

STM6000 Edge Box HMI

Quick Start Guide v1.0

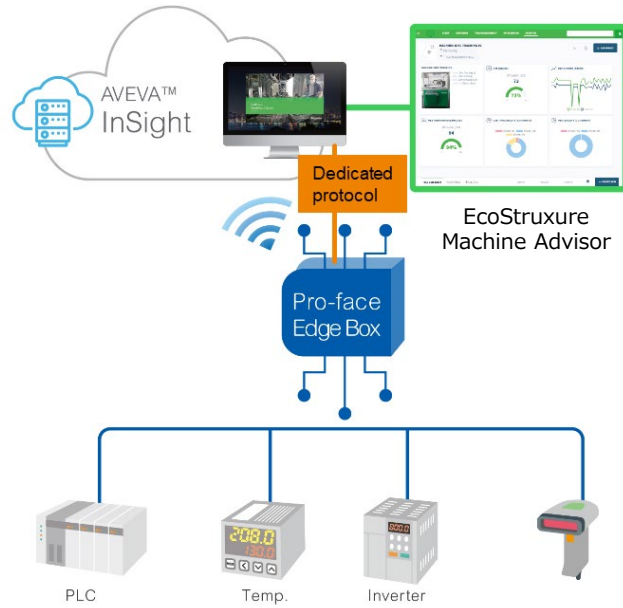


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1. What is Edge Box HMI?

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.



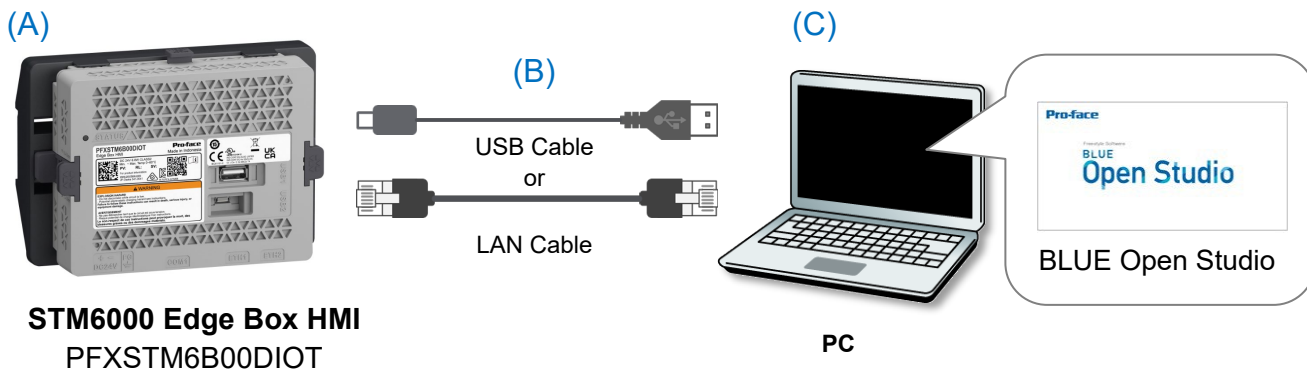
About this document

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)

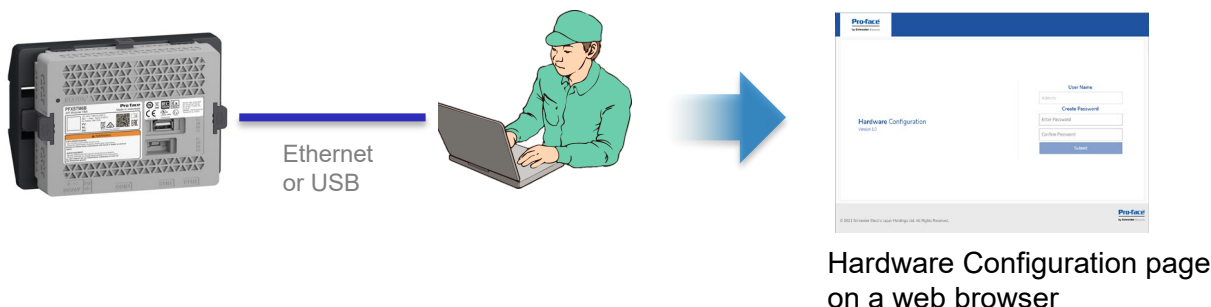
(C) PC with BLUE Open Studio

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

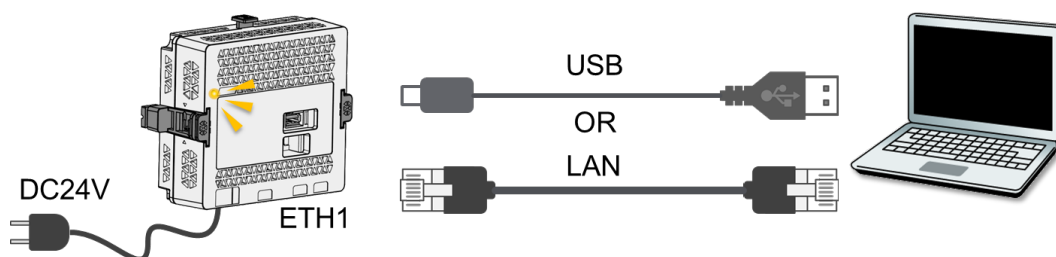
To create HMI project and transfer to the Edge Box HMI, your PC also requires BLUE Open Studio 2020 SP2 or later to be installed. BLUE Open Studio 500 tags Build Time License (PFXBOSBT500A) is sold separately.

