STM6000 Edge Box HMI Demo Setup Guide – All-in-one





by Schneider Electric

www.pro-face.com

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Preface

(1) About this quick start guide

This Edge Box HMI Demo Setup Guide is intended for individuals using the Edge Box HMI and its software for demonstration purposes and not for a production environment. This publication will help you quickly configure hardware, software and cloud services.





Preface

(2) Building a development environment

Prepare the following environment.



(A) BLUE Open Studio

BLUE Open Studio is a development and runtime software that incorporates all the tools users need to create SCADA HMI applications, dashboards and OEE interfaces.

(B) Transfer Cable

Two ways of transferring project files



USB Cable (Type A – Micro-B)

Use an optional USB transfer cable or commercial USB cable (Type A to Micro-B) for transfer.



Use LAN cable (Ethernet cable) for transfer.

(C) Pro-face Edge PFXSTM6B00DIOT

LAN Cable

Please visit https://www.pro-face.com for more information on the Pro-face Edge Box HMI.



Pro-face Edge Box HMI PFXSTM6B00DIOT

Preface

(3) How to get BLUE Open Studio

To create HMI Screen for the Edge Box HMI, the version of BLUE Open Studio needs to be V2020 SP2 or later.



You can download BLUE Open Studio Installer from the following link. <u>https://www.proface.com/en/service#/page/installer/bos</u>

You can use the software without a license in Evaluation Mode for 40 hours. After the evaluation period ends, the program automatically converts into Demo Mode until you apply a valid license. You cannot reactivate the Evaluation Mode even if you reinstall the software on your computer.

Please access the activation page to check how to activate BLUE Open Studio.

2. STM6000 Edge Box HMI Demo Overview

The STM6000 Edge Box HMI Demo – All-in-one demonstrates pushing data from internal tags or external devices to the cloud and a local database. EcoStruxure Machine Advisor and AVEVA Insight are used for the cloud. Microsoft SQL Server is used for the local database. Although a PLC or other device can supply data, for demonstration purposes data is internally generated.



Edge Box HMI – Demo Setup Guide – All-in-one

The STM6000 Edge Box HMI cannot be used with an integrated display. However, you can view screens and more within a web browser using Mobile Access. Mobile Access can be used via one of the two possible IP addresses of the Edge Box HMI. For secure remote viewing utilise Pro-face Connect + the local IP.



The demonstration project has two user accounts:

- Guest, password = (blank)
- Admin, password = Admin



3. Hardware Configuration



The STM6000 Edge Box HMI will have two connections for demonstration purposes:

- ETH1 is primarily for the Operational Technology layer (OT) and is potentially connected to OT devices. For an easy demonstration experience a database service can also be connected to this layer. No internet connectivity on this port.
- ETH2 is primarily for the Internet Technology layer (IT) and is potentially connected to the internet via a router, Local Area Network (LAN) or other edge/IT devices. Connections to cloud services, databases and other services can be done from this port.

- Connect a USB transfer cable (micro-B) to Edge Box HMI. or Connect to the same network as PC (development environment) using ETH1 port of Edge Box HMI.
- 2. Turn on STM6000 Edge Box HMI. The status LED flashes orange.



3. Set IP address of your computer as follows: IP address: 192.168.1.60, Subnet Mask: 255.255.255.0

Internet Protocol Version 4 (TCP/IPv4)	Properties	×
General		
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings.	natically if your network supports ask your network administrator	
Obtain an IP address automatical	ly	
• Use the following IP address:		
IP address:	192.168.1.60	
Subnet mask:	255.255.255.0	
Default gateway:		
Obtain DNS server address autom	natically	
• Use the following DNS server add	resses:	
Preferred DNS server:		
Alternate DNS server:		
Ualidate settings upon exit	Advanced	
	OK Cancel	

 Open a web browser on your PC, and in the address bar enter the IP address of Edge Box HMI. (Ethernet) <u>https://192.168.1.80</u> (USB) <u>https://169.254.100.100</u>

The message "Your connection is not private" is displayed. To continue, click Advanced and then click Proceed to *** (*** is the IP address).

 Hardware Configuration screen is displayed. 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 Schweider Tecore	
Hardware Configuration Version 10	Password is not set User Name Admins Create Password Enter Password Confirm Password Submit
© 2021 Schneider Electric Japan Holdings Ltd. All Rights Reserved.	Pro-face by Schwalder Director

The password	must meet the following requirements:	
Number of characters	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): ! # - =	
Note: If you forge restore the produ support. All user	et the password, note that you will not be able to reset it. To ict to its original state (at time of purchase), contact custon data in the product will be lost.	o ner

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

Login	
Admins	
•••••	\diamond
Login	

Hardware Configurat	ion						ى ك			
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM			
System Status										
Status	Runtime does not exist. Or, Waiting for download. Please download runtime.									
System Version	1.0.11	1.0.11								
Runtime Version										
Project File										
Ethernet 1										
IP Mode	Manual									
IP Address	192.168.1.80	255.255.25	5.0							
MACAddress	00:80:F4:A2:2D	:41								
Ethernet 2										
IP Mode	Disabled									
IP Address	0.0.0.0 0.0.0.0)								
MACAddress	00:80:F4:A2:2D	:42								

- 6. Click [ETHERNET] to display the Ethernet Settings.
- 7. Click [Ethernet 2] to display ethernet port 2 settings.

FORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
hernet 1 Ethe	^{rnet 2} 7						
IP Mode* Disabled		-					
IP Address			Subnet	Mask			
192.168.2.80			255.2	55.255.0			
Default Gateway							
MAC Address							
00:80:F4:A2:2D	:42						

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

ardware Configura	tion						
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Ethernet 1 Ethe	rnet 2						
IP Mode * Automatic		7	8				
IP Address			Subnet	Mask			
192.168.2.80			255.2	255.255.0			
Default Gateway							
MAC Address 00:80:F4:A2:2D	42						
Submit	9						

9. 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.



