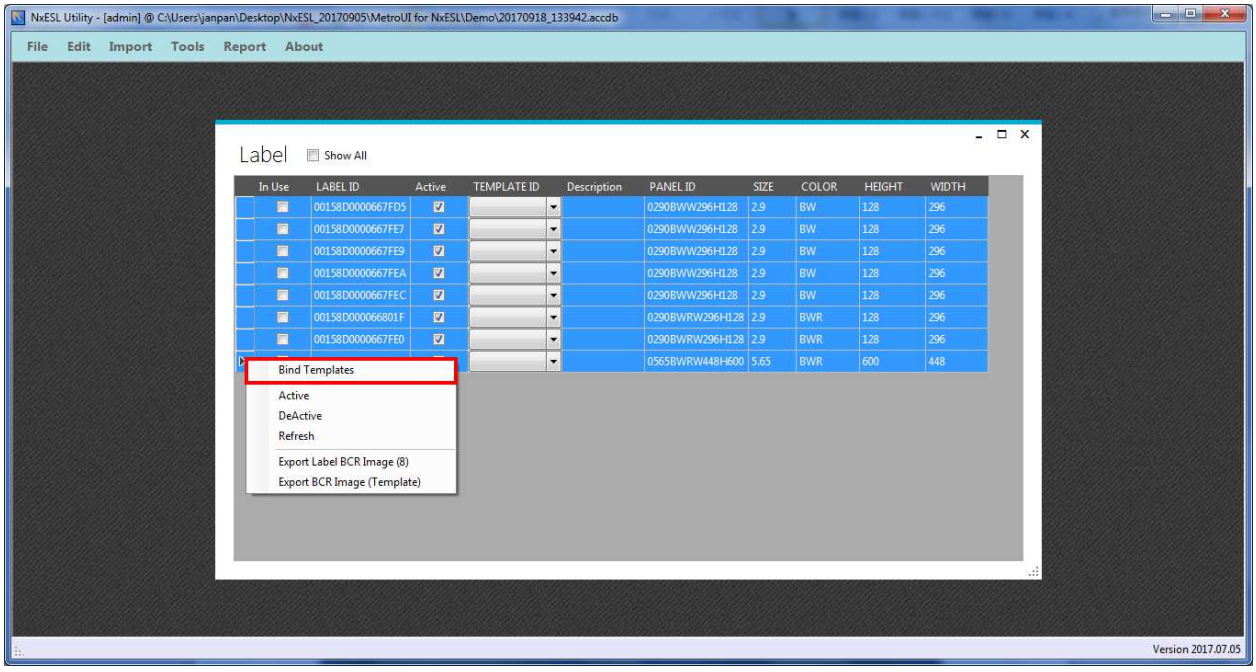


In Use	LABEL ID	Active	TEMPLATE ID	Description	PANEL ID	SIZE	COLOR	HEIGHT	WIDTH
	00158D0000667FD5				0290BWW296H128	2.9	BW	128	296
	00158D0000667FE7				0290BWW296H128	2.9	BW	128	296
	00158D0000667FE9				0290BWW296H128	2.9	BW	128	296
	00158D0000667FEA				0290BWW296H128	2.9	BW	128	296
	00158D0000667FEC				0290BWW296H128	2.9	BW	128	296
	00158D000066801F				0290BWRW296H128	2.9	BWR	128	296
	00158D0000667FE0				0290BWRW296H128	2.9	BWR	128	296
	00158D0000667F97				0565BWRW448H600	5.65	BWR	600	448

