ICP DAS IoTstar Bot Service For LINE User Manual [Version 1.0.7 - 2023/07/11]



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Through the communication mechanisms provided by LINE company, this controller can send the notification messages and information regarding this controller to the related personal account. However, this function may not be available due to LINE company closes or terminates the communication mechanisms of their systems.

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1 Introduction

IoTstar is a software developed by ICP DAS for WISE/PMC/PMD controllers for use in a variety of Industrial IoT applications. IoTstar can be installed on a general PC platform and works as a Private IoT Cloud system, or on the VM (Virtual Machine) platform of Microsoft Azure, IBM Bluemix, Google Cloud or Amazon AWS, etc. and works as a Public IoT Cloud system. By using IoTstar to build an IoT Cloud system, it can provide 5 major services:

- 1. Controller Remote Access Service: Status Monitoring, System Setting, and Firmware Update for WISE/PMC/PMD controllers.
- 2. Sensor Data Collection Service: Collect the data of the sensor connected to the controller and import the data into the Database on cloud.
- 3. Sensor Data Visualization Service: Review the data of the sensor connected to the controller through Dashboard interface.
- 4. Sensor Data Report Service: Provide statistical report for the data of the sensor connected to the controller.
- 5. Bot Service with Mobile Phone: Review the data of the sensor connected to the controller by mobile phone Bot service.



Figure 1-1: System Architecture of IoTstar

IoTstar Bot Service for LINE is an optional software package for IoTstar that provides users a Two-way message interaction between the WISE/PMC/PMD controllers managed by IoTstar and LINE chat rooms. Through IoTstar Bot Service for LINE, the users can query the real-time I/O channel data (or power data) of the I/O module (or power meter) connected to the WISE/PMC/PMD controllers, and instantly change the values of the DO/AO output channels of the I/O modules (or power meters) connected to WISE/PMC/PMD controllers.

In addition, IoTstar Bot Service for LINE can receive the text message sent by the WISE/PMC/PMD controllers through the trigger of IF-THEN-ELSE logic rule and send the text message to the LINE account bound to the LINE chat room for the event notification. If WISE enables the image or video file forwarding function, IoTstar Bot Service for LINE can also send the photo or video file to the LINE account along with the text message, and user can also review the event list and the corresponding images of controller in the past.



User Interface

Controller/Module

Figure 1-2: IoTstar Bot Service for LINE System Architecture

2 Before Installation

2.1 Precondition

Before using IoTstar Bot Service for LINE, you must first complete the setting of the following preconditions.

- Complete the installation of IoTstar, and complete the connection setting of IoTstar and WISE/PMC/PMD controllers.
- The network setting of the computer that installs IoTstar needs to be set as "Public Network IP" or "Dynamic IP + DDNS", and the user has to apply the SSL certification for the IoTstar website.
 - The HTTPS server must use a SSL certificate issued by a certificate authority widely trusted by general web browsers, otherwise LINE will reject to send messages with the web server of IoTstar.
 - "Appendix I" provides the Step-by-Step document for the application of the free SSL certificate from Let's Encrypt. Before apply the SSL certificate from Let's Encrypt, the IoTstar website must complete the setting of Domain Name.
- Make sure the LINE official account can be applied in the country that IoTstar Bot Service for LINE installed, and make sure the functions of LINE Messaging API can be enabled.
 - The user needs to apply the LINE official account by himself. For the detailed process, please refer to the section "2.3 The application and setting of the LINE account".
 - Taiwan, Japan, Thailand, and Indonesia provide free, light and standard solutions for LINE account. The following table provides the information of LINE official account solution:

	Free	Light	Standard	
Monthly Fee	Free	Monthly fee depends on the country in which your account is registered.		
Free	The number of free messages depends on the country in which			
Messages your account is regined		gistered.		
		Fixed pricing	Flexible pricing	
Additional	N/A	Message fee depends on	Message fee depends on	
Message Fee		the country in which your	the country in which your	
		account is registered.	account is registered.	

The introduction websites of LINE account are as below: Taiwan: <u>https://www.linebiz.com/tw/service/line-account-connect/</u> Japan: <u>https://www.linebiz.com/jp/service/line-account-connect/</u> Thailand: <u>https://www.linebiz.com/th/service/line-account-connect/</u> Indonesia: <u>https://www.linebiz.com/id/service/line-account-connect/</u>

- The user can choose the LINE official account solution according to his requirement, and has to pay the fee derived from the selected LINE official account solution to LINE.
- 2.2 Software Requirements
 - IoTstar requires v2.0.0 or later.
 - The LINE App on Android or iOS requires version 8.11.0 or later.
- 2.3 The application and setting of LINE account Following sections include the topics as below:
 - Perform the creation of the Messaging API Channel through the LINE Developer website, then complete the creation of LINE official account.
 - Complete the settings of the LINE Developer website and the LINE Official Account Manager website.

2.3.1 Creation of Messaging API Channel

i Log in to the <u>Messaging API creation page</u> of the LINE Developers website (the account you use to log in the website will have the authority to manage the LINE official account, add users, set up the roles of users, and transfer account).

LINE Business ID
Log in with LINE account
or
Log in with business account
Create an account
By logging in to LINE Business ID, you agree to the <u>Terms of Use</u> .
② About LINE Business ID
English Help Terms of Use © LINE Corporation

Figure 2-1: Login the LINE Developer Website

% If you have not logged in and registered on the LINE Developer website before, you will be asked to enter the information of "Name" and "Email address", after that you can start using it. (only on first time login)

ii Enter the information to create the Messaging API channel and confirm the information you enter, then check the "Terms of Use" and click "Create" to complete the creation of Messaging API channel.

Create a channel				
Channel type	Messaging API +			
	✓ Don't leave this empty			
Provider	Select a provider 🗸			
	X Don't leave this empty			
Channel icon optional	Register			
	 ✓ File type must be one of: PNG,JPG,JPEG,GIF,BMP ✓ File must be no larger than 3 MB 			
Channel name	Enter channel name			
	Note: The channel name can't be changed for seven days. Con't leave this empty On't use special characters (4-byte Unicode) Center no more than 20 characters			

Figure 2-2: LINE Developer Website - Create Messaging API channel

"Provider" field : In general, it is the company name. If it has been created, then select the existing one, or select "Create a new provider" to create a new one.

2.3.2 The setting of LINE Developer

i Under the page of Provider, click on the Messaging API channel you just created.



Figure 2-3: LINE Developer Website - Enter the Messaging API channel

ii Click the "Edit" button for the "Auto-reply messages" or "Greeting messages" under the "LINE Official Account features" section of the Messaging API tab.

Auto-reply messages ⑦	Disabled	Edit 🗹
Greeting messages	Disabled	Edit 🗹

Figure 2-4: LINE Developer Website - The setting for LINE Official Account features

iii When Click the "Edit" button, The LINE Official Account Manager website will be opened. Disable the "Greeting message" and "Auto-response" under the "Response settings" section.

Greeting message	Enabled
	Disabled
	Greeting message settings
Auto-response	Enabled
	Disabled
	Auto-response message settings

Figure 2-5: LINE Official Account Website - Response settings

iv Go back to the LINE Developer website, and click the "Issue" button of the "Channel access token (long-lived)" field in the Messaging API tab to generate a token.