10. Click [DOWNLOAD].

Hardware Configura	tion						
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SMANAGER	SECURITY	SYSTEM
Enable Project File D (1) If the download Submit	Download is enabled, the 12	11 mauth	orized acces	s and infection of	10 malicious software incre	ases. Disable dov	vnload after use

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

Reb	oot Required	
i	Changes will take effect after reboot	

14. Click [SYSTEM]

Hardware Configuration									
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM		
Enable Project File [Download 🔽							1	
 If the download 	d is enabled, the ri	sk of unauth	orized acce	ss and infection of m	nalicious software incre	eases. Disable dow	nload after use		
Submit									

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

FORMATION ETHERNET ate and Time Firmware Update Date 2022-04-12 Time 05:56:00 PM	COM US	SB D Backup 15	OWNLOAD	SITEMANAGER	SECURITY	SYSTEM
ate and Time Firmware Update Date 2022-04-12 Time 05:56:00 PM	Factory Reset	Backup	and Restore Co	onfiguration		
Date 2022-04-12 Time 05:56:00 PM		15				
Time 05:56:00 PM						
		15				
Time-zone (UTC-04:00) Canada/Eastern	Ŧ	15				
Synchronized with NTP Server						

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



18. Click the [Reboot] icon (at the top right of the web page.

	ڻ ج
SYSTEM	18
pad after use	

19. Click [Yes] in the Reboot dialog.

Reboot	
Are you sure you want to reboot?	19 Yes Cancel

20. 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	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
System Status							
Status	Runtime does r	ot exist. Or,	Waiting fo	r download. Please c	Iownload runtime.		
System Version	1.0.11						
Runtime Version							
Project File							
Ethernet 1							
IP Mode	Manual						
IP Address	192.168.1.80	255.255.25	5.0				
MACAddress	00:80:F4:A2:20):41		20			
Ethernet 2							
IP Mode	Automatic						
IP Address	175.172.0.225	255.255.2	55.0				

Hardware Configura	tion						
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Enable Project File D (1) If the download Submit	ownload 🗹	20 ath	orized acce	ess and infection of n	nalicious software incre	ases. Disable dov	vnload after use

ardware Configura	ation						
INFORMATION	ETHERNET	СОМ	USB	DOWNLOAD	SITEMANAGER	SECURITY	SYSTEM
Date and Time	Firmware Update	Factory R	eset Bac	kup and Restore C	onfiguration		
Date			\				
2022-04-12							
Time							
05:56:00 PM		Ŀ	20				
Time-zone							
(UTC-04:00) C	anada/Eastern	*) —				
Synchronized wit	h NTP Server						
NTP Server							
Submit							

4. EcoStruxure Machine[™] Advisor Configuration

Overview

The STM6000 Edge Box HMI Demo – All-in-one uses the MACHA driver to communicate to an EcoStruxure Machine Advisor account. A machine definition created within EcoStruxure Machine Advisor is required. Data will be sent to the machine definition every 5 seconds securely using HTTPS. Normally the driver will only send data when a tag changes value. For tags to be written periodically the ForceTagChange() built-in function is used to update the tag's timestamp and value every 5 seconds based on the scheduler. Changing the timestamp triggers the MACHA worksheet to send the value even if the value has not actually changed. All data in the demo is internally generated using one or more math worksheets.



EcoStruxure[™] Machine Advisor Machine Connection

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

- EcoStruxureTM Machine Advisor Account
- Purchaser Configured in Organisation settings.
- Registered Machine
- Server Address
- Token
- 1. Sign in to EcoStruxureTM 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].

FLEE	T OVERVI	IEW			MY MACHINE TY	PES REGISTER MACHINE
Filter b	y:		Offline only	U Warning only	Filter by type	CLEAR ALL
Total mach	ines: 1					
Q Sear	ch location	Comepbox yobogay		大東町三丁目	今市 + Q Search	machine
1 Machines	Japan 大阪市	三津屋中三丁目 WARD 十三元今里一丁目	大短周期期	中宫一丁目		Edge Box Demo - Original Type: Production Customer: HMI Sales Organization: Edge Box HMI - Demo
		爆本二丁目 中津七	Nakatsu 2 Chome KITA	内代町四丁目	TRACK	MONITOR
		.WA 大淀中三丁	中崎三丁目 Banzaicho 天満橋三丁	目成育一丁	e 5 ^{th-}	3
		周老江八丁目	与力町	中央一丁東野田町三丁目		
		FUKUSHIMA	0.Qa 天満-	城見一丁目	天王田	

=	Eco <i>g</i> truxure Machine Advisor		*	🔶 Feedba	ck Edge Bo	x HMI - Demo		Paul Der	byshire	Schneider
FLEET	EDGE BOX DEMO - ORIGINAL TRACK IONITOR						Q Global s	earch		
(¢)	MANAGE DASHBOARD				Applications	History	Graph	Values	Config	Consumptions
MACH	IINE: Edge Box Demo - Original									2
MON	IITOR CONFIGURATION	Help								3
Select Mo	ode			10				-		

- 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]

≡ Eco ∂ truxure ⁻ Machine Advisor				*	🚖 Feedback Edge	Box HMI - Demo 🍷	Paul Derbyshire	Schneider
FLEET EDGE BOX DEMO - ORI	GINAL TRACK MONITOR					Q Global	search	
MANAGE DASHBOARD					Applicatio	ns History Graph	Values Config	Consumptions
MACHINE: Edge Box Dem	no - Original							
MONITOR CONFIGUR	AT		Help					
Connect your machine 👻			MODICON	HARMONY	ETIC	EWON	HILSCHER	
Select Plan Cui Pay As You Go 👻 La	rre 5 As You Go	per minute per month cost you 1 M.A.P. Minimum of 10 M.A.P.s per	M262	Configuration Steps	Configuration Steps	Configuration Steps	Configuration Steps	
Select Gateway Sele	ect Format Select Transport		lloT ready controller with direct cloud					
Custom	ngo THTTPs					This document is		
Generat 6 ation	7 8					under the responsibility of HMS Network		
Protocol:	HTTPsf (JSON)	Ō						
Custom header 1:	Content-Type;application/json		MOXA	TITAN	SECOMEA			
Server:	https://cnm-ih-na.azure-devices.net/dev		Configuration Steps	Configuration Steps	Getting started guide for Secomea			
Connection string:		•			Bateways			
+ New Token								

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

+ New Token	9		
Create a new toke	n		
Select duration *			
10	Year	s –	
Create Withdraw your co	onfig	Remove your data	

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



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

11000001.		HTTPS POST (JSON)		
Custom header 1:		Content-Type;application/json		
Server:		https://enm ih na.azure devices.net/dev		11
Connection string	j:		0	
+ New Token				
The last generated	token is valid fo	r 9 Years 11 Months 30 Days.		
Success!			×	
You have succes	sfully added a	new access token. Copy the token Now!		
Token:		••••••		12
	Warning ⊦ M We do n c ts	lake sure you copy the above token now. store it and you will not be able to see it again.		
				J
				2
N/C 11.1				