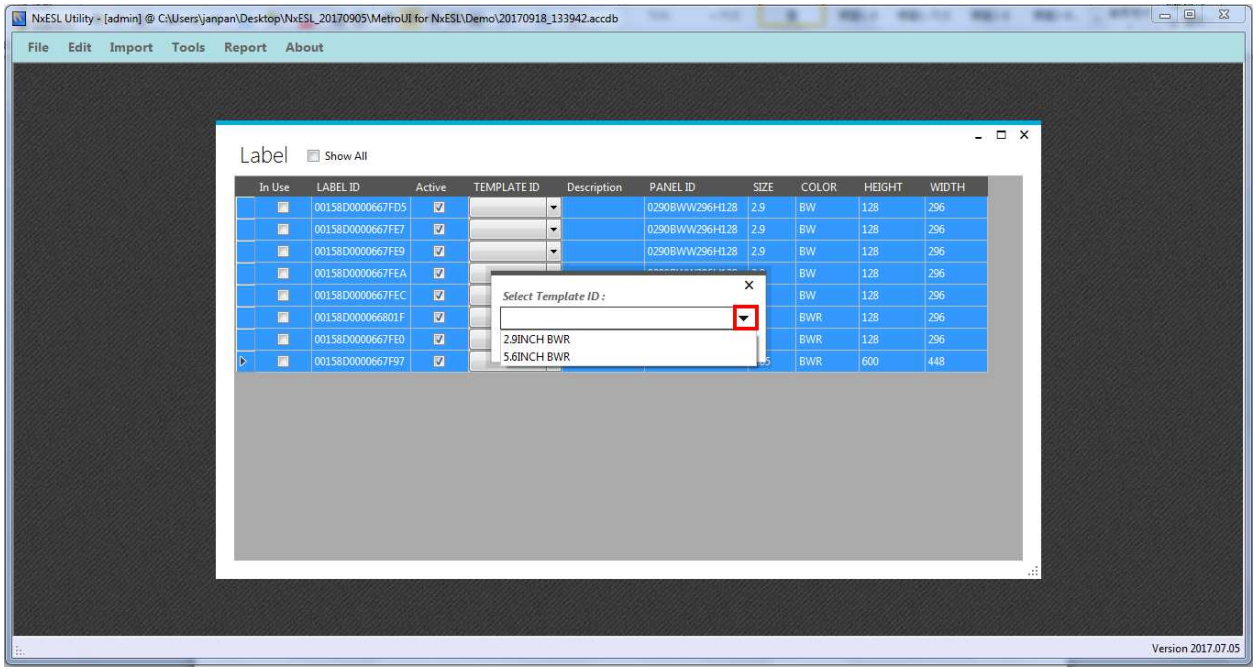
3) When you first open document of labels you have to select all then right-click and chooses "Active". So then you complete image and pairing could synchronize with ESL. If you do not tick, that won't synchronize.



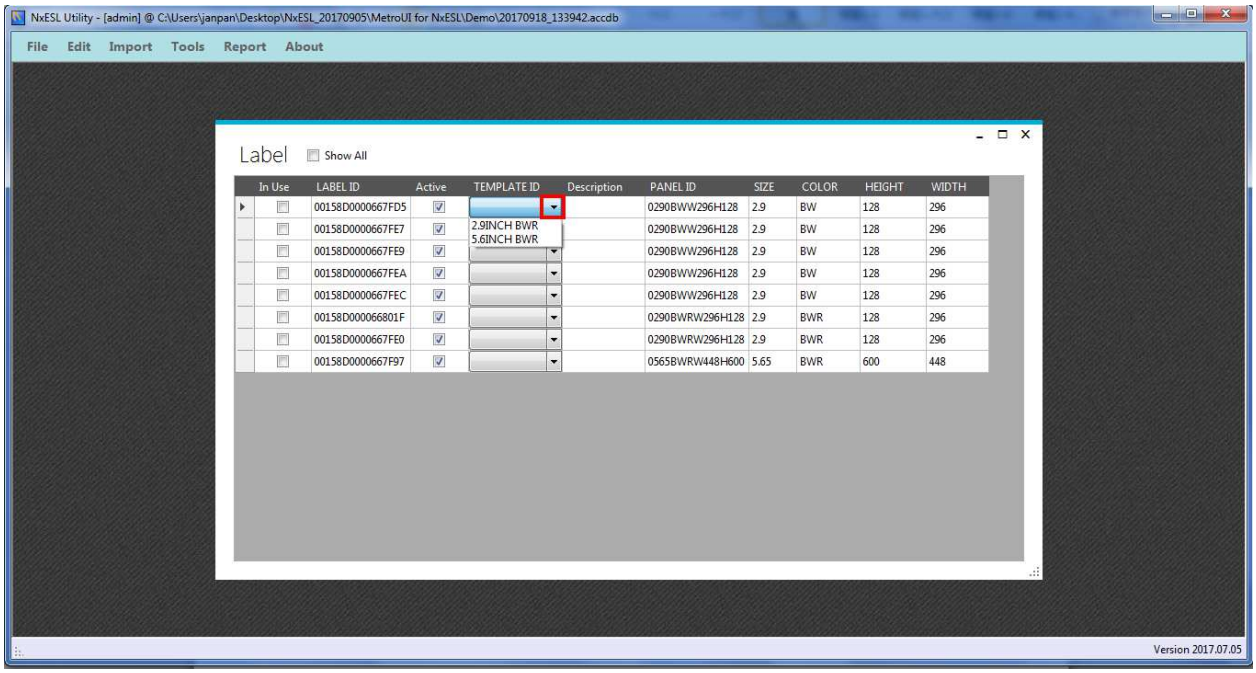
4) You select the goods you want to pair. Then right-click to choose “bind templates”. After you could close popup-window using x on top right corner.
※Attention please. When you set template ID you must attention to size and color. Make sure each template fit with actual panel.



