STM6000 Edge Box HMI

Quick Start Guide v1.2





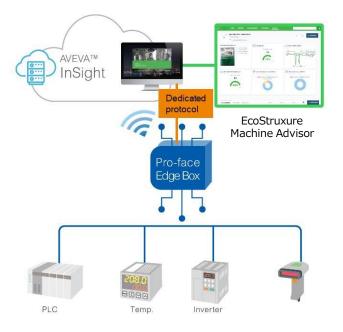
www.pro-face.com

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1. What is Edge Box HMI?

With the Edge Box HMI, you can collect data from connected devices and forward it to Machine Advisor / AVEVA Insight / External Database with easy settings on software.



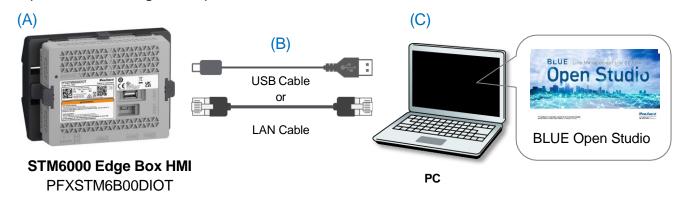
About this document

This Edge Box HMI Quick Start Guide is intended for individuals using Edge Box HMI and its software for the first time. This document will help you quickly familiarize yourself with basic use of this product.

2. Preparation

Required environment

Prepare the following development environment.



(A) STM6000 Edge Box HMI (PFXSTM6B00DIOT)

(B) Transfer Cable



Optional USB transfer cable (PFXZUSCBMB2) or commercial USB cable (Type A to Micro-B).



LAN cable (Ethernet cable)

(C) PC with BLUE Open Studio

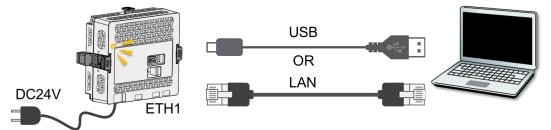
You PC (development environment) requires a HTML5 compatible browser (recommended: Google Chrome) to be installed.

To create HMI project and transfer to the Edge Box HMI, your PC also requires BLUE Open Studio 2020 SP2 or later to be installed. BLUE Open Studio 500 tags Build Time License (PFXBOSBT500A) is sold separately.

This procedure is intended for users who are transferring a project to the Edge Box HMI for the first time. After this setup, you can access the Hardware Configuration page on a web browser to configure the Edge Box HMI.



- 1. Connect Power Supply (DC24V) and check the status LED flashes orange.
- 2. Connect PC via Ethernet cable or USB cable.



3. When Ethernet (ETH1) is used, set IP address of your PC as follows.

IP address: 192.168.1.*** (any address other than 192.168.1.80) Subnet Mask: 255.255.255.0

When USB is used, the Edge Box HMI is recognized as Ethernet device on your PC and IP address is automatically configured.

(Device name: Remote NDIS Compatible Device)

Internet Protocol Version 4 (TCP/IPv4) Properties $~~ imes~$
General	
You can get IP settings assigned autom this capability. Otherwise, you need to for the appropriate IP settings.	
Obtain an IP address automatical	y
Use the following IP address:	
IP address:	192.168.1.100
Subnet mask:	255.255.255.0
Default gateway:	192 . 168 . 1 . 1
Obtain DNS server address autom	atically
• Use the following DNS server addr	esses:
Preferred DNS server:	
Alternate DNS server:	
Validate settings upon exit	Advanced
	OK Cancel

4. Open a web browser on your PC, and in the address bar enter the IP address of Edge Box HMI.

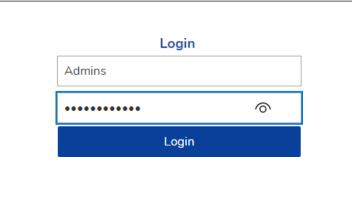
https://192.168.1.80 (Ethernet) https://169.254.100.100 (USB) Hardware Configuration screen is displayed.

5. When you access to the screen for the first time, you are requested to set a login password.

Set a login password and click [Submit]. e.g. !Proface1234, and click [Submit] Note: The user name is "Admins" and cannot be changed

Pro-face by Sowidar Electric	
Hardware Config Version 10	Juration
© 2021 Schneider Electric Japan Holding	is Ltd. All Rights Reserved. It Standar Decord
The password Number of characters	must meet the following requirements: At least 8 single-byte characters, up to 64 characters
Types of characters	Use at least one of each of the following types of characters: • Uppercase letter (A-Z) • Lowercase letter (a-z) • Number (0-9) • Symbol (special character): ! # - =
restore the produ	et the password, note that you will not be able to reset it. To ct to its original state (at time of purchase), contact customer data in the product will be lost.

6. Enter the User Name, Admins and the newly created password, e.g. !Proface1234. Click [Login]



Hardware Configura	tion						ර 🗗
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
System Status							
Status System Version Runtime Version Project File Ethernet 1	Runtime does n 1.0.11 	iot exist. Or,	Waiting for	download. Please d	download runtime.		
IP Mode IP Address MACAddress Ethernet 2	Manual 192.168.1.80 00:80:F4:A2:2D		5.0				
IP Mode IP Address MACAddress	Disabled 0.0.0.0 0.0.0.0 00:80:F4:A2:2D						

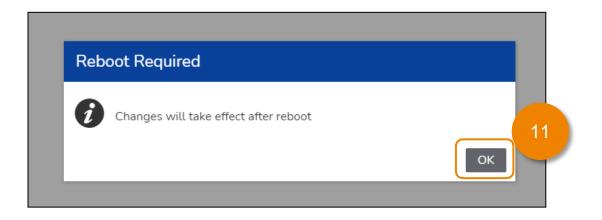
- If you will be using an internet connection for cloud connectivity please proceed to step 8. If no internet/cloud connection needed please skip to <u>step 12</u>.
- 8. Click [ETHERNET] to display the Ethernet settings.
- 9. Click [Ethernet 2] to display Ethernet port 2 settings.

ardware Configura	tion	8					
INFORMATION	ETHERNET	сом	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Ethernet 1 Ethe	rnet 2						
IP Mode *	9						
Disabled		7					
IP Address			Subnet	Mask			
192.168.2.80			255.2	55.255.0			
Default Gateway							
MAC Address							
00:80:F4:A2:2D:	42						
Submit							

10. Set the [IP Mode] to [Automatic] or [Manual]. [Automatic] for DHCP or [Manual] to enter in the necessary settings to allow internet access.

Hardware Configura	tion						
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Ethernet 1 Ethe	rnet 2						
IP Mode *		7					
IP Address			Subnet	Mask			
192.168.2.80			255.2	255.255.0			
Default Gateway							
MAC Address 00:80:F4:A2:2D: Submit	11						

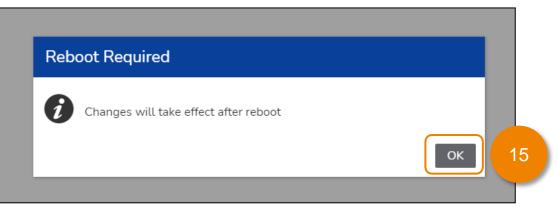
11. Click [Submit] to apply the ethernet setting. Note that the settings will only take effect after a reboot. [OK] to dismiss the Reboot Required dialog.



12. Click [DOWNLOAD].

Hardware Configura	tion						
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	STEMNAGER	SECURITY	SYSTEM
Enable Project File D () If the download Submit		13 auth	orized acce	ss and infection of r	12 malicious software incre	ases. Disable dov	wnload after use

- 13. Check [Enable Project File Download]
- 14. Click [Submit]. Changes will take effect after a reboot.
- 15. Click [OK] to accept the Reboot required message.



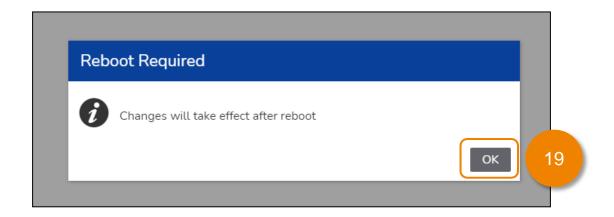
16. Click [SYSTEM]

lardware Configurat	tion						16
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Enable Project File D ⑦ If the download Submit	_	sk of unauth	orized acce	ess and infection of m	nalicious software incre	ases. Disable dov	vnload after use

17. Set the [Date], [Time], [Time-zone] for your region.

Hardware Configu	ration						
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Date and Time	Firmware Update	Factory R	leset Bad	ckup and Restore Co	onfiguration		
		E C	17 17 17				

- 18. Click [Submit], changes will take effect after reboot.
- 19. Click [OK] to dismiss the Reboot Required dialog.



- 3. Hardware Configuration
 - 20. Click the [Reboot] icon 🕛 at the top right of the web page.

	ſΩ [♪
SYSTEM	20
pad after use	

21. Click [Yes] in the Reboot dialog.

Reboot	
Are you sure you want to reboot?	21 Yes Cancel

22. After the Edge Box HMI has rebooted. Confirm the [Ethernet 2] Settings, [Enable Project File Download] check box, [Date], [Time], [Time-zone] are as previously selected.

INFORMATION	ETHERNET	COM	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
System Status							
Status	Runtime does n	ot exist. Or,	Waiting fo	r download. Please d	lownload runtime.		
System Version	1.0.11						
Runtime Version							
Project File							
Ethernet 1							
P Mode	Manual						
P Address	192.168.1.80	255.255.25	5.0				
MACAddress	00:80:F4:A2:20	0:41		22			
Ethernet 2							
P Mode	Automatic						
P Address	175.172.0.225	255.255.2	55.0				
MACAddress	00:80:F4:A2:20						

Hardware Configuration

INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Enable Project File D	ownload 🔽	22					
If the download	l is enabled, the ris	k or	.zed acce	ss and infection of m	nalicious software incre	ases. Disable dow	nload after use
Submit							

NFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Date and Time	Firmware Update	Factory R	Reset Bac	kup and Restore Co	onfiguration		_
	-						
Date							
2022-04-12							
Time			22				
05:56:00 PM		Ŀ					
Time-zone							
(UTC-04:00) C	anada/Eastern	-					
Synchronized with							
NTP Server							

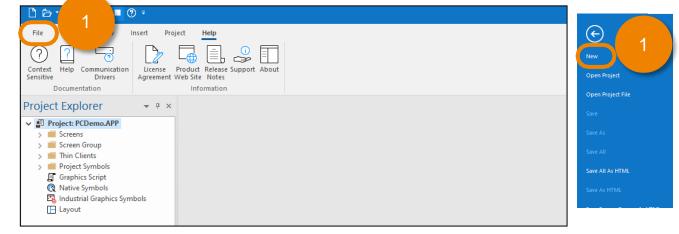
In the Hardware Configuration screen, you can configure the following settings of the Edge Box HMI.

INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
System Status							
Status	Runtime does r	not exist. Or,	Waiting fo	r download. Please d	download runtime.		
System Version	1.0.10						
Runtime Version							
Project File							
Ethernet 1							
P Mode	Manual						
P Address	192.168.1.80	255.255.25	55.0				
MACAddress	00:80:F4:A2:20):4D					
Ethernet 2							
IP Mode	Disabled						
IP Address	0.0.0.0 0.0.0.0)					
MACAddress	00:80:F4:A2:2E	0:4E					

Function name	Description
INFORMATION	You can check the product system version, runtime version, IP address, and so on. Also, if a System Error/Runtime Error occurs, you can check the error information in [Status] area.
ETHERNET	Configure Ethernet settings, which are required when communicating over Ethernet with connected devices, or when using functions that interact with a network PC, such as downloading project files.
СОМ	Select the serial interface communication method as either RS-232C or RS-422/485. For RS-232C communication, you can select to enable or disable VCC.
USB	When a USB device is connected to this product, use this function to safely remove the hardware.
DOWNLOAD	Enable to download project files and HMI Runtime to this product. Disable this setting for active run time operation. NOTE: Enable only when downloading project files or HMI Runtime.
SITEMANAGER	Set up when configuring a system that includes Pro-face Connect (sold separately).
SECURITY	Change the password. You can also perform operations such as check the previous login information and download that information. The downloaded security data file is "log.csv".
SYSTEM	 [Date and Time] tab: set the internal clock of the product. You can also set up an NTP server to synchronize the clock. [Firmware Update] tab: update the firmware. [Factory Reset] tab: you can reset the product to the factory default settings. [Backup and Restore Configuration] tab: you can back up the settings in Hardware Configuration. The downloaded backup data file is "config.bin". You can also use the backup file to restore the settings of Hardware Configuration. NOTE: The following settings are not backed up or restored. SECURITY tab Date and Time tab in the SYSTEM tab

Create Project

1. Start up BLUE Open Studio 2020 SP2 or later and click [File] > [New].



- 2. Enter your [Project Name], e.g. EdgeBoxHMI QuickStart.
- 3. Select Project type [Embedded BLUE Open Studio Basic] and click [OK].

lew	×
Project File	4 ⊳
Create new Project with the specified settings	
Project name: EdgeBoxHMI QuickStart	
C:\Users\PFX\Documents\BLUE Open Studio 2020 Projects\	Browse
Configuration file:	
C:\Users\PFX\Documents\BLUE Open Studio 2020 Projects\EdgeBoxHMI QuickStart\EdgeBo	
Target platform*: (All) Product type*: Windows BLUE Open Studio Supervision Windows BLUE Open Studio Line Management Windows BLUE Open Studio Line Management Embedded BLUE Open Studio Line Management	3
	Þ
BLUE Open Studio Basic for Linux (500 tags)	
L *Select Windows target platform for Windows Server/Desktop projects. Select Embedded ta platform for Windows Embedded and HMI Runtime projects (Windows Embedded Compact (CE), Windows Mobile, Linux, etc.). *You can modify the target platform and product type after creating the project by using the	Vindows
ОК	Cancel

4. Select resolution (you can use any) and click [OK].

Project W	/izard				×
- Display Resolu		Width:		Height:	
Custor	n 👻	1920		1080	
			OK		Cancel



Create Project

- 5. Check or uncheck the "Do not automatically..." as appropriate.
- 6. Click [Next]

3	Overview			
~			Step 1/6	
	This wizard will help you to configure the ne These are the current security settings:	w Security System. Users:	Groups:	
	Security System is enabled.	Guest	Guest	
	[Local Mode]			
	[Local Mode]: GOOD			
	Do not automatically show this wizard net	xt time you open Se	curity	6
			Next >	Cancel

- 7. Clear the check box of [Enable Security System].
- 8. Click [Next] several times to skip Security Settings.
- 9. Click [Finish] on the last dialog box.

📴 Enable Security System		×	Finish		×
÷	Step 2/6				Step 6/6
Do you wish to enable Security system? Erable Security System Mein Password			Configuration Wzard results: Security system not enabled [[Local Mode] [Local Mode]: GOOD	Users: Guest	Groups: Guest
		8			9 Enish Incel

NOTE: You can configure security system later. So, skip here for quick start.

Create Screen and Tag

- 1. Select [Graphics] Tab.
- 2. Right-click on [Screens] and select [Insert].
- 3. Click [OK] on the Screen Attributes dialog.

Paste Copy Pind/Replac Cliphoard Cliphoard	Runtime Watch LogWin Tasks		,
Project Explor Project: EdgeBoxhu	Maximize Box Border: Minimize Box Don't redraw:	Size Width: 640 Height: 480 Replace(Partial) - None -	Location Top 0 Lett: 0 Security Leve 0 Screen Logic On Open While Open
Layout	Disable Focus ⊘ Receive focus on open ⊘ Share tab order with other screens ☐ Background screen	Tab Order: Hide	Multi Transe Opp e screen 3 o K Cancel

- 4. Double-Click [Native Symbols].
- 5. Expand [System Symbols].
- 6. Select [Sliders].
- 7. Select [slider01], the mouse icon should change to



🗅 🗁 - 🛛 🗀 - 🕨 🗖 🔊 =	BLUE Open Studio - Symbols	- 🗆 ×
File Home View Insert Project	Help	Style 👻
Paste O Find/Replace Con Task	[⊥] Download [⊥] Run Runtime Watch LogWin Stays Remote Management Remote Management	
Project Explorer 5	creen2 @Symbols ×	*
Screen Group	Syndols Syndols Syndols Syndols Syndols	^
Project Symbols Q Native Symbols G moostner orsprincs Symbols	 A Anovas Bargapis BuidingAutomation Buidi	
	> Fars > Ions > Indicators Meters Piblights Pees	
	Plates slider04 slider05 slider06 slider07 slider08 slider09 slider10	v
∫ Global Graphics ☐ Tasks && Comm	> 🗧 Tanks 💌 🔍	>

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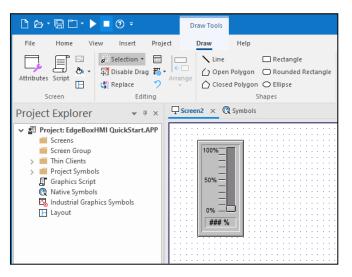
Create Screen and Tag

8. With the mouse cursor still as newly created screen again.

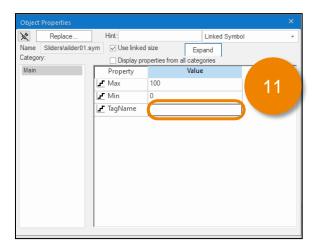


click on the new screen's tab, which will show the

9. Click anywhere on the screen to drop the slider01 symbol.



- 10. Double-click the newly created slider01 symbol which will open the [Object Properties] dialog.
- 11. Double-click the [TagName] [Value] field which will open the [Object Finder].



Create Screen and Tag

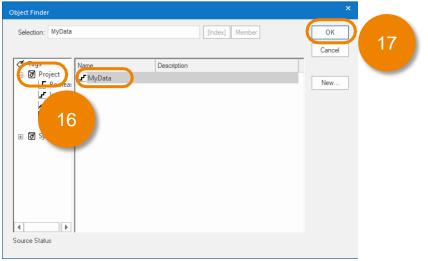
12. Click [New].

Object Finder			×
Selection:		[Index] .Member	OK Cancel
 ✓ Tags Ø Project ▲ Booleau ✓ Integer ✓ Real T String L Class Ø System 	Name	Description	New

- 13. Enter a [Name], e.g. MyData.
- 14. Set the [Type] to [Integer].
- 15. Click [OK] to create the new tag.

14

- 16. Select [Project] and select the newly created tag, e.g. MyData.
- 17. Click [OK] to close the [Object Finder].



Create Screen and Tag

18. Close the [Object Properties] window

Object Properties				\times	18
Replace	Hint:		Linked Symbol	*	TO
Name Sliders\slider01.sym Category:		size Exp perties from all catego	pand		
Main	Property	Value			
	-	100			
		0			
<u>-</u>	TagName	MyData			

19. Click the [Save] Icon

Ľ⊳(®)⊐∙▶	• 🗖 🔊 =	Di	raw Tools	
Home Vi 19 Script Screen	ew Insert Proje Selection Fill Disable Drag Fill Cig Replace Cig Replace Editing	← □ Arrange	Close	Help Rectangle Polygon Rounded Rectangle d Polygon Ellipse Shapes
Project Explorer Project: EdgeBox Screens Creens Thin Clients Project Symbol Graphics Script Native Symbol Layout	ls : s		n2 × 3	1

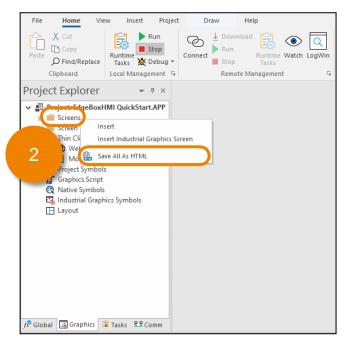
20. Set the [File name] to Main.scc then click [Save]

🕤 Save As		Х
Save As		
$\leftrightarrow \rightarrow \cdot \uparrow$	≪ EdgeBoxHM → Screen v Ö 🔎 Search Screen	
Organize 💌 Ne		?
🖈 Quick access	Name Date modified	Туре
Desktop	* No items match your search.	
🖊 Downloads	*	
Documents	*	
Pictures	* v <	>
File narie:	Main.scc	\sim
Save as type:	Screen Files (*.scc)	\sim
∧ Hide Folders	Save Cancel	

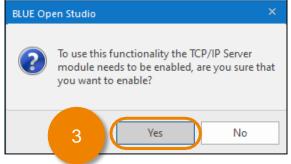
19

Mobile Access Configuration

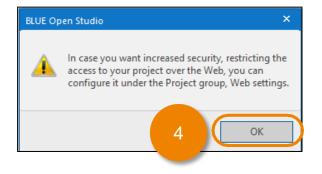
- 1. Close all open tabs. E.g. Main.scc, Symbols
- 2. Right-Click [Screens] and click [Save All as HTML]