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".
- 4. 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\arm-gnueabihf-2.13-6.0.17\drv



C:\Program Files (x86)\Pro-face\BLUE Oper	n Studio 2020\Redist\loTView\l	Linux\arm-gnueabihf-2.	13-6.0.17\drv
Name	Date modified	Туре	Size
🔊 abcip.ini	2021-04-27 9:31 AM	Configuration sett	1 KB
📄 abcip.msg	2021-04-27 9:31 AM	MSG File	2 KB
📄 abcip.so	2021-04-27 9:31 AM	SO File	409 KB
📓 abtcp.ini	2020-12-09 8:41 PM	Configuration sett	1 KB
abtcp.msg	2020-12-09 8:41 PM	MSG File	2 KB
abtcp.so	2020-12-09 8:41 PM	SO File	584 KB
📓 macha.ini	2021-09-28 1:02 AM	Configuration sett	1 KB
📄 macha.msg	2021-09-28 1:02 AM	MSG File	3 KB
macha.pem	2022-02-02 11:06 AM	PEM File	209 KB
macha.so 4	2021-09-28 1:02 AM	SO File	943 KB
📓 melse.ini	2021-10-22 8:41 AM	Configuration sett	5 KB
melse.msg	2021-10-22 8:41 AM	MSG File	1 KB

- 5. Open the Edge Box HMI Demo v1.1 All-in-one.app project in BLUE Open Studio
- 6. [Project Explorer] -> [Comm] tab -> [Drivers] -> [MACHA] -> [MAIN DRIVER SHEET]
- 7. Copy the station address from notepad and overwrite the station address for rows 1 through 7 with the new Machine Station ID.
- 8. Save the [MAIN DRIVER SHEET].

		BLUE Open Studio -	MACHA - MAIN	DRIVER SI	HEET		
File Home 8 Project Help							
Context Sensitive Documentation Documentation	Support About						
Project Explorer 👻 🖛 🛪	WACHA - MAIN DRIVER SHEET ×						
 Project: Edge Box HMI Demo v1.1 - All-in-one.APP Drivers IMACHA MAIN DRIVER SHEET OPC DA Client (regacy) OPC UA TCP/IP 	Description: MAIN DRIVER SHEET Disable: EcoStruxure_Machine_Advisor_Control.Disable Read Completed: Write Status: Write Completed: EcoStruxure_Machine Max: Max:						
	Tag Name	Station	I/O Address	Action	Scan	Div	Add
	Filter text EcoStruxure_Machine_Advisor_Data.Processed_Count	Filter text https://cnm-ih-na.azure-devices.net/devices/urm %3Adev%3Aops%3A000000-EMA-prod-40dcf0 02d0d12fbd4c48c22c/messages/events?api-v ersion=2016-11-14	Silter tex (✓ (♥ Vrite	Always	V Filter text	K Filter text
	2 EcoStruxure_Machine_Advisor_Data.Production_Target	https://cnm-ih-na.azure-devices.net/devices/um %3Adev%3Aops%3A000000-EMA-prod-40dcf0 02d0d12fbd4c48c22c/messages/events?api-v ersion=2016-11-14	:202	∨ Write	∨ Always		
	3 EcoStruxure_Machine_Advisor_Data.Passed_Count	https://cnm-ih-na.azure-devices.net/devices/urn %3Adev%3Aops%3A000000-EMA-prod-40dcf0 02d0d12fbd4c48c22c/messages/events?api-v ersion=2016-11-14	:204	∨ Write	∨ Always		
	4 EcoStruxure_Machine_Advisor_Data.Rejected_Count	https://cnm-ih-na.azure-devices.net/devices/urn %3Adev%3Aops%3A000000-EMA-prod-40dcf0 02d0d12fbd4c48c22c/messages/events?api-v ersion=2016-11-14	:206	∨ Write	∨ Always		
	5 EcoStruxure_Machine_Advisor_Data Unprocessed_Count	https://cnm-ih-na.azure-devices.net/devices/urn %3Adev%3Aops%3A000000-EMA-prod-40dcf0 02d0d12fbd4c48c22c/messages/events?api-v ersion=2016-11-14	:208	∨ Write	∨ Always		
	6 EcoStruxure_Machine_Advisor_Da a Part_Jam	https://cnm-ih-na.azure-devices.net/devices/um %3Adev%3Aops%3A000000-EMA-prod-40dcf0 02d0d12fbd4c48c22c/messages/events?api-v ersion=2016-11-14	:210	∨ Write	∨ Always		
ر المحمد الم	7 EcoStruxure_Machine_Advisor_D a Process_Running	https://cnm-lh-na.azure-devices.net/devices/um %3Adev%3Aops%3A000000-EMA-prod-40dcf0 02d0d12fbd4c48c22c/messages/events?api-v ersion=2016-11-14	:212	∨ Write	∨ Always		
Notepad File Edit View Help https://cnm-ih-na.azure-devic XXXX/messages/events?api-	es.net/devices/urn%3Adev%3Ao -version=2016-11-14	7 ps%3A000000-EMA-prod	I-XXXX	XXX	xxxxx	xxxxx	XXX
Authorization;SharedAccess	Signature sr=cnm-ih-na.azure-dev XXXXX&sig=XXXXXXXXXXXXXXX	/ices.net%2Furn%3Adev {XXX&se=XXXXXXXXXXX	%3Aop	s%3/	00000	0-EMA-p	orod-

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

Project Explorer	→ ₽ ×	WACHA - MAIN DRIVER SHEET ×
V 🔄 Project: Edge Box HML Demo v1.	.1 - All-in-one.APP	Description:
V Drivers 9	S MACHA:	×
OPC D Settings	Serial Encapsulation:	None
> OPC U Help	COM:	COM1 - Stop Bits: 1 -
	Baud Rate:	9600 V Parit None V
	Data Bits:	8 10
	Thread 11	Prefix string: EdgeDemoOriginal
	JSON format:	Proxy:
	Tango	· ·
	Advanced	Authentication 12 OK Cancel