Channel access token	
Channel access token (long-lived) ⑦	
-	Issue

Figure 2-6: LINE Developer Website - Create the Channel access token

V Click the right mouse button on the "QR code" image, and select "Copy Image Address" to get the "QR code URL".

QR code		2677981回1		
		Open image in new tab Save image as		
	34	Copy image address		
		Inspect	Ctrl+Shift+I	

Figure 2-7: LINE Developer Website - Get QR code URL

vi After the settings are completed, you can get the information of "Channel ID" and "Channel Secret" in the "Basic Setting" tab and "QR code URL" and "Channel access token (long-lived)" in the "Messaging API" tab. Please record these information, later you will need these information to enable the functions of IoTstar Bot Service for LINE. Please note: If you click the "Issue" button again to change the content of "Channel Secret" or "Channel access token" fields, please remember to modify the settings on IoTstar with the new information.

2.3.3 Change the solution of LINE@ accounts

i Log in to the <u>LINE Official Account Manager website</u>. Go to the page of LINE Official Account Manager and select the Messaging API channel you created.

	al Account ger					Θ
Accounts	Groups					User profile
Accounts		Accounts				
		Accounts (7)			Account name	Q
		Account name	Friends \$	Role ≑	Plan ≑	
		10.114	1881		111181	
		In In International Internatio	a 0	Administrator	輕用量	
			10		12.81	
		() (1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(181		17.81	
			182		17.81	
			1881		17.81	
			181		12180	
			< 1 >			

Figure 2-8: LINE Official Account Manager page

ii If you want to change to other solution options, you can click the "Settings" in the upper right corner and select the solution you required from the "Monthly plan" under the "Activity and billing" section of the left side menu and complete the settings for the payment procedure, then finish the procedures for the solution change.

Home Houndations insight	t Account page Commerce Chate			🌣 Settings
Account settings Manage permissions Response settings	View and make changes to your current plan here.			
Activity and billing Deshboard Monthly plan	Current plan 輕用	₹		
Premium ID Billing history	Next billing date Not a	applicable		
Payment method eGUI details	Monthly plan table			
		輕用量	中用量	高用量
	Monthly fee ⑦	NT\$0	NT\$840	NT\$4,200
	Number of free messages ⑦	500	4,000	25,000
	Additional message fee (per message) ⑦	Not applicable	NT\$0.2	NT\$0.15 -
		Current plan)	Upgrade	Upgrade

Figure 2-9: LINE Official Account Manager page - Monthly Plan

2.4 Enable IoTstar Bot Service for LINE function

To enable the Bot Service for LINE function on IoTstar, users have to install the IoTstar v2.0.0 (and later version) first, and then get the license file of trial service (or formal service) to enable the Bot Service for LINE function of the IoTstar. Users can obtain a full-function trial service for 90 days on the website, or contact with ICP DAS to purchase the upgrade code of formal service. The following sections will introduce the process to enable the Bot Service for LINE function.

- Get the license file of trial service or formal service.
- Import License File to enable Bot Service for LINE function.
- The setting of Bot Service for LINE function.

2.4.1 Obtain and enable the license file of trial service

i Click the "Download" button on the <u>IoTstar official webpage</u>.



Figure 2-10: Obtain and enable the license file of trial service (1)

ii On the download page, click the "Apply for trail" button of "Trail Service for Support Package" section to enter the IoTstar "Trail Service for Support Package" page.



Figure 2-11: Obtain and enable the license file of trial service (2)

iii On the IoTstar "Trail Service for Support Package" page, select the "Bot Service for LINE" on the "Trail service option" field and enter the Hardware ID in the "Hardware ID" field. Click the "Download Trail License" button. If the above information is correct, users can obtain the license file of trial service.



Figure 2-12: Obtain and enable the license file of trial service (3)

iv After getting the License file for Bot Service for LINE, please open the IoTstar system interface, click "License" button to enter the License setting window, and click "Browse" button to import the License File, and then click "OK" to enable the Bot Service for LINE function of the IoTstar. (The trial service will be displayed the



expiration date of bot service.)

Figure 2-13: Obtain and enable the license file of trial service (4)

2.4.2 Obtain and enable the license file of formal service

To enable IoTstar Bot Service for LINE (Formal service), you have to install the IoTstar Professional version v2.0.0 (and later version) first, and then contact with ICP DAS to purchase the upgrade code to enable the IoTstar Bot Service for LINE (Formal service). The following steps will introduce the process to enable the IoTstar Bot Service for LINE (Formal service).

i Click the "Package Upgrade" button on the IoTstar official webpage.



Figure 2-14: Obtain and enable the license file of formal service (1)

ii Enter the Serial Number of IoTstar (professional version) and the Upgrade Code to enable Bot Service for LINE, and click the "Upgrade" button to upgrade your IoTstar Serial Number with the authorization to use IoTstar Bot Service for LINE. Click "Generate the License File" to go to the registration page.



Figure 2-15: Obtain and enable the license file of formal service (2)

iii Enter the required information and click the "Registration" button to get the license file of formal service.

	First Name : First Name
8	Last Name : Last Name
Build your ToT with ICP DAS ToT star	Company : Company
CHIEF JOCH HON MININGLY CARPHONESE	Country : (Select Country)
	E-mail : E-mail
	Serial Number : Serial Number
	Hardware ID : Hardware ID
	Registration

Registration & Getting License File for IoTstar (Professional

Figure 2-16: Obtain and enable the license file of formal service (3)

iv After getting the License file for Bot Service for LINE, please open the IoTstar system interface, click "License" button to enter the License setting window, and click "Browse" button to import the License File, and then click "OK" to enable the Bot Service for LINE function of the IoTstar.

	S ICP DAS	S loTstar					_	×				
	IoTsta		Settings	O-	B Account Management	We	Bbsite Start Servic	e				
	Event Log						C Reload 🔋 Clea	ar				
	Time 2022-06- 2022-06- 2022-06-	29 15:41:13 29 14:07:18 29 11:21:47	Message Service starts Service starts	successfully.				î				
📩 License					×		🔄 License			-		×
Version		Professiona	al			Н	Version		Professional			
Number of Devices		500					Number of Devices	3	500			
Bot Service for LINE	E Function	Not Availab	le				Bot Service for LIN	IE Fun	ction Available			
Dashboard Service	Function	Not Availab	le			Η	Dashboard Service	e Func	tion Not Available		_	
Report Service Fun	ction	Not Availab	le		_		Report Service Fu	nction	Not Available			
Hardware ID	32D5-F275-508	3-F393-D6EA-	DB58-770E-8B0	4	Сору		Hardware ID	82D5-I	F275-5083-F393-D6EA-DB58-770E-8B04		Сор	γ
License File					Browse		License File				Brows	e
(Get the licen	se file from	<u>here</u> .		ОК			Get th	ne license file from <u>here</u> .		ОК	

Figure 2-17: Obtain and enable the license file of formal service (4)

2.4.3 The setting of Bot Service for LINE and Webhook

i Click "Settings" button on the IoTstar system interface to enter the setting window. Select the tab of "Website" and select https of the "Type" field. If you have modified the IP/Domain Name of IoTstar when create Bot Service, you need to modify the "IP/Domain Name" field.