3. If prompted, click [Yes]

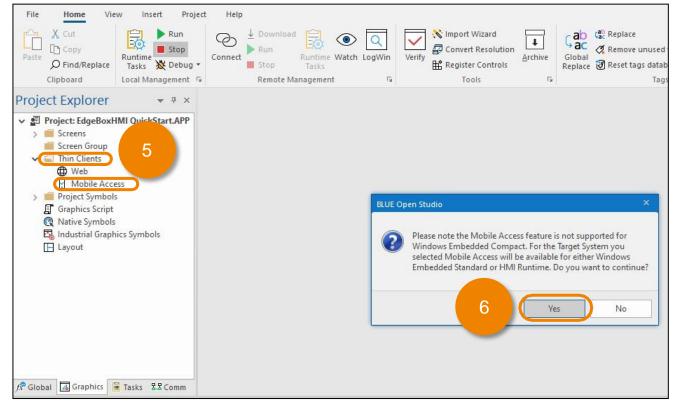


4. If prompted again, click [Ok]



Mobile Access Configuration

- 5. Open [Thin Clients] and double-click [Mobile Access]
- 6. If prompted with a dialog, select [Yes], the [Mobile Access Configuration] is shown



7. Click [Area Settings...]

File Home View Insert Proje Copy Paste O Find/Replace Clipboard Local Management F	
Project Explorer 🛛 👻 🏨 🛪	Screen2
 ✓ Project: EdgeBoxHMI QuickStart.APP Screens Screen Group ✓ Thin Clients ♥ Web Mobile Access > Project Symbols ③ Graphics Script ③ Nature Symbols ⑤ Industrial Graphics Symbols 	Process Values Update Rate (ms): 1000 Update Rate After Command (ms): 100 Update Count After Command: 5 Web Session Expiration (s): 300 Zoom Mode: Auto Screen Scaling Autor S
E Layout	User Experience Initial Events Timeout (ms): 100 Standby Start (ms): 500 Standby Timeout (ms): 10000
	Browser Logs
	Image: Second
f [®] Global ⊿ Graphics 🖀 Tasks 🐰 Comm	7 Area Settings

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Mobile Access Configuration

- 8. Scroll down to the [Trend and Process Values] section
- 9. Enter "MyData" for the [Tag Name] and the [Label].
- 10. Check the [Write] checkbox

Mobile Access Configuration	×							
Т	rend and Process Values	Show process	s values alarms only	10				,
	Tag Name	Label	W	rite	g Min	Max	Widget	Pen Color
	MyData	MyData		/ /	0	100	None	.
					0	100	None v	■ •
					0	100	None	•
		9		✓	0	100	None	■ -
	WE down from]				
	Widget Size:	Medium	~	Write	Acces	s Level	0	
S	creens							

- 11. Scroll down to the [Screens] section.
- 12. Select [main] from the first drop dropdown list. Type in the [Label] "Main" in the text box

Mobile Access Configuration ×	۲ <u>ــــــــــــــــــــــــــــــــــــ</u>			
	Widget Size:	Medium ~	Write Access Level: 0	
Scre	eens			
	Screen	Label		
(m	nain	Main		
		12		
Som	ne objects and function	s are not supported in screens, please see the doci	umentation for more details.	You must also save your screens as HTML.
				Web Settings

22

Mobile Access Configuration

13. Click the [Save] icon to save the [Mobile Access Configuration]

iome View Insert Project	Help Download Run Stop Remote Management Help Nun Runtime Watch LogWin Tasks Remote Management Task
Project Explorer	Mobile Access Configuration ×
 > ■ Screens ■ Screen Group ■ Thin Clients ● Web ■ Mobile Access > ■ Project Symbols ■ Graphics Script ♥ Native Symbols ■ Industrial Graphics Symbols 	Widget Size: Medi Screens Screen
Layout	main V M
	· · · · ·
	×
	· · ·
	· · · ·
	Some objects and functions are r

14. Close the [Mobile Access Configuration] tab.

5. Transfer V2020

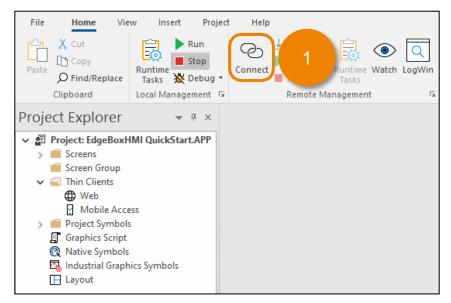
The Edge Box HMI (model number: PFXSTM6B00DIOT) includes an HMI Runtime license (500 tags supported) and a Mobile Access license. There is no need to activate them.

Since the Edge Box HMI does not have a display, you can use the Mobile Access feature to access the Edge Box HMI from a web browser on your computer (development environment).

The following settings are required in BLUE Open Studio to enable transferring a project to the Edge Box HMI.

Install Runtime Files

1. On [Home] tab of the ribbon, in [Remote Management] group, click [Connect].



- [Target] tab, enter the [Target Station] [Host] IP address of the Edge Box HMI e.g. 192.168.1.80 (Ethernet cable) e.g. 169.254.100.100 (USB)
- 3. Click [Connect]

Remote Management		×
Target Project Import Embedded License	4	⊳
Specify and connect to the target station to install the embediate regime software and/or download the project Target Station Host: Install runtime files 2 OK Ca	▲ ▼ ancel	

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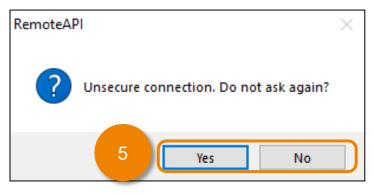
5. Transfer V2020

Install Runtime Files

4. If prompted, click [Yes].



5. If prompted again, answer either [Yes] or [No] as appropriate.



6. After confirming that the Remote Management tool connected to the Edge Box HMI and its status is displayed, click [Install Runtime Files].

Remote Management	x	
Target Project Import Embedded License	4 Þ	
Specify and connect to the target sta	tion to install the embedded runtime ct	You'll see the information in [Status] such as
Target Station	Connect Disconnect	"Connected to"
Host: 192.168.1.80	Status: Connected to remote device (HMI Runtime is	
Install runtime files Only newer files	Platform:	
	Linux 5.4.109-rt55-timesys_pree Transfering fil	e
6		C 💼
	From 'Bin' To	o 'Bin'
	IoTView	
		Cancel
	ОК	

Note: It will take a while to install HMI Runtime.



5. Transfer V2020

Transfer Project Files

- 1. In the [Remote Management] dialog, click the [Project] tab. In the [Local] box, you should see the location of the project that is currently open in your development environment. This is the project that is to be downloaded to the Edge Box HMI.
- 2. Ensure that the [Status] is "Project is stopped". If not, click [Stop] and wait for the status to change.
- 3. Click [Download].

Remote Management		×
Target Project mport Embedded License	⊲	⊳
Project Path		
Local: \EdgeBoxHMI QuickStart\		
Target: \mnt\system\project\		
Download Only newer files Run Status: Send File 3 Stop 2]
OK Can	cel	

- 4. After the [Status] has changes to "Files were sent successfully", click [Run]
- 5. Click [OK] to close the dialog window.

Remote Ma	nagement	×
Target Pr	roject Import Embedded License	4 ⊳
	Download the project to the target station	
Project Pa	ath	
Local:	ers\PFX\Documents\BLUE Open Studio 2020 Projects\EdgeBoxHMI QuickStart\	
Target:	\mnt\system\project\	
Downloa Send Fi	E Files were sent successfully.	5 Jancel

26

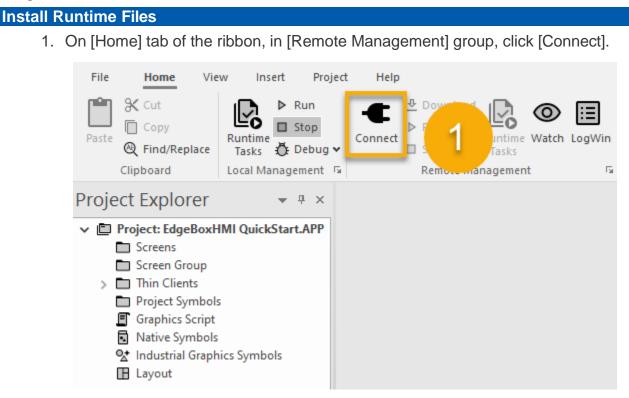
v1.2

6. Transfer V2023 and newer

The Edge Box HMI (model number: PFXSTM6B00DIOT) includes an HMI Runtime license (500 tags supported) and a Mobile Access license. There is no need to activate them.

Since the Edge Box HMI does not have a display, you can use the Mobile Access feature to access the Edge Box HMI from a web browser on your computer (development environment).

The following settings are required in BLUE Open Studio to enable transferring a project to the Edge Box HMI.



[Target] tab, enter the [Target Station] [Host] IP address of the Edge Box.
 Check Use TLS is mandatory. HMI e.g. 192.168.1.80 (Ethernet cable)

e.g. 169.254.100.100 (USB)

3. Click [Connect]

Remote N	Managem	ient				×
Target	Project	Import	Embedded License	Remote Agent Users		< ⊳
			nnect to the target st or download the proj	ation to install the emb ect	2	
- Target	Station -					
Hos	st:	169.254.1	100.100		Use TLS	
				Connect	Disconnect	
Conne	ction Stat	us			3	
Sta	tus:					
Plat	form:					*
- Runtim	ne Files -					
				Install	Only newer file	es
						Close

4. In the verify certificate dialog click [Yes]

Verify Cer	Verify Certificate						
Automatic certificate validation has failed. Please review the certificate information below.							
Do you wa	Do you want to continue with this connection?						
Issuer:	/CN=iot_box						
Subject:	4						
	/CN=iot_box						
View	View Certificate Yes No						

5. Log on to Target, Default user admin, password admin. Click [OK]

Log On To Target		×
User Name: admin	5	ок
Password:		Cancel

6. Verify the Certificate again.

STM6000 Edge Box HMI Quick Start Guide

Verify Cer	lificate	×
Automatic below.	certificate validation has failed. Please review the certificate information	
Do you wa	nt to continue with this connection?	
Issuer:	/CN=iot_box	
Subject:	/CN=iot_box	
View	Certificate Yes No	

- 7. Connected. Note these steps need to be completed within a defined time period, if not a connection cannot be made.
- 8. After confirming that the Remote Management Tool is connected to the edge box, and the project is stopped [Project Tab]. Click [Install] to install the runtime files.