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

15. Click [OK]	Authentication ×
	Driver authentication information
	Station Username Password
Notepad	X
File Edit View Help	
https://cnm-ih-na.azure	e-devices.net/devices/urn%3Adev%3Aops%3A000000-EMA-prod-XXXXXXXXXXXXXXXXXXXXXXXX
AAAA/messages/even	IS ?api-version=2016-11-14
Authorization, SharedA	ccessSignature sr=cnm-ih-na.azure-devices.net%2Furn%3Adev%3Aops%3A000000-EMA-prod-
XXXXXXXXXXXXXXXXXXX	XXXXXXXX&sig=XXXXXXXXXXXXXX&se=XXXXXXXXXXXX

24

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

Project Explorer	▼ ₽ ×	🐨 MACHA - MA	IN DRIVER SHEET	×
✓ Project: Edge Box HMI Demo v1.	1 - All-in-one.APP	Description:		
V I Drivers	🐲 МАСНА:			×
MAIN DRIVER SHEET OPC DA Client (legacy)	Serial Encapsulation:	None	*	
> OPC UA	COM:	COM1	✓ Stop Bits:	1
	Baud Rate:	9600	▼ Parity:	None -
	Data Bits:	8	Ŧ	
	Thread count:		Prefix string:	
	1		EdgeDemoOrigi	nal
	JSON format:		Proxy:	
	Tango	Ŧ		16
	Advanced	Authentication		OK Cancel

5. AVEVA Insight Configuration

Overview

The STM6000 Edge Box HMI Demo – All-in-one uses 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. All data in the demo is internally generated using one or more math worksheets.



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]

≡ AVEVA™ Insight (TRIAL®)	Content 👻	0	 θ	
AVEVA INSIGHT	AVEVA Insight	dministration		

3. Navigate to [Data Sources]

= AVE	VA™ Insight (TRIAL)	3					Ŵ	0	 0
	Administration								
	Users	Data Sources	Tag Dictionary	Engineering Units	Integration Settings	↑Ļ			
	Manage access rights and permissions within your solution.	Track existing data sources and update CSV/JSON data sources.	Work with your solution's tag dictionary with Insight's Excel 365 add-in.	Map custom engineering units to the engineering unit catalog to enable unit conversions	Integrate your application with AVEVA Insight using Historian Data REST API and web hooks.				
					REST API WEB	HOOKS			

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

■ AVEVA™ Insight (TRAL)									0	θ
	Data Sources					+ Q C	4			
	Name 个	External Connector	Created From	History	Last Update	CSV/JSON		/		

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

Ad Nam Edg	d CSV/JSON Data Source
•	n në romowing nëros win appiy to an nëw tags, but do not appiy to existing tags.
	Japan
	If you define a new default location, it will be created when the first new tag using this default is created.
9	Geolocation Coordinates
	CANCEL

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

]			
	Upload to EdgeBoxHMI1 data source		
	Upload endpoint 🕢		
	https://online.wonderware.com/apis/upload/da		6
	You can upload 1 file per second.	smaller number of files	
			
	Drop CSV/JSOI or click here to u	file load	
	DOWNLOAD SAMPLE FILE	CLOSE	
·			
Notepad			X
File Edit View Help			
https://insight.connect.avev	a.com/apis/upload/datasource		
Bearer XXXXXXXXXXXXXXXXXX		****	xxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	xxxxxxxxxxxxxxxxxxxx	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	xxxxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXXXXXXXXXXXXX	*****	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	xxxxxxxxxxxxxxxxxxxxxxxxxxxx
	****	<pre>(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</pre>	*****
	*****	\^^^^^^ /```````````````````````````````	*****
****	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	*****
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	xxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXXXX		

BLUE Open Studio Project Settings

- 1. Open the Edge Box HMI Demo v1.1 All-in-one.app project in BLUE Open Studio
- 2. [Project Explorer] -> [Tasks] tab
- 3. [Trend Logger] -> [2: AVEVA Insight]
- 4. Click [Historian Configuration]



- 5. Copy the Endpoint URL from notepad and paste overwriting the [Upload Endpoint]
- 6. Copy the Token from notepad and paste overwriting the [Authentication Token]
- 7. Click [OK] to accept the historian settings.

	Historian ×
	Connection Settings
	Connection Type: AVEVA Insight (CSV/JSON)
	Upload Endpoint https://insight.connect.aveva.com/apis/upload/datasource
	Authentication Token: Bearer eyJhbGciOiJSUzI 1NiIsInR5cCI6IkpXVCIsImtpZCI6Im
	Max Forward Period: 15 seconds
	Database Settings
	Prefix:
	Run-time
5	Status: AVEVA_Insight_Control.5 Reload:
	Local Storage Limits
	Max File Size: 1024 KB Max Files: 5 7 OK Cancel
ı otepad	
le Edit View Help	
ttps://insight.con	nect.aveva.com/apis/upload/datasource
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	

8. Save the TREND002 Sheet.

□		
File Hor 8 Cut Cut Copy Paste O Find/Replace Clipboard Local Management 5	Download Run Runtime Watch LogWin top Tasks Remote Management	Archive
Project Explorer 🔹 🖣 ×	TREND002.TRD ×	
 ✓ all Project: Edge box Hwir Denio VI.1 - All-II-one.AFF > Alarms ✓ Trend Logger i: Database i: Database i: AVEVA Insight i: Recipes i: Reports > i: Math > Script 	AVEVA_Insight Historian Save On Trigger: AVEVA_Insight_Control.Write_Trigg	Advanced ve On Tag Change
> Scheduler	Tag Name Dead Band	Historian Tag
> Database/ERP	🔍 Filter text 🔍 🤍 Filter text	🔍 Filter text
	1 AVEVA_Insight_Data.Production_Target	Production_Tar get
	2 AVEVA_Insight_Data.Processed_Count	Processed_Co unt
	3 AVEVA_Insight_Data.Unprocessed_Count	Unprocessed_ Count
	4 AVEVA_Insight_Data.Passed_Count	Passed_Count
	5 AVEVA_Insight_Data.Rejected_Count	Rejected_Count
	6 AVEVA_Insight_Data.Part_Jam	Part_Jam
	7 AVEVA_Insight_Data.Process_Running	Process_runnin g
∫ℜ Global 👍 Graphics 🔚 Tasks 🐰 Comm		ļ

6. Database Configuration

Overview

The STM6000 Edge Box HMI Demo – All-in-one uses a Trend Logger worksheet to log data to a Microsoft SQL Server Database. Trend Logger data is logged every 5 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 TREND001.