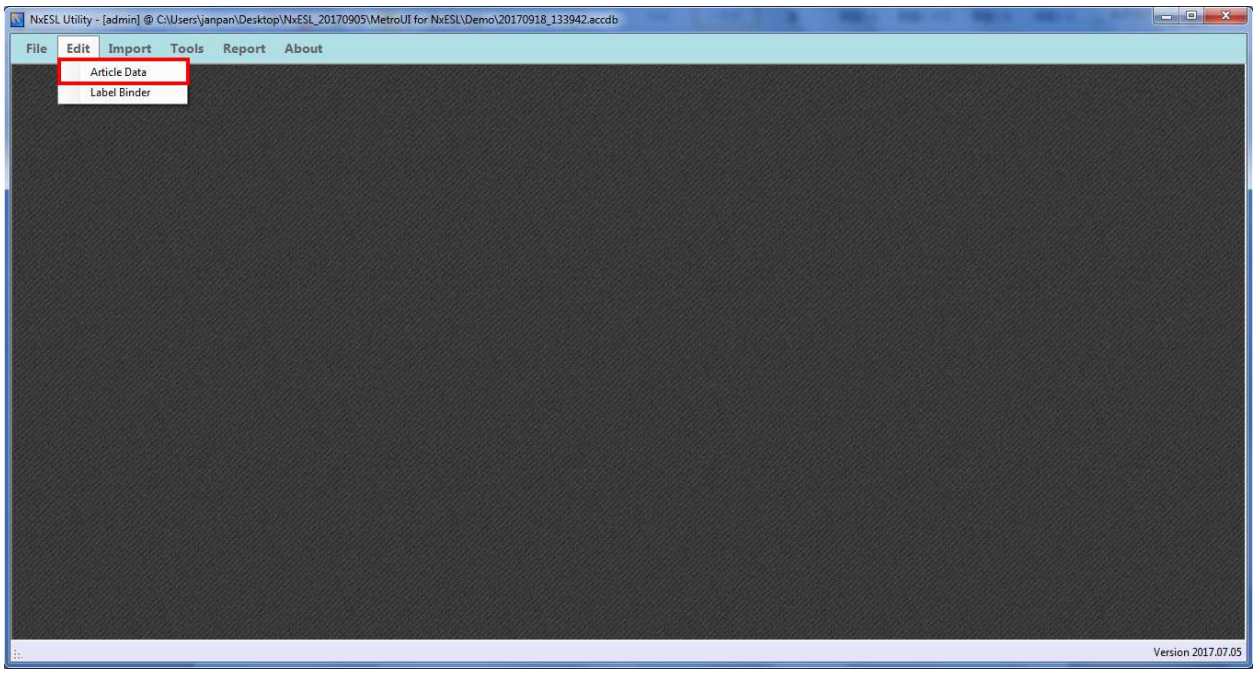
5) Use the drop down list.