Remote Manage	ment			×
Target Projec	t Import Embedded License	Remote Agent Users	⊲	⊳
Spe soft	cify and connect to the target s ware and/or download the pro	tation to install the embedded runtime ject		
- Target Station				
Host:	169.254.100.100	Use TLS		
7		Connect Disconnect		
- Connection St	atus			
Status:	Connected to HMI Runtime v23	0		1
Platform:	Linux 5.4.230-rt80-timesys_pre	eempt-rt+	•	
- Runtime Files				
	8	Install Only newer files		
		CI	ose	

6. Transfer V2023 and newer

Transfer Project Files

- 1. In the [Remote Management] dialog, click the [Project] tab. In the [Local] box, you should see the location of the project that is currently open in your development environment. This is the project that is to be downloaded to the Edge Box HMI.
- 2. Ensure that the [Status] is "Project is stopped". If not, click [Stop] and wait for the status to change.
- 3. Click [Download].

Remote Management			×
Target Project Import Embedded Li	cense Remote Agent Users	4	⊳
	target station		
Project Path			
Local: I012375\Documents\BLUE Ope	en Studio 2023 Projects\EdgeBoxHMI QuickStart\		
Target: \mnt\system\project\			
Download 2 Only newer files Send File 3	Run Status: Stop Project was stopped. 2	Close	

4. After the [Status] has changes to "Files were sent successfully", click [Run]

STM6000 Edge Box HMI Quick Start Guide

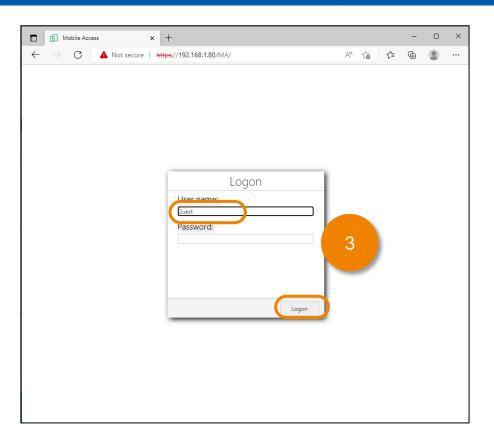
Remote Ma	nagem	ent								×
Target P	roject	Import	Embedded Lice	nse R	emote Age	ent Users			⊲	\triangleright
$\overline{\Phi}$	Dowr	nload the	project to the ta	irget sta	tion					
- Project Pa	ath —									
Local:	10123	75\Docum	ents\BLUE Open	Studio 2	023 Project	ts\EdgeBoxH	MI QuickSta	rt\		
Target:	\mnt\s	system\pr	oject\							
Downloa Send Fi		1	newer files user files	Run Stop	File	hus:	successfu	lly.		

7. Accessing the HMI Screen using Mobile Access

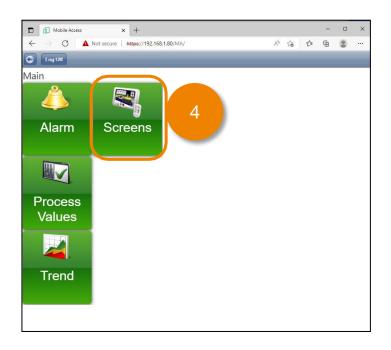
After transferring your HMI project to the Edge Box HMI, launch a web browser on your PC to access the HMI screen.

- i. Launch a web browser on your PC.
- ii. Access to https://<EdgeBoxHMI IP Address>/MA, e.g. https://192.168.1.80/MA
- iii. Enter 'guest' in username and Click [Logon].

STM6000 Edge Box HMI Quick Start Guide

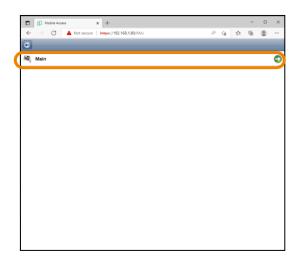


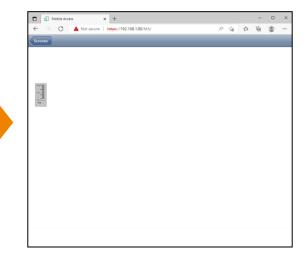
iv. Click [Screens], then screen list that you configured in Mobile Access worksheet appears.



7. Accessing the HMI Screen using Mobile Access

5. Click screen menu item to see the screen.





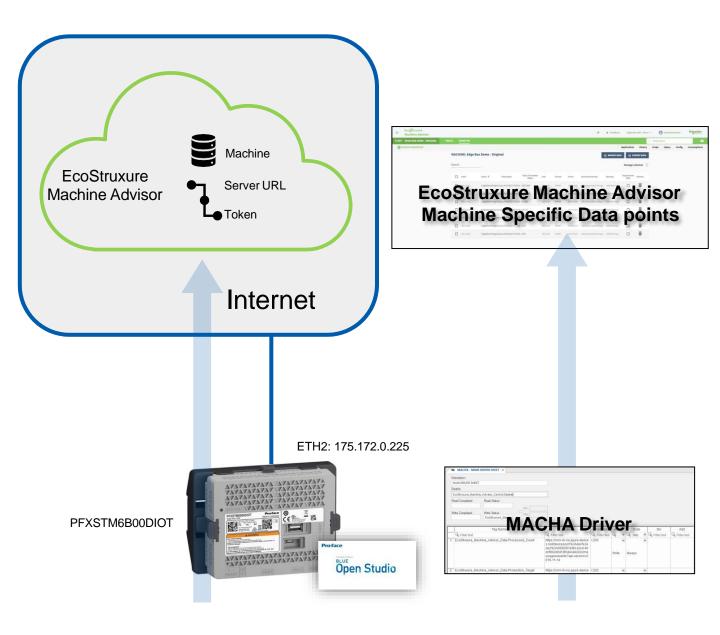
NOTE: You can go directly to the screen by specifying the screen name in URL. https://<EdgeBoxHMI IP Address>/MA/#screen=<Screen Name>&guestuser=1 e.g. <u>https://192.168.1.80/MA/#screen=main&guestuser=1</u>

8. EcoStruxure Machine Advisor Configuration

Overview

The Edge Box HMI can use the MACHA driver to send tag data to EcoStruxure Machine Advisor. An internet connection is required. By default, tag data is sent when the tag value changes.

NOTE: you can use the ForceTagChange() function to trigger the MACHA driver to send the tag value even when the value has not changed.



8. EcoStruxure Machine Advisor Configuration

EcoStruxure Machine Advisor Machine Connection

To establish a connection to EcoStruxure Machine Advisor you will need the following:

- EcoStruxure Machine Advisor Account
- Purchaser Configured in Organization settings.
- Registered Machine
- Server Address
- Token
- 1. Sign in to EcoStruxure Machine Advisor <u>https://ecostruxure-machine-advisor.se.app/welcome</u>
- 2. Follow the steps shown in the tutorial video to create a new Registered Machine https://youtu.be/g4hNI0K62H0
- 3. Select the machine and go to the configuration page [Monitor] -> [Config].

FLEET OVERVIEW	MY MACHINE TYPES REC	GISTER MACHINE
Filter by:	□ Offline only □ Warning only Filter by type ▼	CLEAR ALL
Total machines: 1		
Q Search location	●mcpbox 三庫本町一丁目 東中陽一丁目 YODOGAWA 三津屋中三丁目 WARD WARD	
Japan 大阪市		Permo - Original Production HMI Sales Edge Box HMI - Demo
	「WA 「安本二丁目 KITA」 中崎三丁目 KITA 大淀中三丁目 Banzaicho 天勝臨三丁目 成育一丁目 古市一	OR 3
	海谷江八丁目 海谷江八丁目 FUKUSHIMA 日 日 日 日 日 日 日 日 日 日 日 日 日	

≡	Eco 2 truxure Machine Advisor	🔺 🋊 Feedback 🛛 Edge Box HMI - Demo 🍷 🙆 Paul Dem	byshire Schneider
FLEET	EDGE BOX DEMO - ORIGINAL TRACK AONITOR	Q. Global search	
Ø M	ANAGE DASHBOARD	Applications History Graph Values	Config Consumptions
MACH	INE: Edge Box Demo - Original		2
MON	ITOR CONFIGURATION	Help	5
Select Mo	de		

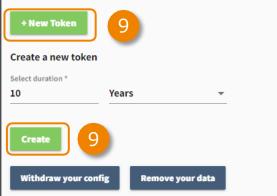
8. EcoStruxure Machine Advisor Configuration

EcoStruxure Machine Advisor Machine Connection

- 4. Select Mode: [Connect your machine]
- 5. Select Plan: Select your appropriate plan. For example, [Pay As You Go]
- 6. Select Gateway: [Custom]
- 7. Select Format: [Tango]
- 8. Select Transport: [HTTPs]

FLEET EDGE BOX DEM	D-ORIGINAL TRACK MONITOR					Q Global	search	
MANAGE DASHBOAR	D				Application	ons History Graph	Values Config	Consumption
MACHINE: Edge Box	c Demo - Original							
			Help					
Connect your machine	Curren 5 s You Go	per minute per month cost you 1 M.A.P. Minimum of 10 M.A.P.s per	MODICON M262	Configuration Steps	ETIC Configuration Steps	EWON Configuration Steps	Configuration Steps	
enerat 6 ation	r filet format Fango		with direct cloud communication			This document is under the responsibility of HMS Network	Node-RED Document	
rotocol:	HTTPsJSON)	Ō	моха	TITAN	SECOMEA			
ustom header 1: erver:	Content-Type;application/json https://cnm-ih-na.azure-devices.net/dev	Г Г	Configuration Steps	Configuration Steps	Getting started guide for Secomea			
connection string:		Ø			gateways			

9. Click [+New Token], leave the duration as default (10 years) and [Create] to create a new token.



10. Generate new token, check the "I confirm..." check box to generate a new token and click [Yes].

EcoStruxure Machine Advisor Machine Connection

- Copy the string in Server box and paste it on Notepad. 11.
- Copy the string in Token box and paste it on Notepad. 12.