1 ICP DAS loTstar				-		Х
IoTstar	Settings	O-	Account Managemen	Website t	U Start Ser	vice
Event Log:				C Re	load 📋 C	lear
Time	Message					^
2022-06-29 15:41:13	Service start	successfully.				
2022-06-29 14:07:18	Service start	successfully.				_
2022-06-29 11:31:47	Service start	successfully.				- 1
2022-06-29 10:35:35 2022-06-29 10:32:02	Service start	successfully.				_
2022-06-29 10:11:00	Service start	successfully.				
2022-06-28 10:59:15	Service start	successfully.				~
© ICP DAS Co. 1td					Version:	304
0.101.070.000., 200.					10101011	0.0.1
<table-of-contents> Settings</table-of-contents>		$\overline{\mathbf{z}}$	7	_	– ×	
Website Email	Detebase (Pet Casies	Matification 1	Minnelleneeur		
Website Email	Database	Sot Service	Notification	wiscenarieous	•	
Туре	http	s ~				
IP / Host Nar	ne* iotst	tardemo.ic.pd	las.com			
Port	443					
Cirr Ha Daa	. 75	inabla				
Sign Up Page		nable				
				Save	Cancel	

Figure 2-18: The settings to enable IoTstar Bot Service for LINE (1)

 ii Select the tab of "Bot Service", check the "Enable" of "Function Status" field in the "LINE" section to enable the function, and enter the information you get from the "2.3.2 The setting of LINE <u>Developer</u>" section such as "Channel ID", "Channel secret", "Channel access token" and "QR code URL" in the corresponding fields of "LINE" section.

5	s Settings		-	
V	Vebsite Email Database	Bot Service Notification	Miscellaneou	s
	LINE	_		
	Function Status	Enable		
	Channel ID*	1545355186		
	Channel Secret*	6ab300b35ce0f1d90d1795	79744a554a	
	Channel Access Token*	9WZjZoJiFVvUtqFNhj1xhU	nveAdhZgLjK	
	QR Code URL*	https://qr-official.line.me/M	/c5c9NwffS	
	Webhook URL	Copy URL to clipboard		
			Save	Cancel

Figure 2-19: The settings to enable IoTstar Bot Service for LINE (2)

iii Click "Copy URL to clipboard" button of "Webhook URL" field to copy the URL of IoTstar.

🔹 Settings		—		×
Website Email Database	Bot Service Notification Mis	scellaneou	s	
LINE				
Function Status	Enable			
Channel ID*	1545355186			
Channel Secret*	6ab300b35ce0f1d90d17957974	4a554a		
Channel Access Token*	9WZjZoJiFVvUtqFNhj1xhUnveA	AdhZgLjK		
QR Code URL*	https://gr-official.line.me/M/c5c	9NwffS		
Webhook URL	Copy URL to clipboard			
	Ę	Save	Canc	el

Figure 2-20: The settings to enable IoTstar Bot Service for LINE (3)

iv Go to the Messaging API channel page of <u>LINE Developer website</u>, paste the URL on the "Webhook URL" field by clicking the "Edit" button of the Messaging API tab and click "update" button, and turn on the switch of the "Use Webhook" to enable Webhook..

Webhook settin	IS	
Webhook URL ⑦	the contract product of	
	Verify Edit	
Use webhook ⑦		

Figure 2-21: The settings to enable IoTstar Bot Service for LINE (4)

Return to IoTstar system interface. Select the tab of "Miscellaneous", you can set the folder path for controller event video and photo file storage of "Video & Photo Folder" field. Click the "OK" button to complete the settings.



Figure 2-22: The settings to enable IoTstar Bot Service for LINE (5)

vi Click "Start Service" to launch IoTstar, then the Bot Service for LINE function will also be enabled at the same time.

S ICP DAS Io I star				-			Х
IoTstar	Settings	O-	Account Management	Website	Star	t Serv	ice
				CI Do	load	Ξ c	loar
Event Log:				O Re	luau		cai
Event Log: Time	Message			U Re	luau		^
Event Log: Time 2022-06-29 15:41:13	Message Service start s	successfully.		C Re	luau		^
Time 2022-06-29 15:41:13 2022-06-29 14:07:18	Message Service start s Service start s	successfully.		C Re	loau		^
Time 2022-06-29 15:41:13 2022-06-29 14:07:18 2022-06-29 11:31:47	Message Service start s Service start s Service start s	successfully. successfully. successfully.		C Re	luau		^
Time 2022-06-29 15:41:13 2022-06-29 14:07:18 2022-06-29 11:31:47 2022-06-29 10:35:35	Message Service start s Service start s Service start s Service start s	successfully. successfully. successfully. successfully.		C Ke	luau		
Time 2022-06-29 15:41:13 2022-06-29 14:07:18 2022-06-29 11:31:47 2022-06-29 10:35:35 2022-06-29 10:32:02	Message Service start s Service start s Service start s Service start s Service start s	successfully. successfully. successfully. successfully. successfully.		C Re	load		
Time 2022-06-29 15:41:13 2022-06-29 14:07:18 2022-06-29 11:31:47 2022-06-29 10:35:35 2022-06-29 10:32:02 2022-06-29 10:11:00	Message Service start s Service start s Service start s Service start s Service start s Service start s	successfully. successfully. successfully. successfully. successfully. successfully.		<u>C</u> Re	loau		

Figure 2-23: The settings to enable IoTstar Bot Service for LINE (6)

2.5 Import SSL certificate

To enable IoTstar Bot Service for LINE, user has to import the SSL certificate into IIS (Internet Information Service). The SSL certificate can be obtained for free or for a fee. So please use the IP or Domain Name of the IoTstar website to obtain its corresponding SSL certificate first, and then perform following steps to import the SSL certificate into IIS, or refer to "Appendix I" to apply the free SSL certificate of Let's Encrypt and import it into IIS. Please Note: If user follows the steps of Appendix I, the software will help user to get the SSL certificate, import it to IIS automatically. So please skip the steps in the section 2.5).

i Launch "Internet Information Services (IIS) Administrator" and click on the "Server Certificates".



Figure 2-24: Launch IIS and go into SSL Certificates interface

ii Click the "Import..." on the right side of the "Server Certificates" window. Browse the SSL certificate in the pfx file format, enter the password of the certificate, and click the "OK" button to finish the import process.



Figure 2-25: Import the SSL certificate

iii Select the IoTstar website on the left side of the IIS window, and click on the "Binding..." on the right side of the IIS window, and then select the IP/Host Name setting by the IoTstar. Finally, select the SSL certificate and click the "OK" button.