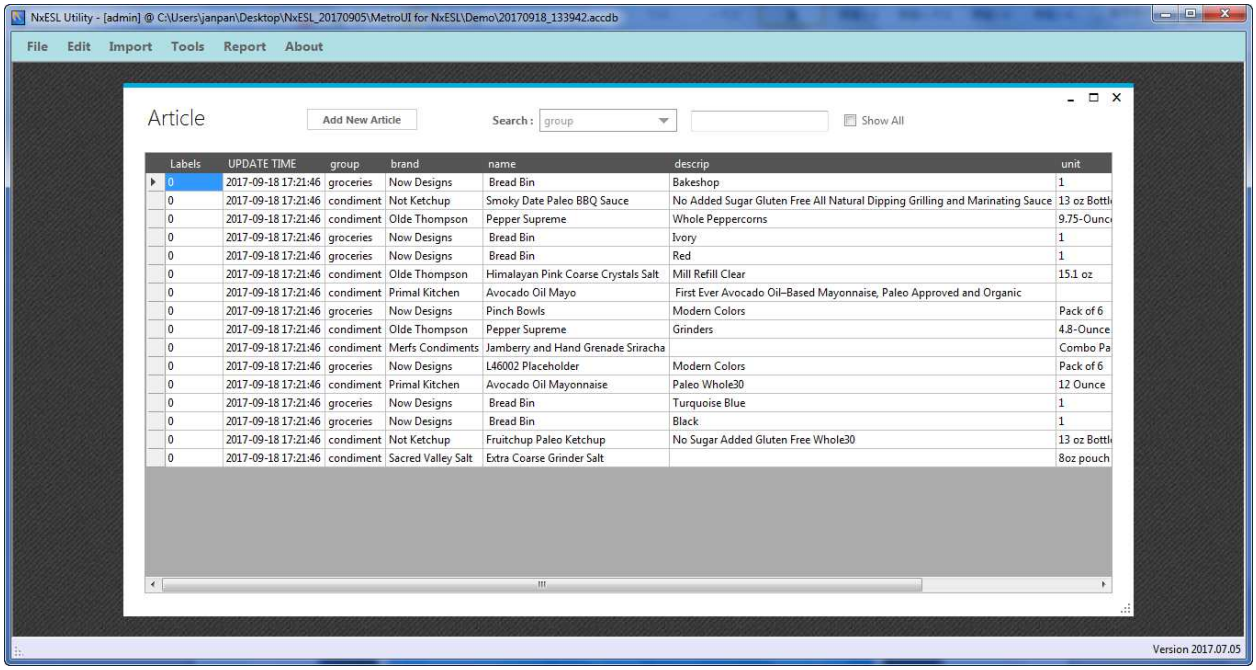
6) Or you can use drop down list to setting which one you want used template.