Protocol:	HTTPS POST (JSON)	Ū
Custom header 1:	Content-Type;application/json	
Server:	https://enm ih na.azure devices.net/dev	11
Connection string:		0
+ New Token		
The last generated token is vali	c for 9 Years 11 Months 30 Days.	
Success!		×
You have successfully adde	c a new access token. Copy the token Now!	
Token:	••••••	12
	g - Make sure you copy the above token now. Not store it and you will not be able to see it again.	
it View Help	<u></u>	

BLUE Open Studio Project Settings

- 1. Launch a Web Browser on your PC and Go to https://curl.se/docs/caextract.html
- 2. Download the "cacert.pem" file.
- 3. Rename the file as "macha.pem".
- Copy "macha.pem" to the driver directory. For example for a default installation C:\Program Files (x86)\Pro-face\BLUE Open Studio 2020\Redist\IoTView\Linux\armgnueabihf-2.13-6.0.17\drv

BLUE Open Studio Project Settings

5. In BLUE Open Studio, {Project Explorer] -> [Comm] tab, right-click drivers and select [Add/Remove Drivers].

File Home Vie	ew Insert Proje	ject Help	
Cut Copy Paste Paste Copy Paste	Runtime Tasks X Debug		
Clipboard	Local Management	Remote Management	E.
Project Explorer	▼ ₽ ×		
 ✓ IProject: EdgeBoxI □ Drivers □ OPC D □ Ad > □ OPC UA □ TCP/IP 	HMI QuickStart.APP	5	

6. Locate the [DLL] called [MACHA] and click to select it, then click [Select >>].

Communicati	on Drivers		×
Available driv	ers:		
DLL	Description		Help
KOYO LAMIX LLINK LOPER	DirectLogic Koyo, CCM/ECOM protocol (DL240/DL250+H2-ENET)(CE) [v1.25] LAMIX - Display Lamix (CE) [v1.08] Communication driver for Enersafe LifeLink Device (CE) [v1.1] LOPER -Protocolo de comunicação CTB-100/QA-NEC/CELESC [v1.0]		
MACHA	MACHA - Machine Advisor [v1.4]		
Selected driv	MAISUSHITA - FF 1-CXX [LE][V1.0]	6	Select >>
DLL	ers: Description	0	>> Remove
•		ОК	Cancel

7. Click [OK] to close the [Communication Drivers] dialog.

Communicat	ion Drivers		×
Available dri	vers:		
DLL	Description		Help
KOYO LAMIX LLINK LOPER MATSU MBLAU	DirectLogic Koyo, CCM/ECOM protocol (DL240/DL250+H2-ENET)(CE) [v1.25] LAMIX - Display Lamix (CE) [v1.08] Communication driver for Enersafe LifeLink Device (CE) [v1.1] LOPER -Protocolo de comunicação CTB-100/QA-NEC/CELESC [v1.0] MATSUSHITA - FP1-Cxx (CE) [v1.8] MICROBLAU, TD3000 (CE) [2.00]	•	Select >>
DLL	Description		>> Remove
MACHA	MACHA - Machine Advisor [v1.4]	OK	Cancel

BLUE Open Studio Project Settings

8. Navigate to [Project Explorer] -> [Comm] tab -> [Drivers] -> [MACHA] -> [MAIN DRIVER SHEET]

File Home View Insert Proj	ect Help					
Paste O Find/Replace Clipboard		Convert Resolution	+ →a	C 🧟 Replace C 🥂 Remove un al ce 🕑 Reset tags		
Project Explorer 👻 🕂 🗙	WACHA - MAIN DRIVER SHEET ×					
	Description: MAN DRIVER SHEET Disable: Read Completed: Write Completed: Write Status:	Min: Max:				
	Tag Name Station		Action	Scan	Div	Add
	Silter text Silter text	🤍 Filter text 🔍 ((All) 🗸 🤇	🕹 (AII) 🛛 👻	🔍 Filter text	Silter text
	<u>*</u>			lways 👻		
	*			lways 👻		
	*			lways 👻		
	*			lways 👻		
	*	Read	d+Write 🗡 A	lways 👻		
f [®] Global 勐 Graphics 盲 Tasks 많 Comm						

9. Enter the [Tag Name] = My Data, [I/O Address] = I:200 and copy/paste the Station address from notepad into the [Station] field.

WACHA - MAIN DRIVER SHEET X	
Description:	
Disable:	
Read Completed: Read Status:	
Whe completed. Whe Status.	
Tag Name Station I/O Address Q Filter text Q Filter text Q Filter text	Action Scan Div Add
1 MyData https://cnm-ih-na.a zure-devices.net/devices	Read+Write Always
Notepad	\times
File Edit View Help	
https://cnm-ih-na.azure-devices.net/devices/urn%3Adev%3/ XXXX/messages/events?api-version=2016-11-14	Aops%3A000000-EMA-prod-XXXXXXXXXXXXXXXXXXXXXXXXXX
Authorization;SharedAccessSignature sr=cnm-ih-na.azure-d XXXXXXXXXXXXXXXXXXXXXXX&sig=XXXXXXXXXXXX	

BLUE Open Studio Project Settings

- 10. Right Click on [MACHA] and Select [Settings].
- 11. Set Prefix String: ANY, e.g. EdgeBoxHMIQuickStart
- 12. Select JSON Format: [Tango]
- 13. Click [Authentication]

Project Explorer 🔹	Ψ ×	
	rt.APP	
$\sim \square Drivers$	MACHA: ×	
	Serial Encapsulation:	
> OPC Settings	COM: COM1 Stop Bits: 1	
	Baud Rate: 9600 - Parity: None -	6
	Data Bit	11
	Thread ct 12 Prefix string: EdgeBoxHMIQuickStart	
	JSON format: Proxy:	1
	Tango 🗸	
	Advanced Authentication OK Cancel	
虎 Global 👍 Graphics 🔋 Tasks 器	Comm 13	

- 14. Copy URL and overwrite Station field.
- 15. Copy Token (after "Authorization;") and overwrite the Password field.

	16. Click [OK] Authentication ×
Г	Station Username Password https://cnm-ih-na.azure-devices.n
	14 15
	Notepad
	File Edit View Help https://cnm-ih-na.azure-devices.net/devices/urn%3Adev%3Aops%3A000000-EMA-prod-XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
	XXXX/messages/events?api-version=2016-11-14 Authorization:SharedAccessSignature sr=cnm-ih-na.azure-devices.net%2Furn%3Adev%3Aops%3A000000-EMA-prod- XXXXXXXXXXXXXXXXXXXXXXX&sig=XXXXXXXXXXXXXXX&se=XXXXXXXXXXXXXXXXXXXX

BLUE Open Studio Project Settings

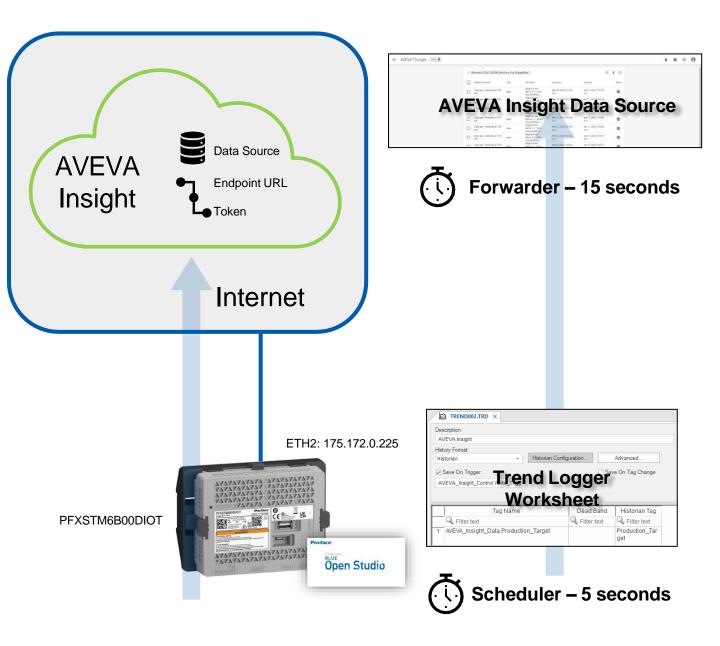
17. Click [OK] to close the MACHA driver settings.

Project Explorer 🔹	ф ×	
✓ IProject: EdgeBoxHMI QuickSta	rt.APP	
 Drivers MACHA 	S MACHA:	×
MAIN DRIVER SHEET	Serial Encapsulation: None	·
> 💼 OPC UA 💼 TCP/IP	COM: COM1	✓ Stop Bits: 1
	Baud Rate: 9600	▼ Parity: None ▼
	Data Bits: 8	Y
	Thread count:	Prefix string:
	1	EdgeBoxHMIQuickStart
	JSON format:	Proxy:
	Tango	·
	Advanced Authentie	Cancel
<i>f</i> [®] Global ₄ Graphics 盲 Tasks 🖁	Comm	17

18. Transfer both the Runtime (to include macha.pem) and Project files to the Edge Box HMI as shown in <u>Section 5</u>.

Overview

The Edge Box HMI can use a Trend Logger worksheet to communicate to an AVEVA Insight account. A Data source definition is required in AVEVA Insight. Trend Logger data is logged every 5 seconds. Accumulated data is forwarded to AVEVA Insight every 15 seconds.