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

Microsoft SQL Server 2019 Installation and Configuration

(requires internet connection)

For ease of configuration both Microsoft SQL Server 2019 and Microsoft SQL Management Studio will be required. It is assumed that there is no existing Microsoft SQL Server 2019 instance and no existing Microsoft SQL Management Studio installed on the PC.

1. Download SQL Server 2019 Express installer (SQL2019-SSEI-Expr.exe or similar @ ~6MB) from the following link:

https://www.microsoft.com/en-ca/sql-server/sql-server-downloads

Note: other versions of SQL Server can be used however this procedure is specifically for SQL Server 2019 Express as of April 2022. Choose your localised language version, as necessary.

- 2. Run SQL2019-SSEI-Expr.exe
- 3. Select [Custom]



4. Confirm the download location is acceptable and there is enough free space on the drive. Click [Install]





5. Click [New SQL Server stand-alone installation or add features to an exiting installation]



6. Check the "I accept the license terms..." checkbox and click [Next]



- 7. Optional: Check the "Use Microsoft Update to check for updates..."
- 8. Click [Next]

髋 SQL Server 2019 Setup		_		×
Microsoft Update Use Microsoft Update to check	for important updates			
License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Feature Configuration Rules Installation Progress Complete	Microsoft Update offers security and other important updates for Windows and other software, including SQL Server 2019. Updates are delivered using Automatic Update the Microsoft Update website. I Use Microsoft Update to check for updates (recommended) Microsoft Update FAQ Microsoft Update Privacy Statement	ner Micro	osoft u can vis	it
	< Back Next >		Cancel	

- 9. Confirm status is "Passed" for 3 of the 4 entries. Windows Firewall exception is option for SQL server itself for the purposes of the demo. The Studio Database Gateway cover later will require a firewall exception.
- 10. Click [Next]



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11. Leave the Feature Selection as default. Click [Next]

SQL Server 2019 Setup			- 🗆 X		
Select the Express features to in	nstall.				
Install Rules Feature Selection	Looking for Reporting Service	ces? <u>Download it fro</u>	om the web		
Feature Selection Feature Rules Instance Configuration Java Install Location Server Configuration Database Engine Configuration Consent to install Microsoft R Consent to install Python Feature Configuration Rules Installation Progress Complete	Features: Database Engine Services SQL Server Replication Machine Learning Services R Python Java Full-Text and Semanti PolyBase Query Service Java connector for Change Contents	vices and Language c Extractions for Sea e for External Data HDFS data sources	Feature description: The configuration and operation of each instance feature of a SQL Server instance is isolated from other SQL Server instances. SQL Prerequisites for selected features: Already installed: Windows PowerShell 3.0 or higher Microsoft Visual C++ 2017 Redistributable Disk Space Requirements Drive C: 3155 MB required, 32868 MB available		
	Select All Unselect All Instance root directory: Shared feature directory: Shared feature directory (x86):	Select All Unselect All istance root directory: C:\Program Files\Microsoft SQL Serve hared feature directory: C:\Program Files\Microsoft SQL Serve hared feature directory (x86): C:\Program Files (x86)\Microsoft SQL			
			< Back Next > Cancel		

12. Leave the Instance Configuration as default. Click [Next]

髋 SQL Server 2019 Setup					-		×			
Instance Configuration Specify the name and instance	n e ID for the instance of S	QL Server. Instance I	D becomes part of t	he installation path.						
Install Rules Feature Selection Feature Rules Instance Configuration Java Install Location Server Configuration	 Default instance Named instance: 	Default instance SQLExpress								
	Instance ID:	SQLEXPRESS								
Database Engine Configuration Consent to install Microsoft R Consent to install Python Feature Configuration Rules	SQL Server directory: Installed instances:	C:\Program Files\N	licrosoft SQL Server∖	MSSQL15.SQLEXPRE	ESS					
Installation Progress Complete	Instance Name	Instance ID	Features	Edition	Ve	ersion				
					2					
	<u> </u>			< Back Ne	ext >	Cance	1			

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13. Leave the Java Install as default. Click [Next]

📸 SQL Server 2019 Setup	-	-		×
Java Install Location Specify Java installed location				
Install Rules Feature Selection Feature Rules Instance Configuration Java Install Location Server Configuration Database Engine Configuration Consent to install Microsoft R Consent to install Python Feature Configuration Rules Installation Progress Complete	Some selected features require a local installation of a JDK or JRE. Zulu Open JRE version 1 included with this installation, or you can download and install a different JDK or JRE and installed location here. For information on Azul Zulu OpenJDK third party licensing, see https://go.microsoft.com/ linkid=2097167 . Install Open JRE 11.0.3 included with this installation Provide the location of a different version that has been installed on this computer JDK or JRE installed location:	11.0.3 provid	is de that <u>k/?</u> Bro	WFE
	< Back Next >)	Cancel	