7) Open article data. Edit > Article



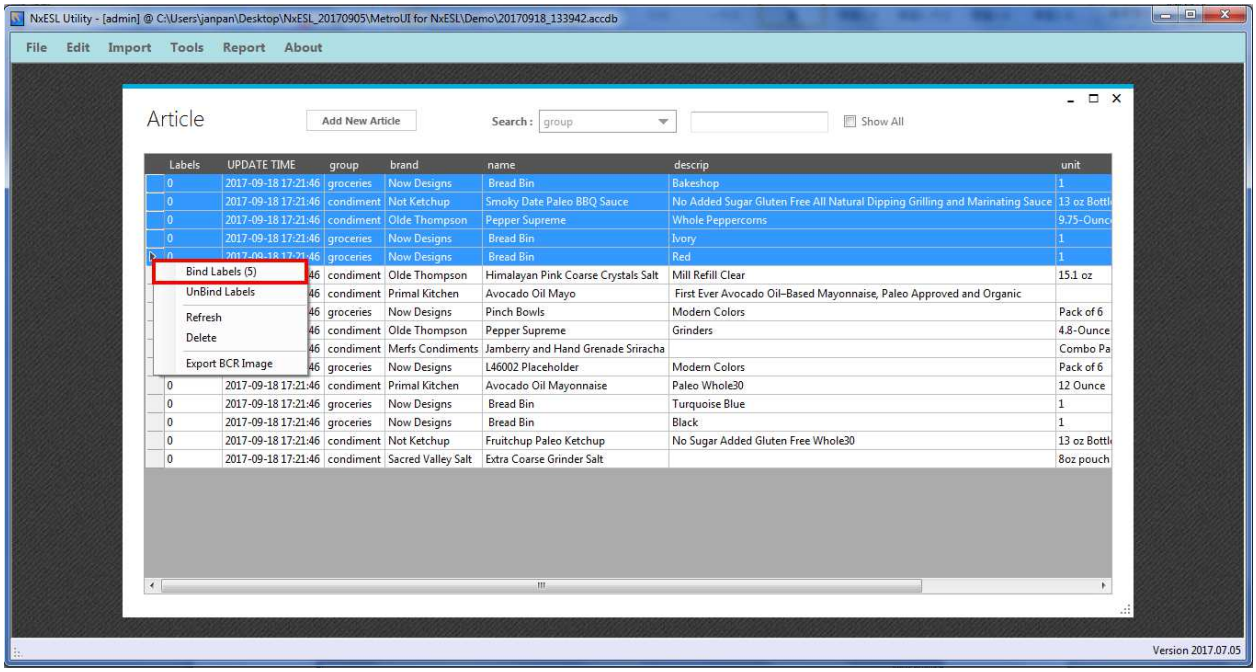
8) Popup-window show document of article info.



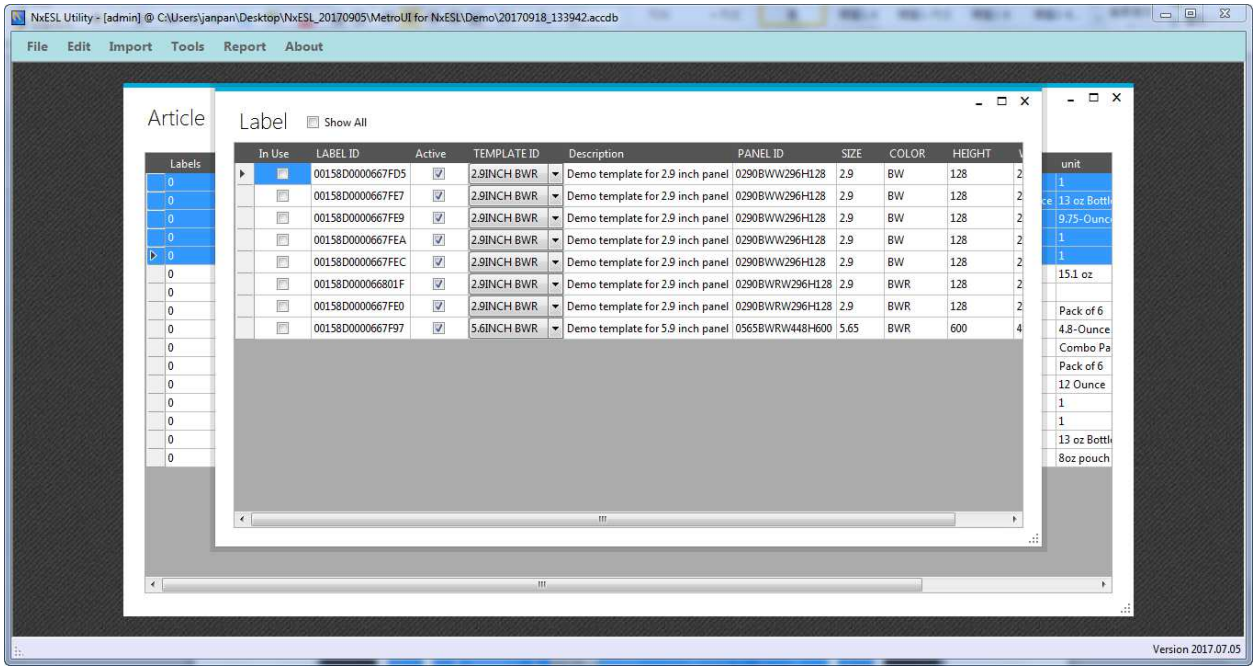
Labels	UPDATE TIME	group	brand	name	descrip	unit
0	2017-09-18 17:21:46	groceries	Now Designs	Bread Bin	Bakeshop	1
0	2017-09-18 17:21:46	condiment	Not Ketchup	Smoky Date Paleo BBQ Sauce	No Added Sugar Gluten Free All Natural Dipping Grilling and Marinating Sauce	13 oz Bottl
0	2017-09-18 17:21:46	condiment	Olde Thompson	Pepper Supreme	Whole Peppercorns	9.75-Ounc
0	2017-09-18 17:21:46	groceries	Now Designs	Bread Bin	Ivory	1
0	2017-09-18 17:21:46	groceries	Now Designs	Bread Bin	Red	1
0	2017-09-18 17:21:46	condiment	Olde Thompson	Himalayan Pink Coarse Crystals Salt	Mill Refill Clear	15.1 oz
0	2017-09-18 17:21:46	condiment	Primal Kitchen	Avocado Oil Mayo	First Ever Avocado Oil-Based Mayonnaise, Paleo Approved and Organic	
0	2017-09-18 17:21:46	groceries	Now Designs	Pinch Bowls	Modern Colors	Pack of 6
0	2017-09-18 17:21:46	condiment	Olde Thompson	Pepper Supreme	Grinders	4.8-Ounce
0	2017-09-18 17:21:46	condiment	Merfs Condiments	Jamberry and Hand Grenade Sriracha		Combo Pa
0	2017-09-18 17:21:46	groceries	Now Designs	L46002 Placeholder	Modern Colors	Pack of 6
0	2017-09-18 17:21:46	condiment	Primal Kitchen	Avocado Oil Mayonnaise	Paleo Whole30	12 Ounce
0	2017-09-18 17:21:46	groceries	Now Designs	Bread Bin	Turquoise Blue	1
0	2017-09-18 17:21:46	groceries	Now Designs	Bread Bin	Black	1
0	2017-09-18 17:21:46	condiment	Not Ketchup	Fruitchup Paleo Ketchup	No Sugar Added Gluten Free Whole30	13 oz Bottl
0	2017-09-18 17:21:46	condiment	Sacred Valley Salt	Extra Coarse Grinder Salt		8oz pouch