AVEVA Insight Connection

To establish a connection to EcoStruxure Machine Advisor you will need the following:

- AVEVA Insight Account and Solution
- AVEVA Insight Data Source
- Upload Endpoint
- Authentication Token

1. SIGN-IN to AVEVA Insight (<u>https://insight.connect.aveva.com</u>) and create a solution.

2. Navigate to AVEVA Insight Suite -> [Administration]

Col	0
AVEVA Insight	Administration
	AVEVA Insight

3. Navigate to [Data Sources]



4. Click [+] icon and select [CSV/JSON]

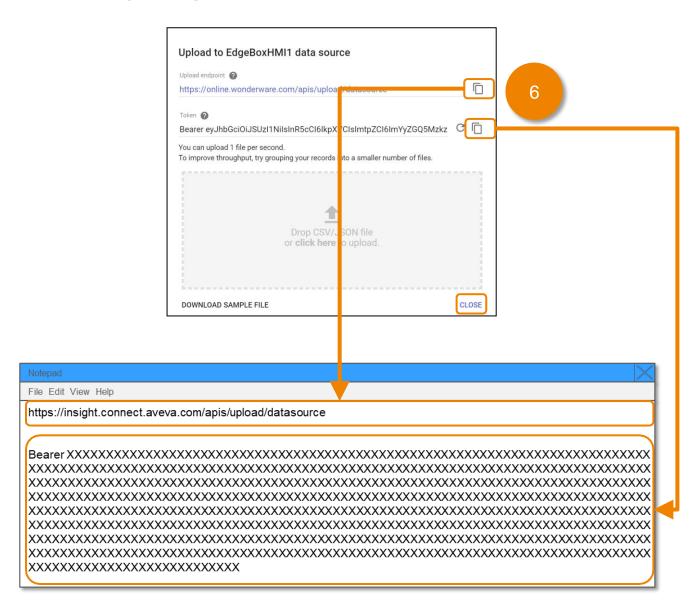
■ AVEVA TM Insight (TRIAL)								4		0	ш	Θ
	Data Sources					+	9 C		/			
	Name 个	External Connector	Created From	History	Last Update		CSV/JSON	8				

5. Enter Name, Location Name, etc. and click [OK]

Nam	d CSV/JSON Data Source	
Ē:	Location	
ſ	Select a location or type a new one	
l	Japan	*
0	If you define a new default location, it will be created when the first new tag using this defa Geolocation Coordinates	ult is created.
	CANCEL	ок

AVEVA Insight Connection

6. Copy the text in "Upload endpoint" field and "Token" field and paste them into Notepad, then click [CLOSE]



BLUE Open Studio Project Settings

- 1. [Project Explorer] -> [Tasks] Tab
- 2. Right-Click Scheduler -> Click [Insert]

File Home Vie	w Insert Projec	t Help	
Paste Clipboard	Runtime Tasks Debug • Local Management	Connect Download Run Stop Remote Ma	Runtime Watch LogWin Tasks
Project Explorer	▼ ₽ ×		
 Project: EdgeBoxH Alarms Trend Logger Recipes Reports Math Script Scheduler Database 	All QuickStart.APP 2 nsert		
f [®] Global	Tasks 88 Comm		

- 3. In the first row [Time] Field enter 00:00:05
- 4. In the first row [Tag [Field enter "TrendLoggerTrigger" if prompted to create a new tag click [Yes], then click [OK].
- 5. In the [Expression] field enter "Toggle(TrendLoggerTrigger)".

Ē.	SCHED001.5	СН	×					
[)escription:							
L								
Г	Event		Trigger	Time	Date	Tag	Expression	Disable
	🔍 (All)	¥	🔍 Filter te	🔍 Filter te	🔍 Filter text	Section 10 Filter text	🔍 Filter text	🔍 Filter text
1	Clock	¥		00:00:05		TrendLoggerTrigger	Toggle(TrendLoggerTrigger)	
1	Clock	¥						
1	Clock	¥						
1	Clock	¥		3		4	5	
	Clock	¥						
	Clock	۷						

6. Save the worksheet. If prompted, enter "1" as the [Sheet number]

BLUE Open Studio Project Settings

- 7. Close the [SCHED001.SCH] worksheet
- 8. Right-Click Trend Logger -> Click [Insert]

File Home Vie	w Insert	Project	Help			
Paste X Cut Copy Pind/Replace Clipboard	E S	ebug 🔻	Connect	 ↓ Download ▶ Run ■ Stop Remote Mate 	Runtime Watch Tasks	LogWin
Project Explorer		а× APP	8)		

- 9. Change the [History Format] to [Historian].
- 10. Click [Historian Configuration]

	TREND001.TRD ×		
	Description:		
	History Format:		
9	Historian 👻	Historian Configuration	Advanced
	i Save On Trigger: Second	10	ave On Tag Change
	Tag Name	Deau pand	Historian Tag
	Silter text	🔍 Filter text	🔍 Filter text
	*		
	*		
	*		
	*		

BLUE Open Studio Pro	ject Settings
----------------------	---------------

- 11. Set the [Connection Type] to [AVEVA Insight (CSV/JSON)]
- 12. Copy the Endpoint URL from notepad and paste overwriting the [Upload Endpoint]
- 13. Copy the Token from notepad and paste overwriting the [Authentication Token]

14. Click [OK] to accept the historian settings.

2 Connection Settings Upted E-dp https://insight.connect.aveva.com/apis/upload/datasource Authentication Token: Bearer eyJhbGciOiJSUzI INIISINR 5cCI6ikpXvCIsImtpZCI6Itr Max Forward Period: 15 seconds Database Settings Prefix: Run-time Status: Run-time Status: Run-time Itel Size: 1024 KB Max Files: 5 Itel Size: 1024 K		Historian
2 Connection Type: AVEVA Insight (CSV/JSON) Upload Ender Nttps://insight.connect.aveva.com/apis/upload/datasource Authentication Token: Bearer ey.JhbGciOIJSUzI INIIsInR ScCI6IkpXVCIsImtpZCI6Ir Max Forward Period: 15 seconds Database Settings Prefix: Run-time Status: Reload: Local Storage Limits Max File Size: 1024 KB Max Files: 5 4 OK Cancel Ite Edit View Help		Connection Settings
2 Authentication Token: Bearer eyJhbGciOJSUzI INISINR ScCI6IkpXVCIsImtpZCI6Irr Max Forward Period: 15 seconds Database Settings Prefix: Run-time Status: Reload: Local Storage Limits Max File Size: 1024 KB Max Files: 5 4 OK Cancel File Edit View Help		
2 Max Forward Period: 15 seconds Database Settings Prefix: Run-time Status: Reload: Local Storage Limits Max File Size: 1024 KB Max Files: 5 0K Cancel Votepad Tile Edit View Help		Uplead Endport https://insight.connect.aveva.com/apis/upload/datasource
2 Database Settings Prefix: Runtime Status: Reload: Local Storage Limits Max File Size: 1024 KB Max Files: 5 14 OK Cancel Status: Noteed The Edit View Help		Authentication Token: Bearer eyJhbGciOiJSUzI1NIIsInR5cCI6IkpXVCIsImtpZCI6Irr
2 Prefix: Prefix: Runtime Status: Reload: Local Storage Limits Max File Size: 1024 KB Max Files: 5 4 OK Cancel The Edit View Help		Max Forward Period: 15 seconds
2 Run-time Status: Reload: Local Storage Limits Max File Size: 1024 KB Max Files: 5 14 OK Cancel Notepad Site Edit View Help		Database Settings
2 Status: Reload: Local Storage Limits Max File Size: 1024 KB Max Files: 5 0K Cancel Votepad File Edit View Help		Prefix:
Status: Reload: Local Storage Limits Max File Size: Max File Size: 1024 Kotepad		Run-time
Max File Size: 1024 KB Max Files: 5 14 OK Cancel Notepad File Edit View Help	13	Status: Reload:
Intered Vile Edit View Help		Local Storage Limits
Notepad File Edit View Help		Max File Size: 1024 KB Max Files: 5
Notepad File Edit View Help		OK Cancel
ile Edit View Help		
https://insight.connect.aveva.com/apis/upload/datasource		w Help
		ght.connect.aveva.com/apis/upload/datasource
Searer XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		

^^^^^^^^^^^		

BLUE Open Studio Project Settings

- 15. Set the [Description] to "AVEVA Insight"
- 16. Replace [Second] with [TrendLoggerTrigger]
- 17. Set the first row [Tag Name] to [MyData]
- 18. Set the first row [Historian Tag] to [MyData]

TREND001.TRD ×				
Description: AVEVA Insight History Format:	15			1
Historian 👻	Historian Confi	guration	Advanced	
Save On Trigger:	16] Save On Tag Change	
Tag Name		Dead Band	d Historian Tag	
Filter text		🔍 Filter text	🔍 Filter text	
1 MyData			MyData	
* * * *			18	

19. Save the [Trend Logger] worksheet, if prompted set the [Sheet number] to 1.

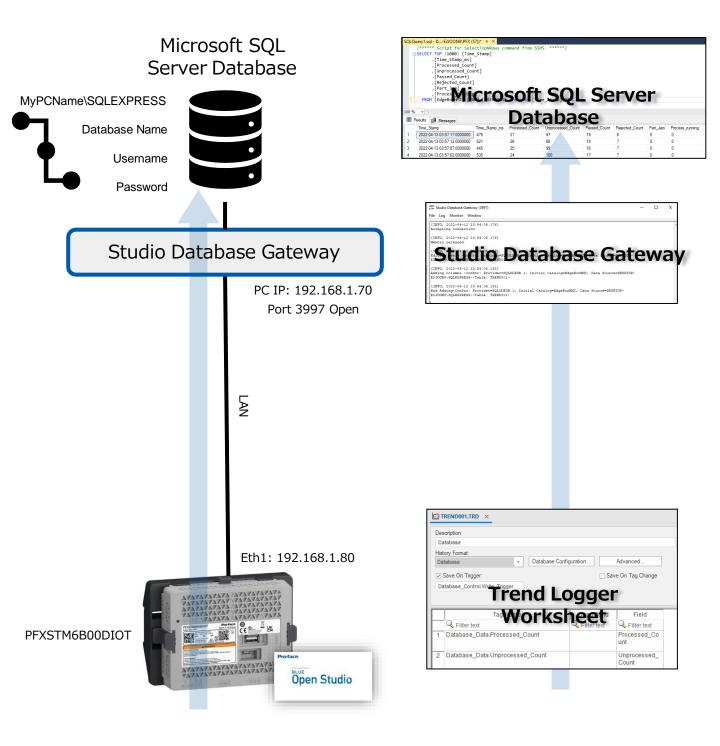
Save As	×
Sheet number:	
ОК	Cancel

20. Transfer the project files to the Edge Box HMI as shown in Section 5.

10. Database Configuration

Overview

The Edge Box HMI can use a Trend Logger worksheet to log data to a Microsoft SQL Server Database. Trend Logger data is logged every 1 seconds. Each time the trend logger sheet is triggered data is sent via the Studio Database Gateway which contains the communication driver for Microsoft SQL Server. The Studio Database Gateway establishes a connection to the database on behalf of the Edge Box HMI and logs the data to a table called TREND002.



Overview

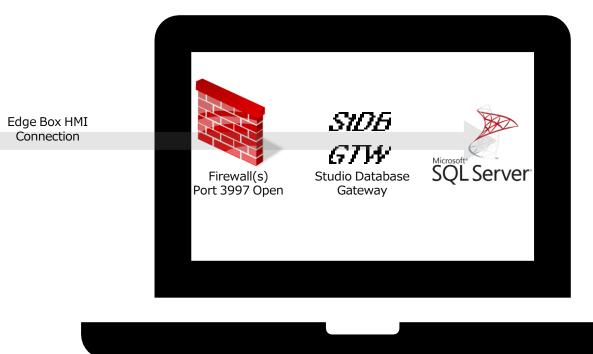
A simple configuration would have both the SQL Server instance and the Studio Database Gateway installed on the same Windows PC. The PC is configured with an IP Address of 192.168.1.70

For example, SQL Server 2019 installed on a Windows 10 PC with the following:

- Path to SQL Server = PCNAME\SQLEXPRESS
- Database name = EdgeBoxHMI
- Mixed mode authentication with a local user account as db_Owner for the EdgeBoxHMI database and login rights
 - Username = EdgeBoxHMI
 - Password = !Proface1234

On the same PC as SQL Server the Studio Database gateway is installed and running on port 3997.