3. Hardware Configuration

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.



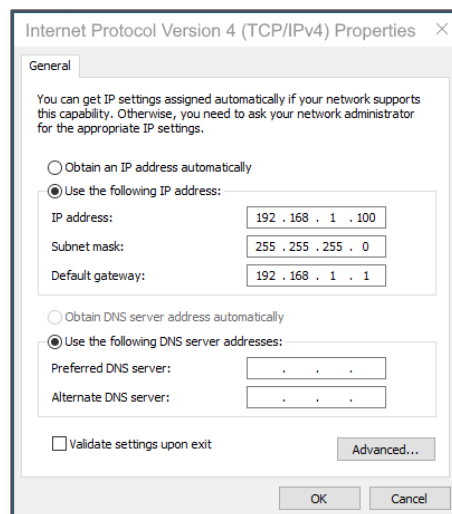
1. Connect Power Supply (DC24V) and check the status LED flashes orange.
2. Connect PC via Ethernet cable or USB cable.



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)



3. Hardware Configuration

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

The screenshot shows the 'Hardware Configuration' screen for Pro-face Version 1.0. On the right side, there is a login form. At the top of the form, a red error message states 'Password is not set'. Below this, the 'User Name' field is pre-filled with 'Admins'. The 'Create Password' section contains two input fields: 'Enter Password' and 'Confirm Password'. A large orange circle with the number '5' is positioned to the right of the 'Confirm Password' field. A 'Submit' button is located at the bottom of the form. The Pro-face logo is visible in the top left and bottom right corners of the screen.

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: <ul style="list-style-type: none"> • Uppercase letter (A-Z) • Lowercase letter (a-z) • Number (0-9) • Symbol (special character): ! # - = _ .

Note: If you forget the password, note that you will not be able to reset it. To restore the product to its original state (at time of purchase), contact customer support. All user data in the product will be lost.

3. Hardware Configuration

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

System Status	
Status	Runtime does not exist. Or, Waiting for download. Please download runtime.
System Version	1.0.11
Runtime Version	-----
Project File	-----

Ethernet 1	
IP Mode	Manual
IP Address	192.168.1.80 255.255.255.0
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

7. 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 [step 12](#).
8. Click [ETHERNET] to display the Ethernet settings.
9. Click [Ethernet 2] to display Ethernet port 2 settings.

Ethernet 2	
IP Mode *	Disabled
IP Address	192.168.2.80
Subnet Mask	255.255.255.0
Default Gateway	
MAC Address	00:80:F4:A2:2D:42

3. Hardware Configuration

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 Configuration

INFORMATION ETHERNET COM USB DOWNLOAD SITEMANAGER SECURITY SYSTEM

Ethernet 1 **Ethernet 2**

IP Mode*
Automatic

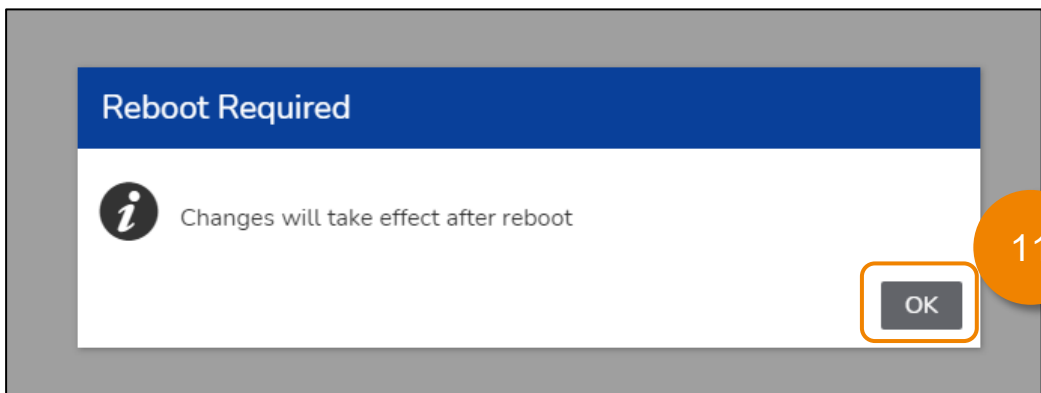
IP Address: 192.168.2.80 Subnet Mask: 255.255.255.0