9) Choose quantity of goods for pairing then right-click. Click “Bind Labels”. When you right-click you will see some of options below：

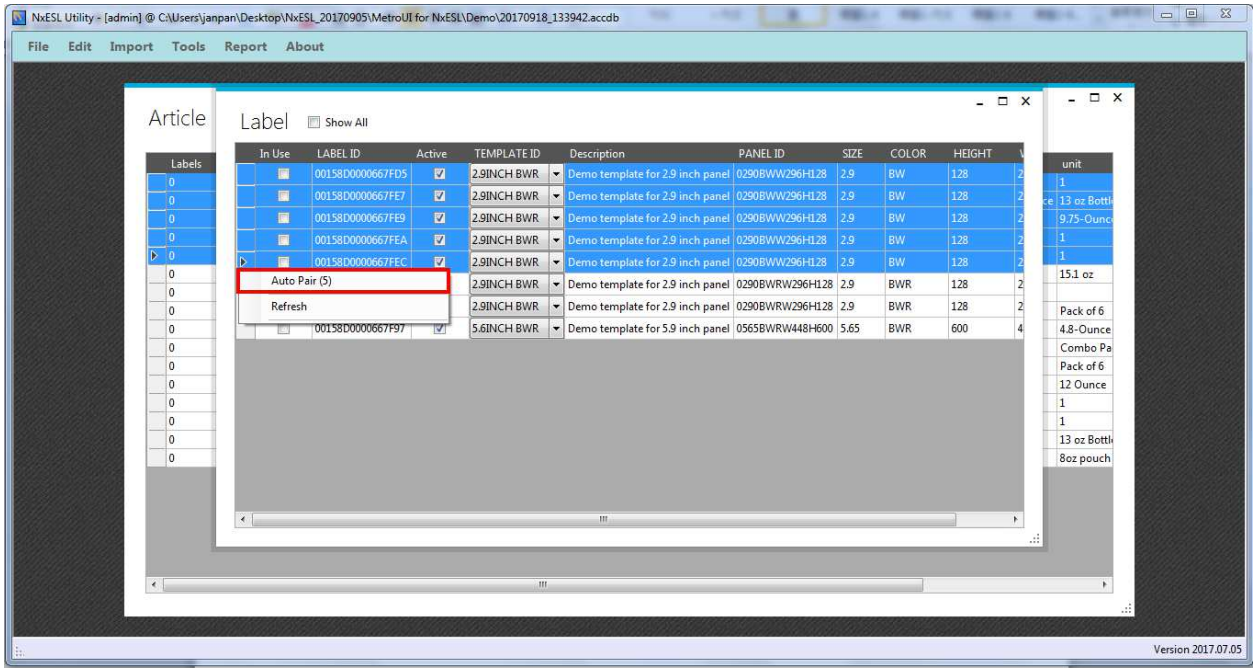
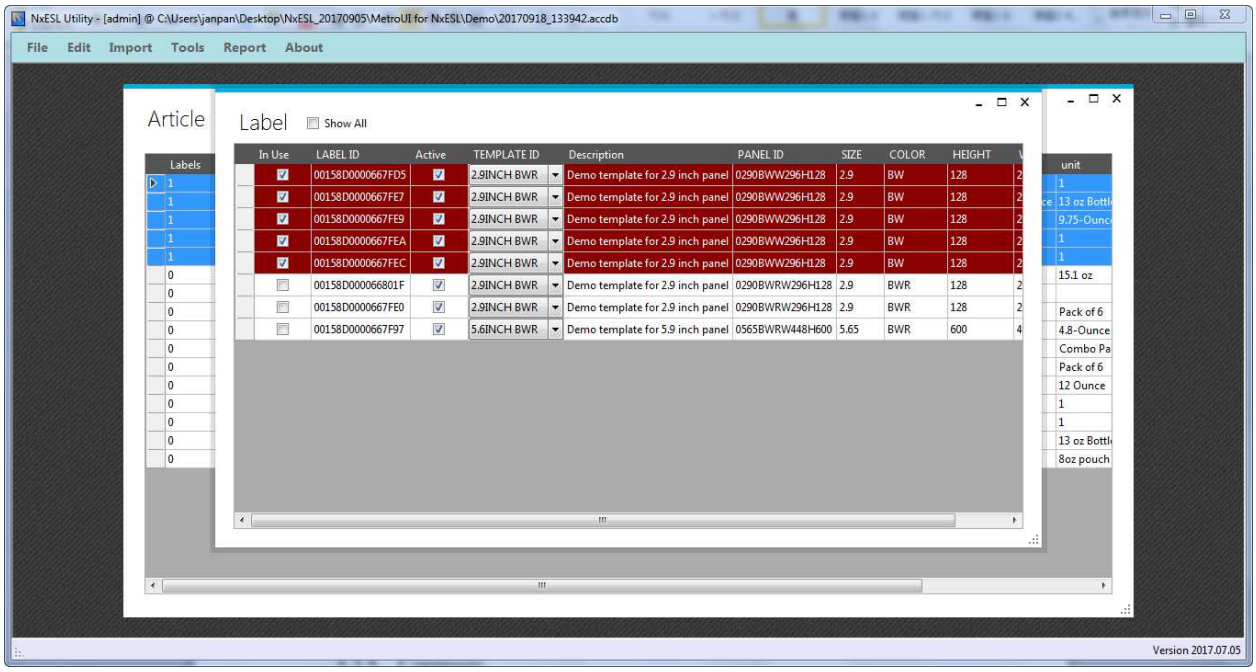
- Binder Labels—pairing labels with goods
- Unbind Labels—remove pairing.
- Refresh—refresh.
- Delete—delete goods.
- Export BCR Image—export barcode image.



10) Show popup-window of label content up.



11) Choose quantity of labels for pairing. Label quantity must equal to goods quantity. Right-click > Auto Pair



12) After pairing, you could use top right corner x to close popup-window.