PC Firewall(s) open for port 3997 for access to the Studio Database Gateway.



PC IP: 192.168.1.70

Create a SQL Database

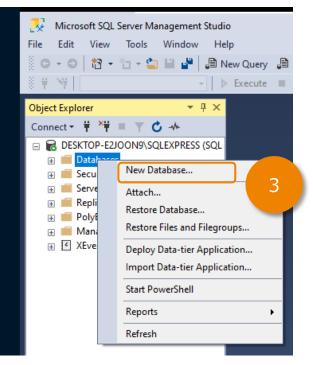
This procedure assumes there is not an existing database for use with the project.

This database setup is for demonstration purposes only. Please ensure the appropriate security measures are taken before deploying any database in a production environment.

- 1. Start [Microsoft SQL Management Studio]
- 2. If you followed the previous section's instructions and the current Windows user account is an administrator for SQL, leave the [Connect to Server] dialog settings as default and click [Connect]. If not, enter the correct Server name and Authentication details.

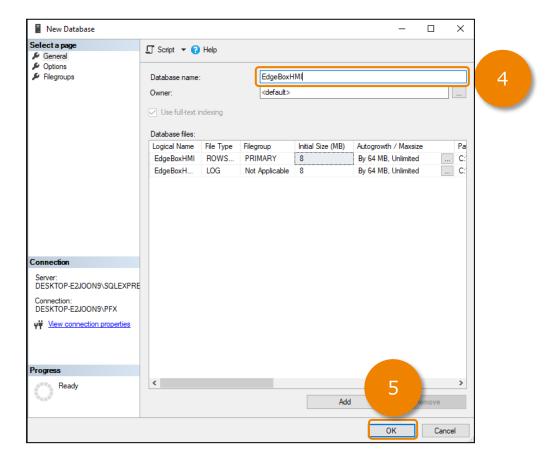
Connect to Server		×
	SQL Server	
Server type:	Database Engine	~
Server name:	DESKTOP-E2JOON9\SQLEXPRESS	\sim
Authentication:	Windows Authentication	~
User name:	DESKTOP-E2JOON9\PFX	\sim
Password:	2 Remember password	
	Connect Cancel Help Option	IS >>

3. [Object Explorer] -> [Databases] right-click [Databases] and click [New Database...].

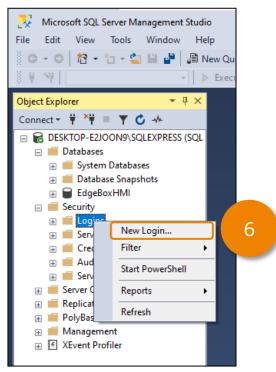


Create a SQL Database

- 4. Enter the Database name as "EdgeBoxHMI"
- 5. Click [OK]



6. [Object Explorer] -> [Security] -> [Logins] right-click [Logins], click [New Login...]



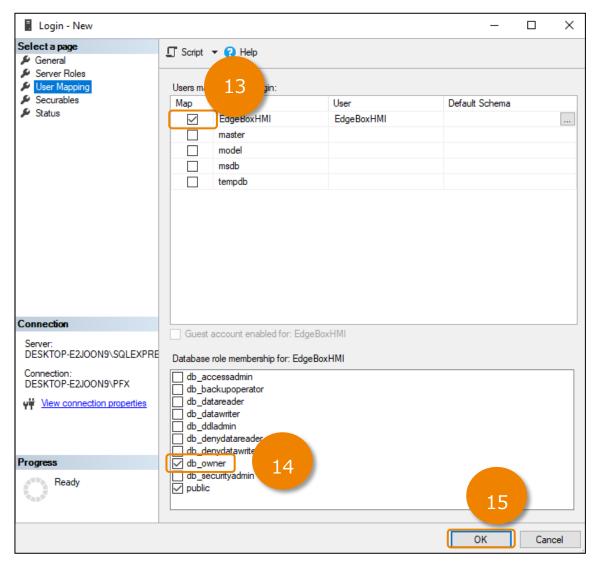
Create a SQL Database

- 7. Enter a Login Name: EdgeBoxHMI
- 8. Select [SQL Server Authentication]
- 9. Enter a password and confirm the password: !SE1234
- 10. Uncheck [Enforce password policy]
- 11. Change the [Default Database] to [EdgeBoxHMI]
- 12. Select the [User Mapping] page.

Select a page			
👂 General	🖵 Script 🔻 😮 Help		
 Server Roles User Mapping 	Login name:	EdgeBoxHMI	
✤ Securables		Lugebox INI	
🏓 Status	 Windows authentication SQL Server authentication 	r	
8	Password:	J	
	1	•••••	
	Confirm password:	•••••	
	Specify old password		
	Old password:		
	Enforce password policy	10	
	Enforce password expira		
	User must change pass	word at next login	
	Mapped to certificate		~
	 Mapped to asymmetric key 		~
Connection	Map to Credential		~
Server:	Mapped Credentials	Credential Provider	
DESKTOP-E2JOON9\SQLEXPR		Provide Contraction of Contraction o	
Connection:			
DESKTOP-E2JOON9\PFX			
View connection properties			
Deserves			
Progress		EdgeBoxHMI	~
Ready	Default database:	EddeboxHivii	
Contract Man	Default database: Default language:	<default></default>	

Create a SQL Database

- 13. Check [Map] for the [EdgeBoxHMI] database
- 14. Check [db_owner]
- 15. Click [OK]



Studio Database Gateway Installation

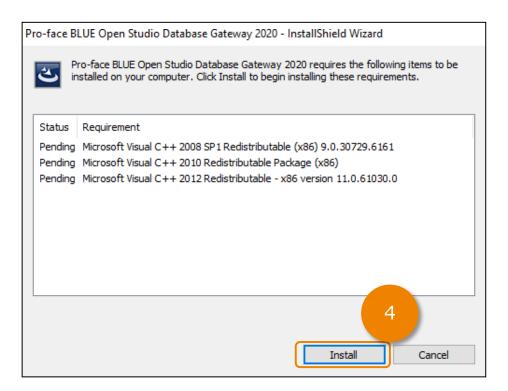
To allow the HMI runtime running on the Edge Box HMI to communicate with SQL Server the Studio Database Gateway needs to be installed on a Windows PC on the same network as the Microsoft SQL Server. For an easy demonstration configuration, install the Studio Database Gateway on the same Windows PC as the Microsoft SQL Server Database.

If BLUE Open Studio is already installed on the Windows PC, the Studio Database Gateway is already installed in the BLUE Open Studio BIN directory. The default path would be:

C:\Program Files (x86)\Pro-face\BLUE Open Studio 2020\Bin\DatabaseGateway\StADOSvr.exe

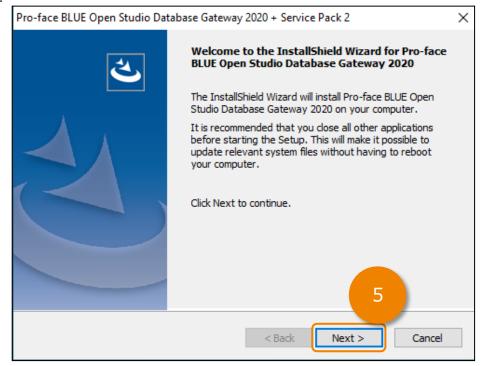
Skip to **STEP 11** if BLUE Open Studio is already installed. Otherwise install the Studio Database gateway by starting at **STEP 1**.

- 1. If not already installed on the Microsoft SQL Server Windows PC, install .NET Framework 3.5 via [Turn Windows features on or off].
- On the BLUE Open Studio development PC copy the [GatewaySteup.exe] from C:\Program Files (x86)\Pro-face\BLUE Open Studio 2020\Redist\DatabaseGateway\GatewaySetup.exe to the Windows PC that has Microsoft SQL Server installed.
- 3. Run the GatewaySetup.exe
- 4. If prompted to install redistributables, click [Install]

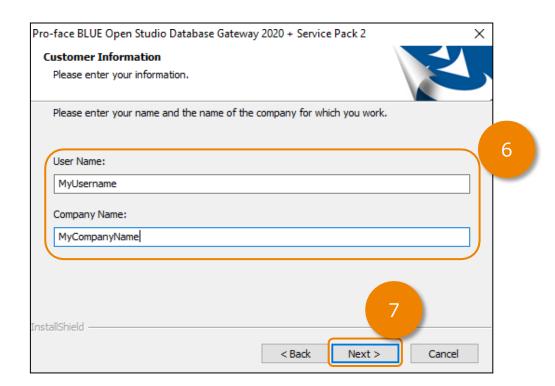


Studio Database Gateway Installation

5. Click [Next].

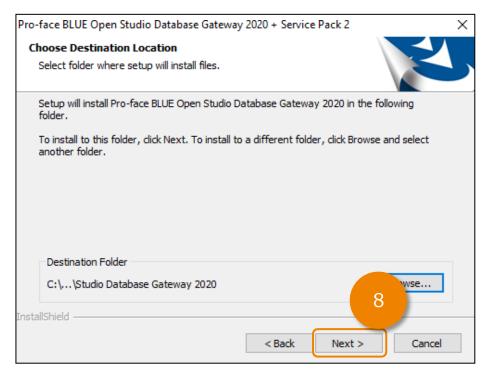


- 6. Enter a [User Name] and [Company Name]
- 7. Click [Next]

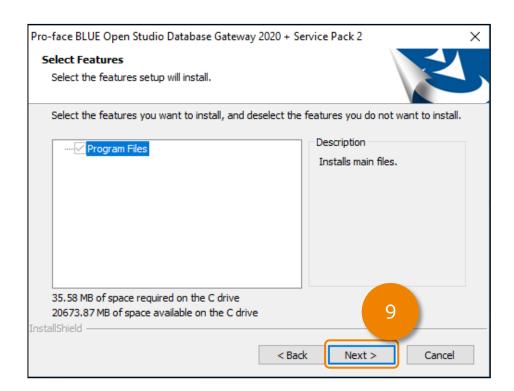


Studio Database Gateway Installation

8. Click [Next].



9. Click [Next]



Studio Database G	ateway Installation
10. Click [Install].	
	Pro-face BLUE Open Studio Database Gateway 2020 + Service Pack 2
	Ready to Install the Program
	The wizard is ready to begin installation.
	Click Install to begin the installation.
	If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
	10
1	InstallShield