Connections				Actions
		IoTstar SSL demo Home		A Explore
V 📲 DESKTOP-DQ	52FE7 (WAYNELIU\)	Eilter	- 80 -	Edit Permissions
Applicatio	on Pools	ACD NET	• ••• •	Lan Jine
V O Sites	1000	ASP.NET		Bindings
s 🧕 🐻 maana	Ciadate - 4/1		۵ (Basic Settings
> 🚷 📖	60801)	.NET .NET .NET Error .NET .NET Profile .NET Ro	oles	View Applications
	r SSL demo	Authorizat Compliation Pages Globalization		View Virtual Directories
	r sse denno		1	Manage Website
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	Site Binding	.NET Trust .NET Users Application Connection Machine Key Pages a	ind ?	X Restart
	Site Binding:	.NET Trust .NET Users Application Connection Machine Key Pages a	ind ?	X Restart X Start Stop
	Site Binding:	NET TrustNET Users Application Connection Machine Kev Pages a	Add	Restart Start Stop Browse Website research Startemo
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	Site Binding: Type http Add Site Binding	NET Trust NET Users Apolication Connection Machine Key Pages a ost Name Port IP Address Binding Informa stardemo 80 192,168,100,252	? Add Edit Remove	Image: Start Start Stop Browse Website Browse Website nonext totstardemo on 192.168.100.252.80 (http://advanced.Settings Configure
	Site Binding: Type Add Site Binding Type:	INET Trust NET Users Apolication Connection Machine Kev Pages a ost Name Port IP Address Binding Informa stardemo 80 192.168.100.252	Add Remove Browse	Image: Start Start Stop Browse Website Browse totstardemo on 192.168.100.252.80 (http: Advanced Settings Configure Limits
	Site Bindings Type Add Site Binding Type: https	INET Trust NET Users Application Connection Machine Kev Pages a ost Name Port IP Address Binding Informa 80 192.168.100.252 Paddress: Port: 192.168.100.252 V 143	? Add Edit Remove Browse	Restart Start Stop Browse Website answer to Stardemo on 192.168.100.252.80 (http: Advanced Stardemo Configure Limits Add FTP Publishing
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	Site Binding: Type http Add Site Binding Type: https Host name iotstardemo Require Serv SSL certificate	NET Trust NET Users Application Connection Machine Key Pages a ost Name Port IP Address Binding Informa 80 192.168.100.252 IP address Port: 192.168.100.252 V 443 Name Indication	? ? Add Edit Remove Browse	Restart Start Stop Browse Wichsite on 192.168.100.252.80 (http://dwined/original. Advanced Settings Configure Limits Add FTP Publishing Ploy Import Application Help

Figure 2-26: Enable the HTTPS connection of the IoTstar website

2.6 Verify the operation of Bot Service for LINE

Go back to the Messaging API page created by the <u>LINE Developer website</u> and click the "Verify" button of the "Webhook URL" field in the Messaging API tab. If the pop-up message displays "Success", it means the operation of IoTstar Bot Service for LINE is successful.



Figure 2-27: LINE Developer Website - Verify the operation of Webhook

If the operation is not successful, please verify the following items:

- (1) The computer IoTstar installed must be equipped with "Public Static IP" or "Dynamic IP + DDNS".
- (2) The IoTstar website must has the SSL certificate, and the HTTPS server must use an SSL certificate issued by a certificate authority widely trusted by general web browsers.
- (3) The content of "Webhook URL" of the "Messaging settings" section of the LINE Developer website must be correct. The format of the setting must be https://(IoTstar web address)/webhook.php.
- (4) The "IP/Domain Name" under the "Web" tab of the "Settings" page on the IoTstar system interface must be correct.
- (5) The "Channel ID", "Channel secret", "Channel access token" and "QR code URL" under the "LINE" section of the "Bot Service" tab of the "Settings" page on the IoTstar system interface must be correct.
- (6) Check if the Service of IoTstar has been started.

2.7 Message sending setting from WISE/PMC/PMD to Bot Service for LINE

The user can edit the WISE/PMC/PMD's IF-THEN-ELSE logic rule setting to trigger the message sending operation. When WISE/PMC/PMD sends the message, the message will be sent to the corresponding LINE account via IoTstar Bot Service for LINE. The content of message can include the Real-Time I/O channels data, power data or Internal Register data. In addition, WISE also provide image or video data sending function to send the image or video data to the corresponding LINE account.

2.7.1 The settings of text message sending by WISE-523x/WISE-224x

i Launch a Browser to login into the WISE, and enter the "IoT Platform Setting" Page. Click the "Bot Service Message Setting" button under the "IoTstar Setting" section on the left side of the webpage to enter the "Bot Service Message Setting" page.

ICP Web Inside, Sma	art Engine	WISE-5231 📄 📩 🖈
DAS web anywhere, Autom	lation Anywhere:	OK 61992.1MB 🚺 Instant Message
System Setting Module Settin	ng Logger Setting IoT Plat	form Setting Idvanced Setting Rule Setting Channel Status IP Camera Status
IoT Platform Setting		
Microsoft Azure Platform	IoT Platform Setting	Page
IBM Bluemix Platform Setting	Microsoft Azure Platform Setting	The system features connection ability to the Microsoft Azure platform. It allows users to publish messages to Microsoft Azure and subscribe messages from Microsoft Azure, and use the content of the received messages as the IF Condition.
IoTstar Setting		The system features connection ability to the IBM Bluemix platform. It allows users to publish messages to IBM
Real-Time Data Sending Setting	IBM Bluemix Platform Setting	Bluemix and subscribe messages from IBM Bluemix, and use the content of the received messages as the IF Condition.
Historical Data Sending Setting	MQTT Setting	The MQTT client function allows to setup publish messages and subscribe topics of specific brokers, and use the content of the received topic messages as the IF Condition.
Video Data Sending Setting Bot Service Message Setting	Real-Time Data Sending Setting	The Read-Time Data Sending function allow users to select channel data of the modules to be sent to the IoTstar and store it in the database, users can also control the modules directly from the database.
	Historical Data Sending Setting	The system provides Historical Data Sending function. The function can send channel data of the modules to the IoTstar and import it into the database for long-term data analysis.
	Video Data Sending Setting	The system provides Video Data Sending function which allows sending videos or messages of the IP Cameras to the IoTstar and then saving the data. The data also can be forwarded to the Bot Service or displayed via Dashboard Service.
	Bot Service Message Setting	The IoTstar provides Bot Service function allows to push pre-set message(s) to the LINE App on your mobile phone when an event occurs. Using the IP Camera with LINE App function also allows it to send live images so that the related personnel can respond to the emergency situations on site in real time (Please go to 'Video Data Sending Setting' for the settings). In addition, the module & I/O channel status can be queried and the channel output values can be changed by using the LINE App.

Figure 2-28: WISE Web Site - Bot Service Message Setting Page (1)

ii Click on "Add new Message" to open the "Bot Service Message Setting" Page.

Bot Service Messag	ge Setting Page	
Nickname	Content	
		+ Add new message
		Save

Figure 2-29: WISE Web Site - Bot Service Message Setting Page (2)

iii Input name in the "Nickname" field, and you could also input the description of this Bot Service message in the "Description" field. Enter the message in the "Content" field. The Bot Service message provides an encoded string for you to add current I/O channel data or Internal Register data into the Bot Service message. To make it easy to add the encoded string, WISE provides "Real-time variable editor" for users. Click on "OK" to confirm the setting and leave the setting page.

Message Messag	je 1 Setting
*Nickname	Message 1
Description	
*Content	View Edit Interface XV-Board Module XV308 * Channel DI • Insert Insert
	OK Cancel

Figure 2-30: WISE Web Site - Bot Service Message Setting Page (3)

iv Repeat steps ii~iii to complete the settings of all Bot Service message. After you finish all the Bot Service message settings, click "Save" button to save the settings.

Bot \$	Service Messag	ge Setting Page
	Nickname	Content
		+ Add new message
۲	Message 1	Internal Register 1(IP Camarm)
	Setting Copy	y Remove
		Save

Figure 2-31: WISE Web Site - Bot Service Message Setting Page (4)

V Go to the "Rule Setting" page and click "Add new rule". The "Rule Setting" page will appear. Click the "Bot Service" option under the THEN/ELSE section, and select the Bot Service message. Now if the evaluation of the "IF statement" is "true", the selected Bot Service message will be sent, and the LINE accounts linked with the IoTstar account who manages this WISE controller will receive the messages in the Bot Service for LINE chat room.