14. Leave the Server Configuration as default. Click [Next]

Server Configuration					
Specify the service accounts an	d collation configuration.				
Install Rules	Service Accounts Collation				
Feature Selection Feature Rules	Microsoft recommends that you use	a separate account for each	SQL Server serv	ice.	
Instance Configuration	Service	Account Name	Password	Startup Ty	pe
Java Install Location	SQL Server Database Engine	NT Service\MSSQL\$SQL		Automatic	~
Server Configuration	SQL Server Launchpad	NT Service\MSSQLLaunc		Automatic	
Database Engine Configuration	SQL Full-text Filter Daemon Launc	NT Service\MSSQLFDLa		Manual	
Consent to install Microsoft R	SQL Server Browser	NT AUTHORITY\LOCAL		Disabled	~
Consent to install Python					
Consent to install Python Feature Configuration Rules	Grant Perform Volume Maintenan	ce Task privilege to SQL Serv	ver Database En	gine Service	
Consent to install Python Feature Configuration Rules Installation Progress	Grant Perform Volume Maintenan This privilege enables instant file i	ce Task privilege to SQL Sen nitialization by avoiding zero	ver Database En bing of data pag	gine Service ges. This may le	ad
Consent to install Python Feature Configuration Rules Installation Progress Complete	Grant Perform Volume Maintenan This privilege enables instant file i to information disclosure by allow	ce Task privilege to SQL Sen nitialization by avoiding zerc ing deleted content to be ac	ver Database En bing of data pag cessed.	gine Service ges. This may le	ad
Consent to install Python Feature Configuration Rules Installation Progress Complete	Grant Perform Volume Maintenan This privilege enables instant file i to information disclosure by allow <u>Click here for details</u>	ce Task privilege to SQL Sen nitialization by avoiding zerc ing deleted content to be ac	ver Database En ving of data pa <u>c</u> cessed.	gine Service ges. This may le	ad
Consent to install Python Feature Configuration Rules Installation Progress Complete	Grant Perform Volume Maintenan This privilege enables instant file i to information disclosure by allow <u>Click here for details</u>	ce Task privilege to SQL Sen nitialization by avoiding zerc ing deleted content to be ac	ver Database En bing of data pa <u>c</u> cessed.	gine Service ges. This may le	ad
Consent to install Python Feature Configuration Rules Installation Progress Complete	Grant Perform Volume Maintenan This privilege enables instant file i to information disclosure by allow <u>Click here for details</u>	ce Task privilege to SQL Sen nitialization by avoiding zerc ing deleted content to be ac	ver Database En bing of data pag cessed.	gine Service ges. This may le	ad
Consent to install Python Feature Configuration Rules Installation Progress Complete	Grant Perform Volume Maintenan This privilege enables instant file i to information disclosure by allow <u>Click here for details</u>	ce Task privilege to SQL Sen nitialization by avoiding zerc ing deleted content to be ac	ver Database En bing of data pa <u>c</u> cessed.	igine Service ges. This may le	ad
Consent to install Python Feature Configuration Rules Installation Progress Complete	Grant Perform Volume Maintenan This privilege enables instant file i to information disclosure by allow <u>Click here for details</u>	ce Task privilege to SQL Sen nitialization by avoiding zerc ing deleted content to be ac	ver Database En bing of data pag cessed.	igine Service ges. This may le	ad
Consent to install Python Feature Configuration Rules Installation Progress Complete	Grant Perform Volume Maintenan This privilege enables instant file i to information disclosure by allow <u>Click here for details</u>	ce Task privilege to SQL Sen nitialization by avoiding zerc ing deleted content to be ac	ver Database En bing of data pag cessed.	igine Service ges. This may le	ad
Consent to install Python Feature Configuration Rules Installation Progress Complete	Grant Perform Volume Maintenan This privilege enables instant file i to information disclosure by allow <u>Click here for details</u>	ce Task privilege to SQL Sen nitialization by avoiding zerc ing deleted content to be ac	ver Database En bing of data pag cessed.	gine Service ges. This may le	ad

- 15. Set the Authentication Mode to "Mixed Mode".
- 16. Enter the sa account password.
- 17. Specify Windows accounts that will act as administrator for SQL Server. Can be left as default.18. Click [Next].

📸 SQL Server 2019 Setup		_		×	
Database Engine Config	uration				
Specify Database Engine authent parallelism, Memory limits, and Fi	ication security mode, administrators, data directories, TempDB, Max degree of lestream settings.				
Install Rules	Server Configuration Data Directories TempDB Memory User Instances FI	LESTREAM			
Feature Selection Feature Rules	Specify the authentication mode and administrators for the Database Engine.				
Instance Configuration	Authentication Mode				
Java Install Location	O Windows authentication mode	15			
Server Configuration	Mixed Mode (SQL Server authentication and Windows authentication)				
Database Engine Configuration					
Consent to install Microsoft R	Specify the password for the SQL Server system administrator (sa) account.				
Consent to install Python	Enter password:				
Feature Configuration Rules	Confirm password:				16
Installation Progress					
Complete	Specify SQL Server administrators			_	-
17	DESKTOP-E2JOON9\PFX (PFX) SQL Server ad unrestricted a Engine.	ministrators ccess to the	have Database	2	
	Add Current User Add Remove	8			
	< Back Ne	ext >	Cance	1	

19. Click [Accept] and click [Next].



20. Click [Accept] and click [Next]

🐮 SQL Server 2019 Setup	-		×
Consent to install Pyth	ron		
Install Rules Feature Selection Feature Rules	Anaconda is a Python distribution released by Anaconda, Inc. To enable your use of this fea runtime and certain Python packages from Anaconda, Inc will be downloaded to your mac licenses provided to you by Anaconda, Inc. and its licensors. https://docs.anaconda.com/ar	ture, the Pytl nine under th naconda/eula	hon ne a/
Instance Configuration Java Install Location Server Configuration Database Engine Configuration Consent to install Microsoft R Consent to install Python Feature Configuration Rules Installation Progress Complete	Microsoft is making these packages available to you for convenience and does not support More information about Anaconda is available from Anaconda, Inc. By clicking Accept, you are choosing to download this software and install it on your mach to accept patches and updates to this software according to your SQL Server update prefere Accept	this software ne, and agre nces.	eing
	<pre>20 <back next=""></back></pre>	Cancel	
SQL Server 2019 Setup Installation Progress	_		×
Install Rules Feature Selection Feature Rules Instance Configuration Java Install Location Server Configuration Database Engine Configuration Consent to install Microsoft R Consent to install Python Feature Configuration Rules Installation Progress Complete	Install_sql_common_core_Cpu64_Action : Write_sqlLocalServers_64. Registering local server	5	

21. Confirm that all features show Status as "Succeeded". Click [Close]

🃸 SQL Server 2019 Setup		_		×
Complete				
Your SQL Server 2019 installati	on completed successfully with product updates.			
Install Rules	Information about the Setup operation or possible ne	ext steps:		
Feature Selection	Easture	Status		•
Feature Rules	Pedure	Status		
Instance Configuration	Full- lext and Semantic Extractions for Search Java	Succeeded		
Java Install Location	S Python	Succeeded		
Server Configuration	R	Succeeded		
Database Engine Configuration	Machine Learning Services and Language Extens.	Succeeded		
Consent to install Microsoft R	Ratabare Engine Servicer	Succeeded		×
Consent to install Python				
Feature Configuration Rules	Details:			
Installation Progress	lastell sussessful			
Complete	Install Succession.			
complete				
	Summary log file has been saved to the following loc	ation:		
	C:\Program Files\Microsoft SQL Server\150\Setup Bo	potstrap\Log\20220414_160309\Summa	y DESKTO	OP-
	E2JOON9 20220414 160309.txt			
		21		
			Close	