- 11. Create a firewall exception for the Studio Database gateway which uses port 3997. For example configure Microsoft Windows Defender Firewall and any other security software that would block communication.
- 12. Set the IP Address of the Windows PC that is running the Studio Database Gateway to 192.168.1.70

Internet Protocol Version 4 (TCP/IPv4	l) Properties X					
General						
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.						
Obtain an IP address automatica	ally					
• Use the following IP address:						
IP address:	192.168.1.70					
Subnet mask:	255.255.255.0					
Default gateway:						
Obtain DNS server address auto	Obtain DNS server address automatically					
Use the following DNS server ad	Use the following DNS server addresses:					
Preferred DNS server:						
Alternate DNS server:						
Validate settings upon exit Advanced						
	OK Cancel					

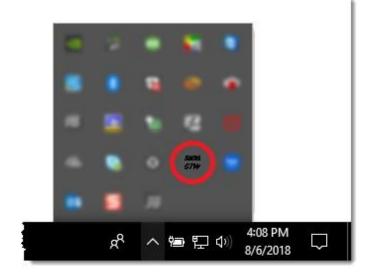
Studio Database Gateway Installation

13. Start the Studio Database Gateway Manually or set the program to autostart on Windows log in using a shortcut in the startup folder, task scheduler, registry or other method to auto start a program in Windows.

To manually start the Studio Database Gateway on a Windows PC without BLUE Open Studio installed, execute: C:\Program Files (x86)\Studio Database Gateway 2020\StADOSvr.exe

To manually start the Studio Database Gateway on a Windows PC with BLUE Open Studio installed, execute: C:\Program Files (x86)\Pro-face\BLUE Open Studio 2020\Bin\DatabaseGateway\StADOSvr.exe

14. Confirm the Studio Database Gateway is running by checking for the Icon in the notification area of the taskbar.



BLUE Open Studio Project Settings

- 1. [Project] menu -> [Options]
- 2. Click [Default Database]

File Home View Insert Project Target System (BLUE Open Information Options of Studio Basic) +	Preferences E-Mail/FTP Service ngs 5
Project Explorer	Project Settings × Information Options Viewer Communication Preferences ↓ ▷ Configure the default database, alarm/event settings, and target system Target system Embedded BLUE Open Studio Basic • Resolution: 1920x1080 BLUE Open Studio Basic for Linux (500 tags)
দি Global ঊ Graphics া Tasks হয় Comm Watch	Alarm History and Events History Format: Proprietary Alarm Database Understand Stress S
Tag/Expression Value C Id Id Id Id Id Id Id Id	OK Cancel

3. Click [...]

Default Database Cor	nfiguration		×	<
Settings Database: Prima Connection string: User name: Password:	y *			3
Retry Interval:	120 ОК	Secs.	Advanced	

4. Select [Microsoft OLE DB Provider for SQL Server] and click [Next]

Microsoft SQL Server Management Studio

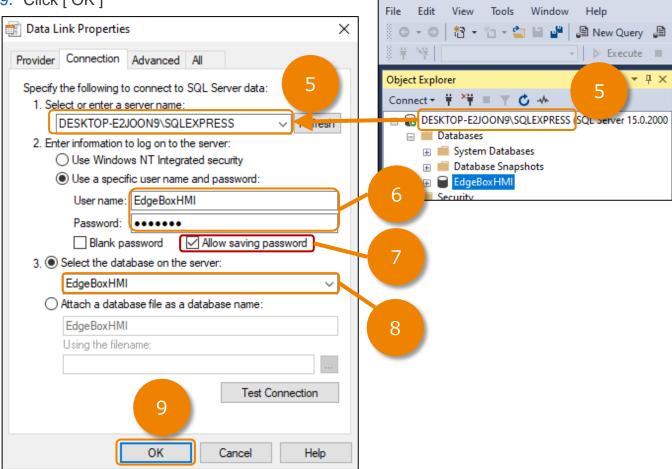
10. Database



- 5. Enter the server name so that it matches the SQL server instance name.
- Enter the user name and password if different (user name = EdgeBoxHMI, password = !SE1234)

14

- 7. Check [Allow saving password]
- 8. Enter the database if different (EdgeBoxHMI)
- 9. Click [OK]



10. Click [Advanced]

11. Enter the Database Gateway Host and Port if different (Host = 192.168.1.70, Port = 3997)

BLUE Open Stu	dio Project Settings	
14. Click [OK]	File Home View Insert Project	mmunication Viewer Preferences E-Mail/FTP Service Configure Log Access On level
	Project Explorer 👻 🖛 🗙	Project Settings ×
	Project: EdgeBoxHMI QuickStart.APP Alarms Trend Logger Recipes Reports	Information Options Viewer Communication Preferences 4 b
	Math Script	Target system Embedded BLUE Open Studio Basic Resolution: 1920x1080
	> 💼 Scheduler > 💼 Database/ERP	BLUE Open Studio Basic for Linux (500 tags)
		History Format: Proprietary History Life Time (days): 0 Custom Fields Alarm Database Custom Fields Alarm: 0 Event Database Custom Fields Event: 0 Event: 0 Custom Fields Event: 0 Event: 0 Custom Fields Event: 0 Custom Fields Custom Fields Event: 0 Custom Fields Custom Fields Custom Fields Custom
		Default Database Performance Control Data Protection
	ft Global Ⅰ Graphics 🗎 Tasks 🖁 Comm	
	Watch Tag/Expression Value Q	14 ОК Салсе!
	H + H DB1 DB2 DB3 DB4 Locals St	tack Frame Tasks: (

15. [Project Explorer] -> [Tasks] Tab

16. Right-Click [Trend Logger] -> Click [Insert]

File Home View Inse	ert Project
Target System (BLUE Open Informatio Studio Basic) +	
Due is at Fundament	Settir
Project Explorer	▼ Ŧ ×
Project: EdgeBoxHMI Quicks Alarms	Start.APP
> 🛑 Trend Logge	
Recipes	16
Reports	10
Math	
> Scheduler	
> Database/ERP	
	15
	13
🔊 🛱 Global 🛛 Graphics 📋 Tasks	Comm

BLUE Open Studio Project Settings

17. Change the [History Format] to [Database].

18. Click [Database Configuration]

	TREND002.TRD ×	
	Description:	
17	History Format: Database	Save On Tag Change
	Second	
	Tag Name	Dead Band Field
	Sector Contraction of the sector of the sect	Silter text
	*	
	*	
	*	
	*	
	*	

- 19. Confirm the Database setting are correct.
- 20. Leave [Table] Settings as default
- 21. Click [OK]

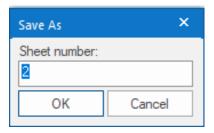
	Database Configuration ×					
10	Settings					
19	Database: Primary 👻					
	☑ Use project default					
	Connection string: Provider=SQLOLEDB.1; Initial Catalog=					
	User name: EdgeBoxHMI					
	Password:					
	Retry Interval: 120 Secs. Advanced					
20	Table Use default name Automatically create Name: TREND002					
	Run-Time					
	Status: Reload:					
	OK Cancel					

BLUE Open Studio Project Settings

- 22. Set the [Description] to "Database".
- 23. Enter "MyData2" into the first row [Tag Name] column. If prompted to create the tag select [Yes] and [OK]
- 24. Enter "MyData" into the first row [Field] column.

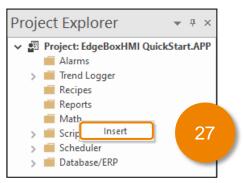
Description: Database				
History Format:				
Database	- Data	base Configuration		Advanced
Second				
-				
	Name	Dead E		Field
Silter text	Name	Dead E	ext	🔍 Filter text
	Name		ext	Field Silter text MyData

25. Save the Trend Logger worksheet. If prompted, enter 2 as the [Sheet number].



26. Close the [TREND002.TRD] tab.

27. In the [Project Explorer], Right-Click [Math] and Click [Insert]



BLUE Open Studio Project Settings

- 28. In [Execution] enter "1"
- 29. Enter "MyData2" into the first row [Tag Name] column.
- 30. Enter "MyData" into the first row [Expression] column.

	> MATH001.MAT [Language: Built-in] × Description:	
28	Execution:	
	Tag Name	Expression Q Filter text
	1 MyData2	MyData 30

31. Save the Math worksheet. If prompted, enter 1 as the [Sheet number].

Save As	×
Sheet number:	
1	
ОК	Cancel

32. Close the [MATH001.MAT] tab.

33. Transfer the project files to the Edge Box HMI as shown in Section 5.

11. Pro-face Connect Configuration

When using a PC or tablet to display and operate HMI products installed in remote locations, it is necessary to build a system that prevents unauthorized access by external entities. By installing Pro-face Connect (sold separately), you can build a secure remote access system.

Pro-face Connect consists of our products on the work site (SiteManager), computers or tablets in the office (LinkManager), and a server to connect them (GateManager).

This section describes how to set up SiteManager.

How to set up

- 1. Log in to [Hardware Configuration].
- 2. Open [SITEMANAGER] tab and select [Enable Remote Management] check box.
- 3. Enter IP address of GateManager you want to access and the password (token) to connect to GateManager. This information can be found at the bottom of GateManager X.509 certificate emailed to you from GateManager.

ardware Configura	ition						С B
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Enable Remote Man	agement						
SiteManager Embed	Ided Version v614	1_62109603	32 (arm)				
GateManager Addre	255						
Domain Token							
Appliance Name							
Proxy Address							
Proxy User							
,							
Proxy Password							
i i oxy i assword							
Factory Reset	9	Submit					

- 4. In Appliance Name, enter the name of the target device (the name of SiteManager). The name set here is displayed on GateManager.
- 5. If required, enter the proxy server IP address, account name and password. For proxy server information, consult your network administrator.
- 6. Click [Submit].
- 7. Click [Reboot] icon in the top-right corner of the screen. The product is restarted.

NOTE:

For more information about Pro-face Connect, refer to our website. https://www.pro-face.com

When you delete the registered SiteManager from GateManager, you need to initialize SiteManager and reassign the license. Click [Reset to Default] and request the GateManager administrator to reassign the license. (You cannot use the same license. Reissuing a license will take 24 hours.)