Rule Information	Setting		
*Nickname	Rule 2		
Description			
Status	● Enable		
Rule Content Se	F	THEN	ELSE
Rule Content Se	r Condition: iondition v tion exists	THEN Add a new Action: Set up an Action ICP DAS Module Modbus Module	ELSE

Figure 2-32: WISE Web Site - Rule setting with Bot Service Message

- 2.7.2 The settings of image or video message sending by WISE-523x/WISE-224x
 - i Launch a Browser to login into the WISE, and enter the "IoT Platform Setting" Page. Click the "Video Data Sending Setting" button under the "IoTstar Setting" section on the left side of the webpage to enter the "Video Data Sending Setting" page.

TCP Web Inside, Sma	art Engine	WISE-5231 📄 🗟 💰
DAS Web Anywhere, Autom	nation Anywhere!	OK 👘 1992.1MB 🛃 Instant Messag
System Setting Module Settir	ng Logger Setting IoT Platf	orm Setting Advanced Setting Rule Setting Channel Status IP Camera Status
oT Platform Setting		
Microsoft Azure Platform	IoT Platform Setting	Page
Setting IBM Bluemix Platform Setting MQTT Setting	Microsoft Azure Platform Setting	The system features connection ability to the Microsoft Azure platform. It allows users to publish messages to Microsoft Azure and subscribe messages from Microsoft Azure, and use the content of the received messages as the IF Condition.
oTstar Setting		The system features connection ability to the IBM Bluemix platform. It allows users to publish messages to IBM
Real-Time Data Sending Setting	IBM Bluemix Platform Setting	Bluemix and subscribe messages from IBM Bluemix, and use the content of the received messages as the IF Condition.
Historical Data Sending Setting	MQTT Setting	The MQTT client function allows to setup publish messages and subscribe topics of specific brokers, and use the content of the received topic messages as the IF Condition.
Video Data Sending Setting Bot Service Message Setting	Real-Time Data Sending Setting	The Read-Time Data Sending function allow users to select channel data of the modules to be sent to the IoTsta and store it in the database, users can also control the modules directly from the database.
	Historical Data Sending Setting	The system provides Historical Data Sending function. The function can send channel data of the modules to the IoTstar and import it into the database for long-term data analysis.
	Video Data Sending Setting	The system provides Video Data Sending function which allows sending videos or messages of the IP Cameras to the IoTstar and then saving the data. The data also can be forwarded to the Bot Service or displayed via Dashboard Service.
	Bot Service Message Setting	The IoTstar provides Bot Service function allows to push pre-set message(s) to the LINE App on your mobile phone when an event occurs. Using the IP Camera with LINE App function also allows it to send live images so that the related personnel can respond to the emergency situations on site in real time (Please go to 'Video Data Sending Setting' for the settings). In addition, the module & I/O channel status can be queried and the channel output values can be changed by using the LINE App.

Figure 2-33: WISE Web Site - Bot Service Forward Setting Page (1)

ii Click the tab on the right-top corner of "Video Data Sending Setting" page. Choose the data source, and click the "Setting" button to enter the setting page.

Video	Data Sending Settir	ng Page		I	P Camera	Sendbox	CGI Server
	Source	Function Status	Content of Attached M	essag	le		
۲	iCAM-MR6422X (192.168.100.94:80)	Enable and Forward to Bot Service	From IP Camera				
4	Setting						
			Save				

Figure 2-34: WISE Web Site - Bot Service Forward Setting Page (2)

iii Check the "Enable" function, and then the message setting interface will be shown as below. Enter the message in the "Content of Attached Message" field. Check "Forward to Bot Service" in the "Bot Service" field. Click on "OK" to confirm the setting and leave the setting page.

IP Camera iCAM	-MR6422X(192.168.100.94:80) Video Data Sending Setting
Function Status	✓Enable
*Content of Attached Message	View Edit From IP Camera
Bot Service	✓ Forward to Bot Service
	OK Cancel

Figure 2-35: WISE Web Site - Bot Service Forward Setting Page (3)

- iv After you finish all the settings, click "Save" button to save the settings. Now if WISE received the image or video data sending from the data source, WISE will send the image or video data with the text message to the Bot Service for LINE chat room.
- 2.7.3 The settings of text message sending by PMC-523x/PMC-224x/ PMD
 - Launch a Browser to login into the PMC/PMD, and enter the "IoT Platform Setting" Page. Click the "Bot Service Message Setting" button under the "IoTstar Setting" section on the left side of the webpage to enter the "Bot Service Message Setting" page.

Power Monitoring	& Management Solution	PMC-5231 🕞 📩 🕄
Main Page System Setting	Meter / Module Setting Logo	Dead @202.1MB(Approx.365 Days) IIInstant Message er Setting IoT Platform Setting Idvanced Setting Rules Setting
IoT Platform Setting		
Microsoft Azure Platform	IoT Platform Setting	Page
Setting IBM Bluemix Platform Setting MQTT Setting	Microsoft Azure Platform Setting	The system features connection ability to the Microsoft Azure platform. It allows users to publish messages to Microsoft Azure and subscribe messages from Microsoft Azure, and use the content of the received messages as the IF Condition.
IoTstar Setting Real-Time Data Sending Setting	IBM Bluemix Platform Setting	The system features connection ability to the IBM Bluemix platform. It allows users to publish messages to IBM Bluemix and subscribe messages from IBM Bluemix, and use the content of the received messages as the IF Condition.
Historical Data Sending Setting	MQTT Setting	The MQTT client function allows to setup publish messages and subscribe topics of specific brokers, and use the content of the received topic messages as the IF Condition.
Bot Service Message Setting	Real-Time Data Sending Setting	The Read-Time Data Sending function allow users to select channel data of the modules to be sent to the IoTstar and store it in the database, users can also control the modules directly from the database.
	Historical Data Sending Setting	The system provides Historical Data Sending function. The function can send channel data of the modules to the IoTstar and import it into the database for long-term data analysis.
	Bot Service Message Setting	The IoTstar provides Bot Service function allows to push pre-set message(s) to the LINE App on your mobile phone when an event occurs. In addition, the module & I/O channel status can be queried and the channel output values can be changed by using the LINE App.

Figure 2-36: PMC/PMD Web Site - Bot Service Message Setting Page (1)

ii Click on "Add new Message" to open the "Bot Service Message Setting" Page.

Bot Service Messag	Bot Service Message Setting Page					
Nickname	Content					
		+ Add new message				
		Save				

Figure 2-37: PMC/PMD Web Site - Bot Service Message Setting Page (2)

iii Input name in the "Nickname" field, and you could also input the description of this Bot Service message in the "Description" field. Enter the message in the "Content" field. The Bot Service message provides an encoded string for you to add current I/O channel data, power data or Internal Register data into the Bot Service message. To make it easy to add the encoded string, PMC/PMD provides "Real-time variable editor" for user. Click on "OK" to confirm the setting and leave the setting page.

Message Messag	je 1 Setting
*Nickname	Message 1
Description	
*Content	View Edit Interface COM3 Module PM-3112(1) Channel CT1 V v Insert Insert
	OK Cancel

Figure 2-38: PMC/PMD Web Site - Bot Service Message Setting Page (3)

iv Repeat steps ii to iii to complete the settings of all Bot Service message setting. After you finish all the Bot Service message settings, click "Save" button to save the settings.