22. Click [Install SQL Server Management Tools].

髋 SQL Server Installation Center		- 0	×
Planning Installation	ŧ	New SQL Server stand-alone installation or add features to an existing installation Launch a wizard to install SQL Server 2019 in a non-clustered environment or to add features to an existing SQL Server 2019 instance.	^
Maintenance Tools Resources		Install SQL Server Reporting Services Launch a download page that provides a link to install SQL Server Reporting Services. An internet connection is required to install SSRS.	
Options	∎; :≫	Install SQL Server Management Tools Launch a download page that provides a Studio, SQL Server command-line utilities (Sachor and BCP), SQL Server PowerShell provider, SQL Server Profiler and Database Tuning Advisor. An internet connection is required to install these tools.	I
	K	Install SQL Server Data Tools Launch a download page that provides a link to install SQL Server Data Tools (SSDT). SSDT provides Visual Studio integration including project system support for Microsof Azure SQL Database, the SQL Server Database Engine, Reporting Services, Analysis Services and Integration Services. An internet connection is required to install SSDT.	ft
		Upgrade from a previous version of SQL Server Launch a wizard to upgrade a previous version of SQL Server to SQL Server 2019. Click here to first view Upgrade Documentation	
Microsoft SQL Server 2019			~

23. Download the latest version of SQL Server Management Studio (~690 MB)



24. Run the SSMS-SETUP_ENU.exe or similar installer that was downloaded.

25. Click [Install].



26. Click [Close]



27. Close the "SQL Server Installation Center" window.

髋 SQL Server Installation Center		- 🗆 🗙	$\langle \rangle$
Planning Installation Maintenance Tools	*	New SQL Server stand-alone installation or add features to an existing install Launch a wizard to install SQL Server 2019 in a non-clustered environment of features to an existing SQL Server 2019 instance.	^
Options	•	An internet connection is required to install SSRS. Install SQL Server Management Tools Launch a download page that provides a link to install SQL Server Management Studio, SQL Server command-line utilities (SQLCMD and BCP), SQL Server PowerShell provider, SQL Server Profiler and Database Tuning Advisor. An internet connection is required to install these tools.	
	K	Install SQL Server Data Tools Launch a download page that provides a link to install SQL Server Data Tools (SSDT). SSDT provides Visual Studio integration including project system support for Microsoft Azure SQL Database, the SQL Server Database Engine, Reporting Services, Analysis Services and Integration Services. An internet connection is required to install SSDT.	
		Upgrade from a previous version of SQL Server Launch a wizard to upgrade a previous version of SQL Server to SQL Server 2019. Click here to first view Upgrade Documentation	
Microsoft SQL Server 2019			~

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]
- 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.

모 ^를 Connect to Server		×
	SQL Server	
Server type:	Database Engine	\sim
Server name:	DESKTOP-E2JOON9\SQLEXPRESS	\sim
Authentication:	Windows Authentication	\sim
User name:	DESKTOP-E2JOON9\PFX	\sim
Password:	2 Remember password Connect Cancel Help Options >>	

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



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

New Database					—	o x
Select a page	🖵 Script 🔻 😮	Help				
General Options						
Filegroups	Database name	:	EdgeBoxH	IMI		
	Owner:		<default></default>			
	🔽 Use full-text i	ndexina				
	Database files:			1		
	Logical Name	File Type	Filegroup	Initial Size (MB)	Autogrowth / Maxsize	Pa
	EdgeBoxHMI	ROWS	PRIMARY	8	By 64 MB, Unlimited	C:
	Eugeboxn	LUG	Not Applicable	0	by 64 Mb, Onlimited	C.
Connection						
Server: DESKTOP-E2JOON9\SQLEXPRE						
Connection: DESKTOP-E2JOON9\PFX						
View connection properties						
TOTRES						
Togress			_			
Ready	< .				F	
Was St.				Add		
						Concel
					UK	Cancel

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



- 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.

Login - New				_		\times
Select a page	🖵 Script 🔻 😮 Help					
12 Server Roles	Login name:	EdgeBoxHMI			7	
Status	 Windows authentication SQL Server authentication 	ו				
	Password:	•••••			0	
	Confirm password:	•••••			9	
	Specify old password					
	Old password:					
	Enforce password policy	J 10				
	Enforce password expira	ation				
	User must change pass	word at next login				
	Mapped to seymmetric key			~		
	Mapped to asymmetric Key			~		
Connection				~	Add	
Server: DESKTOP-E2JOON9\SQLEX	Mapped Credentials PRE	Credential	Provider			
Connection: DESKTOP-E2JOON9\PFX						
View connection properties	2					
Progress						
Ready	Default database:	EdgeBoxHMI		~	11	
Toppo ^T	Default language:	<default></default>		~		
				ОК	Cance	:I

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

Login - New			— C	X I
Select a page General Server Roles User Mapping Securables Status	Script ✓ Help Users m 13 gin: Map EdgeBoxHMI master model msdb tempdb	User EdgeBoxHMI	Default Schema	
Connection Server: DESKTOP-E2JOON9\SQLEXPRE	Guest account enabled for: Edg	eBoxHMI eBoxHMI		
Connection: DESKTOP-E2JOON9\PFX View connection properties	db_accessadmin db_backupoperator db_datareader db_datawriter db_ddladmin db_denydatareader db_denydatareader			
Progress Ready	db_owner db_securityadmin ✓ public		15	
			ОК	Cancel

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]

Pro-face BLUE Open Studio Database Gateway 2020 - InstallShield Wizard
Pro-face BLUE Open Studio Database Gateway 2020 requires the following items to be installed on your computer. Click Install to begin installing these requirements.
Status Requirement
Pending Microsoft Visual C++ 2008 SP1 Redistributable (x86) 9.0.30729.6161 Pending Microsoft Visual C++ 2010 Redistributable Package (x86) Pending Microsoft Visual C++ 2012 Redistributable - x86 version 11.0.61030.0
3 Install Cancel



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

ro-face BLUE Open Studio Database Gateway 2020 + Service Pac	:k2 ×
Please enter your information.	
Please enter your name and the name of the company for which y	ou work.
User Name:	6
Company Name:	
MyCompanyName	
stallShield	7
< Back	Next > Cancel

8. Click [Next].

Pro-face BLUE Open Studio Database Gateway 2020 + Service Pack 2	×
Choose Destination Location Select folder where setup will install files.	
Setup will install Pro-face BLUE Open Studio Database Gateway 2020 in the following folder.	
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.	
Destination Folder	
C:\\Studio Database Gateway 2020	
< Back Next > Cance	el