+ Add new message Message 1 PM-4324 Submeter2 Phase A V PM-4324 Submeter4 Phase B V Setting Copy Remove	Nickname	Content	
Message 1 PM-4324 Submeter2 Phase A V PM-4324 Submeter4 Phase B V			+ Add new message
Setting Copy Remove	Message 1	PM-4324 Submeter	r2 Phase A V PM-4324 Submeter4 Phase B V
	Setting Copy	Remove	
	Setting	Remove	_

Figure 2-39: PMC/PMD Web Site - Bot Service Message Setting Page (4)

v Go to the "Rule Setting" page and click "Add new rule". The "Rule Setting" page will appear. Click the "Bot Service" option under the THEN/ELSE section, and select the Bot Service message, Now if the evaluation of the "IF statement" is "true", the selected Bot Service message will be sent, and the LINE accounts linked with the IoTstar account who manages this WISE controller will receive the messages in the Bot Service for LINE chat room.

*Nickname	Rule 1		
Description			
Status	●Enable ○Disable		
lie Content Se	etting F	THEN	ELSE
Add a new Set a Co	tting F (Condition: ndition •	THEN Add a new Action: Set an Action • ICP DAS Module •	ELSE Add a new Action Set an Action

Figure 2-40: PMC/PMD Web Site - Rule setting with Bot Service Message

2.8 Real-time data sending setting form WISE/PMC/PMD

All I/O channel data (or Power data) displayed on IoTstar Bot Service are real-time data. Therefore, users need to complete the Real-time Data Sending Setting on the WISE/PMC/PMD controllers to show real-time data on IoTstar Bot Service for LINE.

2.8.1 Real-time data sending setting by WISE-523x/WISE-224x

- i Launch a Browser to login into the WISE, and enter the "IoT Platform Setting" Page.
- ii Click the "Real-time Data Sending Setting" button under the "IoTstar Setting" section on the left side of the webpage to enter the "Real-time Data Sending Setting" page.
- iii Check the "Enable" function, and add channels to be displayed.
- iv After all settings are completed, click "Save" button to save the setting.

Web Inside, Sma Web Anywhere, Autom System Setting Module Settin	a rt Engine ation Anywhere! g Logger Setting IoT	Nickname WISE-5231 🕞 🛃 式 OK @1992.1MB IIInstant Message Platform Setting Advanced Setting Rule Setting Channel Status IP Camera Status
IoT Platform Setting Real-Time Data	Sending Setting	
Microsoft Azure Platform	Real-Time Data S	Sending Setting Page
Setting	Function Status	☑Enable
IBM Bluemix Platform Setting	Add Channel	
IoTstar Setting	Interface	XV-Board V
Real-Time Data Sending Setting	Module	[XV310 ▼]
Historical Data Sending Setting	Channel	
Video Data Sending Setting		Insert
Bot Service Message Setting		
	Channel List	
	Channel	*Name
	O XV-Board XV3	10 DI0 XV-DI0
	XV-Board XV3	10 DO0 XV-DO0
	Remove	
		Save

Figure 2-41: WISE Web Site - Real-time data sending setting

- 2.8.2 Real-time data sending setting by PMC-523x/PMC-224x/PMD
 - i Launch a Browser to login into the PMC/PMD, and enter the "IoT Platform Setting" Page.
 - ii Click the "Real-time Data Sending Setting" button under the "IoTstar Setting" section on the left side of the webpage to enter the "Real-time Data Sending Setting" page.
 - iii Check the "Enable" function, and add channels to be displayed.
 - iv After all settings are completed, click "Save" button to save the setting.

Max Post doi: this Image System Setting Meter / Module Setting Logger Setting IoT Platform Setting Advanced Setting Rules Setting Image System Seting Image System Set System Set System Set	Power Monitoring	& Management Solution		PMC-5231 📄 🗟 🛃
Main Page System Setting Meter / Module Setting Logger Setting Iot Platform Setting Rules Setting Iot Platform Setting Microsoft Azure Platform Real-Time Data Sending Setting Page Function Status Enable MUTT Setting Real-Time Data Sending Add Channel Iot Platform Real-Time Data Sending Interface COM3 Iot Platform Bid Buemix Platform Satting Interface COM3 Iot Platform Real-Time Data Sending Interface COM3 Iot Platform Setting Interface COM3 Iot Platform Bot Service Message Setting Interface Com3-NA-Subs-Time Data Interface Channel Interface Channel Interface Iot Platform Interface COM3 PM-A114(2) CTI V COM3-NA-SUBS-TOTAL-KWH Iot Platform Interface COM3 PM-4324(4) Submeter8 Total / Average KWh COM3-NA-SUBS-TOTAL-KWH Iot Platform Interface Iot Platform Save Save Iot Platform	DAS ICP DAS CO., LLO.			Dead C202.1MB(Approx.365 Days) Elinstant Message
Iot Platform Setting Real-Time Data Sending Setting Page IBM Bluemix Platform Setting Function Statu © Platble MQTT Setting Add Channel IStata Setting Interface COM3 • Real-Time Data Sending Setting Module PM-3112(1) • Historical Data Sending Setting Interface COM3 • Bot Service Message Setting Insert Channel C11 • Info V • Envice Message Setting Insert Channel Channel Channel Vame • COM3 PM-4314(2) CT1 V COM3-N4-SUB8-TOTAL-KWH • COM3 PM-4324(4) Submeter® Total / Average KWh COM3-N4-SUB8-TOTAL-KWH	Main Page System Setting	Meter / Module Setting	ogger Setting IoT Platform Setting	Advanced Setting Rules Setting
Microsoft Azure Platform Setting Real-Time Data Sending Setting Page IBM Bluemix Platform Setting Function Status © Enable MQTT Setting Add Channel ToStar Setting Interface COM3 ▼ Real-Time Data Sending Setting Module PM:3112(1) ▼ Historical Data Sending Setting Channel CT1 ▼ Info V ▼ Bot Service Message Setting Insert Channel List Channel Channel List Channel Channel *Name Image: COM3 PM:4324(4) Submeter® Total / Average kWh COM3·N4:SUB8-TOTAL-KWH Vermove Save	IoT Platform Setting Real-Time Data	Sending Setting		
Setting Function Status IBM Bluemix Platform Setting Add Channel MOTT Setting Interface CoM3 V Real-Time Data Sending Module Bet Service Message Setting Channel Commel CT1 v Channel CoM3 Channel CoM3 Channel CoM3 CoM3 PM-4324(4) Submeter8 Total / Average kWh CoM3 CoM3 Femove Save	Microsoft Azure Platform	Real-Time Data S	ending Setting Page	
Item Bundlink Fadurith Setting MOTT Setting Cistar Setting Real-Time Data Sending Setting Itistorical Data Sending Setting Channel CT1 – Info (V ~	Setting	Function Status	✓Enable	
IoTstar Setting Interface COM3 • Real-Time Data Sending Module PM-3112(1) • Historical Data Sending Channel CT1 • Info (• • Bot Service Message Setting Insert Channel Channel List Channel *Name • COM3 PM-3114(2) CT1 V COM3-N4-SUB8-TOTAL-KWH • COM3-N4-SUB8-TOTAL-KWH • Remove Save Save	MQTT Setting	Add Channel		
Real-Time Data Sending Module PM-3112(1) • Historical Data Sending Channel CT1 • Info (v • Bot Service Message Setting Insert Insert Channel List Channel CT1 v Info (com3 PM-3114(2) CT1 V COM3-N4-SUB8-TOTAL-KWH • COM3 PM-4324(4) Submeter® Total / Average kWh COM3-N4-SUB8-TOTAL-KWH • Remove Save	IoTstar Setting	Interface	COM3 V	
Historical Data Sending Setting Channel CT1 v Info V v Bot Service Message Setting Inset Channel List Channel CT1 v Info V v Inset Channel CT1 v Info V v Inset Inset Channel CT1 v Info V v Inset Channel CT1 v Info V v Inset Channel CT1 v Info V v Inset Inset Channel CT1 v Info V v Inset Channel CT1 v Info V v Inset Channel CT1 v Info V v Inset Channel CT1 v Info V v Info V v Inset Channel CT1 v Info V v Inset Channel CT1 v COM3-N2-CT1-V COM3-N2-CT1-V COM3-N4-SUB8-TOTAL-KWH V Remove Save	Real-Time Data Sending Setting	Module	PM-3112(1) V	
Bot Service Message Setting	Historical Data Sending Setting	Channel	CT1 V Info. V V	
Channel "Name • COM3 PM-3114(2) CT1 V COM3-N2-CT1-V COM3-N2-CT1-V COM3-N4-324(4) Submeter8 Total / Average kWh COM3-N4-SUB8-TOTAL-KWH Remove Remove Save Save	Bot Service Message Setting		Insert	
Channel *Name COM3 PM-3114(2) CT1 V COM3-N2-CT1-V COM3 PM-4324(4) Submeter® Total / Average kWh COM3-N4-SUB8-TOTAL-KWH COM3-N4-SUB8-TOTAL-KWH Remove Save <		Channel List		
COM3 PM-3114(2) CT1 V COM3-N2-CT1-V COM3-N2-CT1-V COM3-N4-SUB8-TOTAL-KWH Remove Remove Save		Channel		*Name
COM3 PM-4324(4) Submeter8 Total / Average kWh COM3-N4-SUB8-TOTAL-KWH Remove Save		COM3 PM-3114	4(2) CT1 V	COM3-N2-CT1-V
Remove		O COM3 PM-4324	4(4) Submeter8 Total / Average kWh	COM3-N4-SUB8-TOTAL-KWH
Save		Remove		
				Save

Figure 2-42: PMC/PMD Web Site - Real-time data sending setting

3 The Interface and Feature of IoTstar Bot Service for LINE

After the application and setting of the LINE account as described in the above chapter is completed, users can start the linkage setting between the personal LINE account and the IoTstar account. After the linkage setting completed, the Two-way message communication interaction between WISE/PMC/PMD controllers managed by IoTstar and the LINE account can be performed within the Bot Service for LINE chat room. Following is the feature IoTstar Bot Service for LINE provides:

- Monitoring/Control of the I/O channel data (or power data): Review the real-time I/O channel data (or power data) and change the value of the DO/AO channel of the I/O modules (or power meter) connected to WISE/PMC/PMD.
- Monitoring of the grouping data: With the IoTstar's grouping function, can quickly monitor the real-time data of the grouping I/O channels (or power loop).
- Event Notification: The logic rule of Event notification can be set on the WISE/PMC/PMD controller. When the conditions of the IF-THEN-ESLE logic rule are met, the action of "Event message sending" will be triggered to send the message to all linked LINE accounts.
- Review the historical events of controllers: Records the event messages sent by the WISE/PMC/PMD controller and the user can review the content of the event message from the event list, including the message text, images and videos.

The interface and function of IoTstar Bot Service will be described below.

3.1 Join Bot Service for LINE account and enable the linkage

Log in to the IoTstar website, click on "Account Maintenance" button on the "System Information & Setting" section on the IoTstar Webpage; the Account Maintenance Setting page will be displayed as below. Find the "Bot Service for LINE" section, click the Em icon on the right side of the "Bot Service for LINE" section to open the QR Code window of the Bot Service account. Use LINE APP to scan the QR Code and add the account.

System Information & Setting	Country / Region:	Taiwan 🗸		
Account Maintenance		Submit		Scan it with LINE App
Database & Event Setting				
Event List 267	Device Share			
 Database Table List 	Share the device to other account. Ho data that the device collected.	wever, the account shared the device is only authorize	d to inquire the I/O channel data or Pow r	1 6月24月21
	Username	Nickname	Action	
	wayne10	wayne10	Remove	225226154
	wayne3	wayne3	Remove	1 20 23/060
	Username	dd		₩486%1977 €
	Bot Service for LINE			
	The Bot Service for LINE feature lets y with your controller are listed below.	rou interact with your controller through the LINE app.	The LINE accounts that allow interaction	Close
	Status ID	Nickname	Action	
	Ub6277*************************	aa56a9 🇨 Wayne Liu	Remove	
	U5824a************************************	4b7ec3 🖍 Michael Lai	Remove	

Figure 3-1: Open the Bot Service for LINE account QR Code window for scanning

After adding the account, select the language and the IoTstar account to be linked in the LINE chat room.



Figure 3-2: Bot Service for LINE chat room - select the language and the loTstar account

Go back to the IoTstar website, enable the LINE accounts in the "Status" field of the "Bot Service for LINE" list to complete the linkage between the LINE account you select and the IoTstar account. Here you can enable/disable/delete the LINE account, and change the account's name.

Bot Service for LINE						
The Bot Service for LINE feature lets you interact with your controller through the LINE app. The LINE accounts that allow interaction with your controller are listed below.						
Status	ID	Nickname	Action			
	Ub6277*******************aa56a9		Remove			
	U5824a****************4b7ec3	🖍 Michael Lai	Remove			

Figure 3-3: Enable the linkage of IoTstar account and LINE account

3.2 Bot Service for LINE chat room interface

After completing the account linkage of the IoTstar account and the LINE account, users can see the function buttons in the menu located in the lower area of Bot Service for LINE chat room. There are four function buttons as Channel, Group, Event and Help, and users can click the button to perform the corresponding function.



Figure 3-4: Bot Service for LINE chat room - User Interface

3.3 The function of Channel and Group The messages generated by the channel and group functions will be described as below:





Figure 3-6: Bot Service for LINE chat room - Group List



Figure 3-7: Bot Service for LINE chat room - Channel List





Figure 3-9: Bot Service for LINE chat room - Change Channel Status/Value

**To display I/O channel data (or power data) in the list of Channel/Group interfaces as above, users need to follow "2.8 Real-time data sending setting form WISE/PMC/PMD" section to perform the settings of real-time data sending. Besides, to show I/O channel data (or power data) in Group list, users have to perform the grouping settings on IoTstar webpage: create the group and add real-time channels into it, and then the channels would be shown on the Group list.

3.4 The function of Event Notification

The IF-THEN-ELSE logic rule can be set on WISE/PMC/PMD controller to send a notification message to the corresponding LINE chat room when the event is triggered, and the WISE controller can use the image or video file forwarding function to send the picture or video files at the same time. For more detail, please refer to "2.7 Message sending setting from WISE/PMC/PMD to IoTstar Bot Service" section.