9. Click [Next]

Pro-face BLUE Open Studio Database Gateway 2020	+ Service Pack 2 X
Select Features Select the features setup will install.	
Select the features you want to install, and deselect	the features you do not want to install.
<mark>Program Files</mark>	Description Installs main files.
35.58 MB of space required on the C drive 20673.87 MB of space available on the C drive InstallShield	9 Back Next > Cancel



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) Properties			
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 automatical	ly		
• Use the following IP address:			
IP address:	192.168.1.70		
Subnet mask:	255.255.255.0		
Default gateway:			
Obtain DNS server address automatically			
• Use the following DNS server addresses:			
Preferred DNS server:			
Alternate DNS server:			
Ualidate settings upon exit	Advanced		
	OK Cance		

11. 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

12. 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. Open the Edge Box HMI Demo v1.1 All-in-one.app project in BLUE Open Studio
- 2. [Project] menu -> [Options]
- 3. Click [Default Database]

File Home View Insert Project Help	iewer Preferences E-Mail/FTP Service Security System Ieweb
Project Explorer 👻 😐 🗙	Project Settings X
 Project: Edge Box HMI Demo v1.1 - All-in-one.APP Alarms Trend Logger 1: Database 2: AVEVA Insight Recipes Reports Math Script Scheduler Database/ERP 	Information Options Viewer Communication Preferences Image: Communication Image: Communicat
f [®] Global 🗔 Graphics 🖹 Tasks 홍웅 Comm	
Watch	
Tag/Expression Value Quality Cor	OK Cancel

4. Click [...]

Default Database Co	nfiguration	×
Settings Database: Prima	ry -	
Connection string:	Provider=SQLOLEDB.1; Initial Catalog=	4
Password:	•••••	
Retry Interval:	120 Secs. Advanced	
	OK Cancel	

Microsoft SQL Server Management Studio

- 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)

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



- 10. Click [Advanced]
- 11. Enter the Database Gateway Host and Port if different (Host = 192.168.1.70, Port = 3997)
- 12. Click [OK]
- 13. Click [OK]

14. Click [OK]

▝▖▝▖▖▖▖▖▖▖▖	
File Home View Insert <u>Project</u> Help	Viewer Preferences E-Mail/FTP Service Security System Web
Project Explorer 👻 🔻 🛪	Project Settings ×
 Project: Edge Box HMI Demo v1.1 - All-in-one.APP Alarms Trend Logger 1: Database 2: AVEVA Insight Recipes Reports Math Script Scheduler Database/ERP 	Information Options Viewer Communication Preferences d D Configure the default database, alarm/event settings, and target system Target system Embedded BLUE Open Studio Basic * Resolution: 600x800 BLUE Open Studio Basic for Linux (500 tags) Alarm History and Events History Format: Proprietary * Alarm Database Custom Fields History Life Time (days): 0 Event Database Data Protection
📌 Global 🖪 Graphics 🖺 Tasks 🗷 Comm	
Watch Tag/Expression Value Quality Cor	
	OK Capcel
	12

7. Transfer Runtime and Project Files

1. [Home] tab and Click [Connect] in Remote Management.

🗅 🖆 • 🖪 🗀 • 🕨 🗖 🔊 •	
File Home View Insert Project Cut Copy Paste O Find/Replace Clipboard Local Management S	t Help Download Connect 1 Janagement
Project Explorer Project: Edge Box HMI Demo v1.1 - All-in Screens Screen Group Froject Symbols Graphics Script Native Symbols Layout	→ ╄ × n-one.APP

- 2. Set the IP Address of your Edge Box HMI e.g. 192.168.1.80
- 3. Click [Connect]

Remote Management		×
Target Project Import Embedded License	⊲	⊳
Specify and connect to the target station to install the embedded runtime software and/or download the project		
Target Station Onnect Disconnect Status:		
Install runtime files Only Platform:		
	Ŧ	
ОКС	ancel	

4. If prompted about Remote Agent, click [Yes]





6. Click [Install Runtime Files]

Remote Management		×	
Target Project Import Embedded License		↓ ▷	
Specify and connect to the target sta software and/or download the proje	ation to install the embedded runtime ect		
Target Station Host: 192.168.1.80 Install runtime files Only newer files	Connect Disconnect Status: Connected to remote device (HMI Runtime Platform: Linux 5.4.109-rt55-timesys_preempt-rt+	Transfering file From 'Bin' To 'Bin' IoTView	Cancel
	OK	ncel	

- 7. [Project] tab, confirm that the Status is stopped. If running, click [Stop]
- 8. Click [Download]



- 9. Click [Run]
- 10. Click [OK]



8. Mobile Access

Mobile access is used for both local and remote viewing of Edge Box HMI. You can use either ETHERNET 1 or ETHERNET 2 as the IP address for mobile access.

There are a several mobile access URL options to view the Edge Box HMI.

- Mobile Access Generic Interface
- Mobile Access Direct to screen access
- Mobile Access Watch screen Access

Web Browser URL Examples for the Edge Box HMI Demo:

Link	Description
https://192.168.1.80/MA	Generic Interface login prompt
https://192.168.1.80/MA/#guestuser=1	Generic Interface auto login as Guest
https://192.168.1.80/MA/#user=Admin&password=Admin	Generic Interface auto login as Admin
https://192.168.1.80/MA/#screen=main_desktop	Direct to main_desktop screen login prompt
https://192.168.1.80/MA/#screen=main_desktop&guestuser=1	Direct to main_desktop screen auto login as Guest
https://192.168.1.80/MA/#screen=main_desktop&user=Admin&password=Admin	Direct to main_desktop screen auto login as Admin
https://192.168.1.80/MA/#screen=main_mobile	Direct to main_mobile screen login prompt
https://192.168.1.80/MA/#screen=main_mobile&guestuser=1	Direct to main_mobile screen auto login as Guest
https://192.168.1.80/MA/#screen=main_mobile&user=Admin&password=Admin	Direct to main_mobile screen auto login as Admin
https://192.168.1.80/MA/#watch=1	Watch screen login prompt Guest access denied
https://192.168.1.80/MA/#watch=1&guestuser=1	Watch screen auto login as Guest Guest access denied
https://192.168.1.80/MA/#watch=1&user=Admin&password=Admin	Watch screen auto login as Admin