Figure 3-10: Bot Service for LINE chat room - Event Notification

3.5 The function of Event

Click "Event" in the menu, the "Event Browsing Function" message will be generated, and the "Search by time" and "The last 10 events" functions will be provided to query the past events.



Figure 3-11: Bot Service for LINE chat room - Event Browsing Function

The event list is displayed in the units of 10 events each time. If the number of events is greater than 10 events, click the "Next 10 events" button, it will continue to display the next 10 events until the end of the events list.

Controller's name		Event time and IoTstar account			
Office1 2020/04/09 14:10:41 (icpdas_demo)	Office1 2020/04/05 10:34:25 (icpd	as_demo) Office1	1 14:41:43 (icpdas_demo)		
[Snapshot] The door is opened.	[Video] The door is ope	ened.	The door is opened.		
Image I I I I I I I I I I I I I I I I I I I	Video				
-1/10-	-2/10-		-3/10-		
age/Video message: Cli	ck to view details	Text Message	Message Index		

Figure 3-12: Bot Service for LINE chat room - Event List

3.6 The function of Help

Click on the "Help" function of the menu, it will help user to review the information of the currently IoTstar account, and provide "Account Setting", "Language Setting" and "Relevant information".



Figure 3-13: Bot Service for LINE chat room - Help Manu

- Switch Account: One LINE account can monitor multiple IoTstar accounts, click to switch to other IoTstar account to monitor the controllers belongs to it.
- Add a New Account: One LINE account can monitor multiple IoTstar accounts, click to add a new IoTstar account.

Channel Sorting: If this function was enabled, the channel list would be sorted by the module. Otherwise, it would follow the sequence of the "Real-time data sending setting" on the controller.



Figure 3-14: Bot Service for LINE chat room - Channel Sorting Function

Appendix I : Apply free SSL from "Let's Encrypt"

Let's Encrypt is a free, automated and open digital certificate authority service (Certificate Authority; CA) provided by <u>Internet Security Research Group (ISRG)</u>. For the detailed information of "How the Let's Encrypt Digital Certificate Authority (CA) performs the issuance/cancellation of the Domain certification and digital certificate", please refer to the <u>URL link</u>.

Let's Encrypt uses the ACME protocol to verify if the Domain is controlled by the user and then will issue the certificate for the Domain if the application is approved. In order to get the certificate, you need to use an ACME Client software. So we suggest you to select an ACME Client software which is suitable for the installed environment of IoTstar from the <u>recommended list</u>. Following we use the win-acme as an example to demonstrate the steps to apply a free SSL certificate from Let's Encrypt:

(1) Please confirm that IoTstar has been installed successfully and work smoothly, and make sure the IoTstar website has its own Domain Name. If the above 3 conditions are met, then you can issue an application of SSL certificate from Let's Encrypt.

(Before performing the following steps, please confirm that the relevant settings of IIS and the path of the website will not be changed anymore. If the settings of IIS are changed after you completing the following steps, please delete the certificate and re-create a new certificate from step 4 to avoid the failure of automatic certificate update.)

- (2) Download the latest 64 or 32 bit pluggable version of <u>win-acme</u>, create a folder in any directory and unzip the file into this folder (If the directory location is determined, please do not change the location again, it is recommend using C:\Program Files or C:\Program Files (x86)).
- (3) After unzipping the file you download, right click on the wacs.exe, select "execute as system administrator" to launch the file, and perform the following steps to complete the application and creation of SSL certificate:

A. Select "N: Create new certificate (simple for IIS)" to perform the creation of a new certificate.

A simple Windows ACMEv2 client (WACS) Software version 2.1.6.768 (RELEASE, PLUGGABLE) ACME server https://acme-v02.api.letsencrypt.org/ IIS version 10.0 Running with administrator credentials Scheduled task not configured yet Please report issues at https://github.com/win-acme/win-acme N: Create new certificate (simple for IIS) M: Create new certificate (full options) R: Run scheduled renewals (0 currently due) A: Manage renewals (0 total) O: More options... Q: Quit Please choose from the menu: n

B. Select the number of the IoTstar website and apply a certificate for it.



C. Select "3: Pick *all* bindings" to select all bindings of IoTstar website.



D. After the steps above, if all selections are correct, input "yes", the software will start the process to create the certificate. During the process, you can see the information and update time in the information list. After the process is completed, the software will automatically return to the main menu.



Please Note:

If you are using Let's Encrypt for the first time, you will be asked to provide an email address for the notification of the "Automatic Update Failure" event, input "yes" to agree the "Let's Encrypt Subscriber Agreement" for the proceeding.



*****Maximum Application Frequency:

- For the same Registered Domain: 20 times a week
- For the same Domain Name: 5 times a week
- For the same IP Address: 10 times every three hours

Due to the maximum application frequency includes the frequency of both creation and update operations, please do not launch the Application of certificate frequently to avoid exceeding the limitation. (4) Launch "Internet Information Services (IIS) Administrator", select the IoTstar platform, and click on the "Binding" on the right side of the window. You will see an HTTPS type binding being automatically generated. Click "Restart" and then click on the HTTPS website to check if the IoTstar website can be executed successfully.



%Troubleshooting: Port 443 has been occupied

- A. Launch "Command Prompt" in the "Start Menu" of Windows. After the "Command Prompt" window is opened, input "**netstat –ano**" and press Enter.
- B. Find the item which Proto is "TCP", and the number after the ":" of the "Local Address" is 443; record its PID value. In this example, the following figure shows the PID is 4.

Proto TCP TCP	Local Address 0.0.0.0:80 0.0.0.0:88	Foreign Address 0.0.0.0:0 0.0.0.0:0	State LISTENING LISTENING	PID 4 4
TCP	0.0.0.0:443	0.0.0.0:0	LISTENING	4
	0.0.0.0:445	0.0.0.0:0	LISIENING	4
TCP	0.0.0.0:1230	0.0.0.0:0	LISTENING	13824 13824
TCP	0.0.0.0:1232	0.0.0.0:0	LISTENING	13824
TCP TCP	0.0.0.0:1233 0 0 0 0.1234		LISTENING LISTENING	13824 13824
TCP	0.0.0.0:1235	0.0.0.0:0	LISTENING	13824
TCP	0.0.0.0:1433	0.0.0.0:0	LISTENING	6396 4364
TCP	0.0.0.0:3306	0.0.0.0:0	LISTENING	4204
TCP	0.0.0.0:3389	0.0.0.0:0	LISTENING	1328

C. In the "Command Prompt" window, input "tasklist / FI "PID eq 4" (please replace 4 with the PID value you got from the previous step). If the "Image Name" is "System" (shown as below); it indicates that the port 443 has been used properly by System. If not, it means the port is occupied by other program.

Image Name	PID	Session Name	Session#	Mem Usage
System	4	Services	0	6,556 K

D. If the "Image Name" is not "System", it means the port 443 is occupied by other program. Please close the program which occupies port 443, and re-start the application of the SSL certificate again.

(If Skype have been installed on the Windows system, Port 443 may be occupied by Skype. You can open the Skype window, then click on the Tools menu and select Options. Click on the Advanced tab, and go to the Connection sub-tab. Untick or uncheck the checkbox for "Use port 80 and 443 as an alternative for additional incoming connections" option. Click on the Save button and then restart Skype to make the change effective.)