Default Gateway

MAC Address: 00:80:F4:A2:2D:42

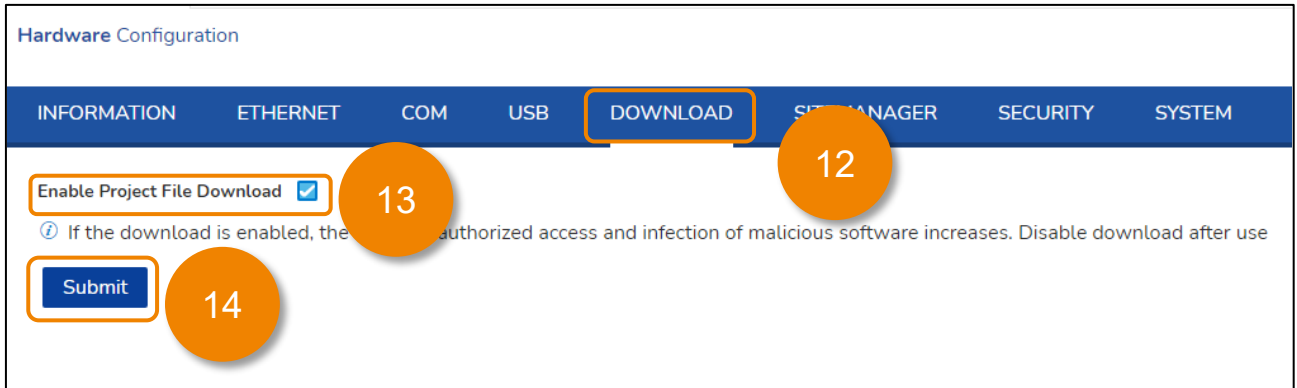
Submit

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.

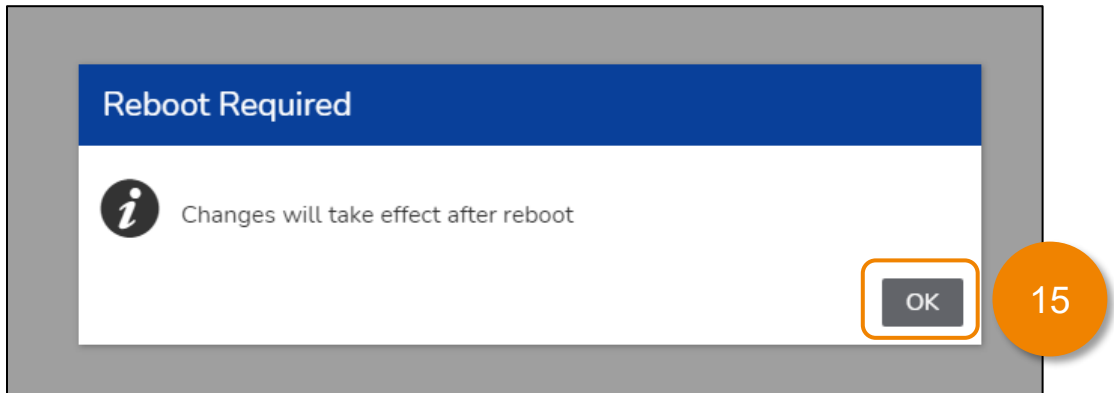


3. Hardware Configuration

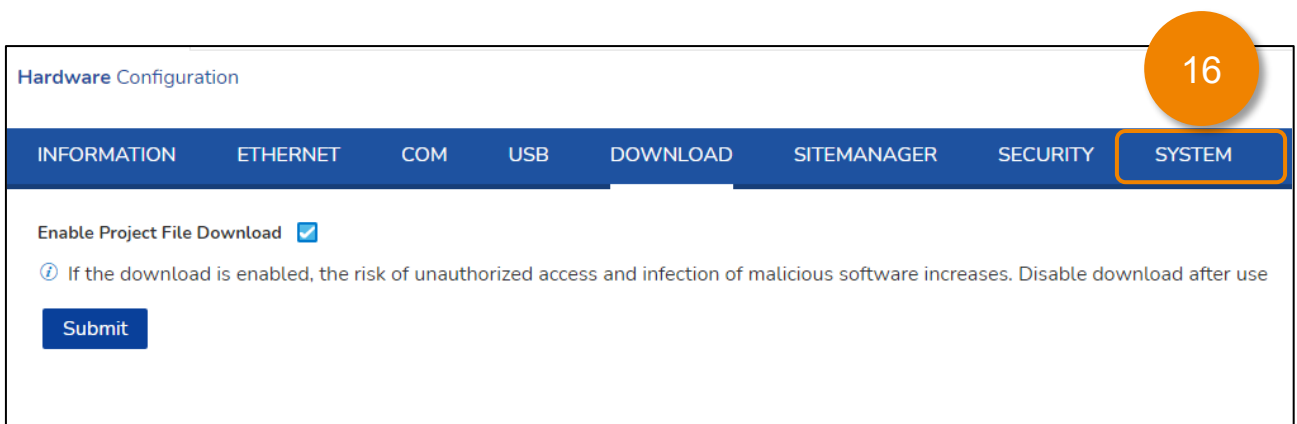
12. Click [DOWNLOAD].



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]



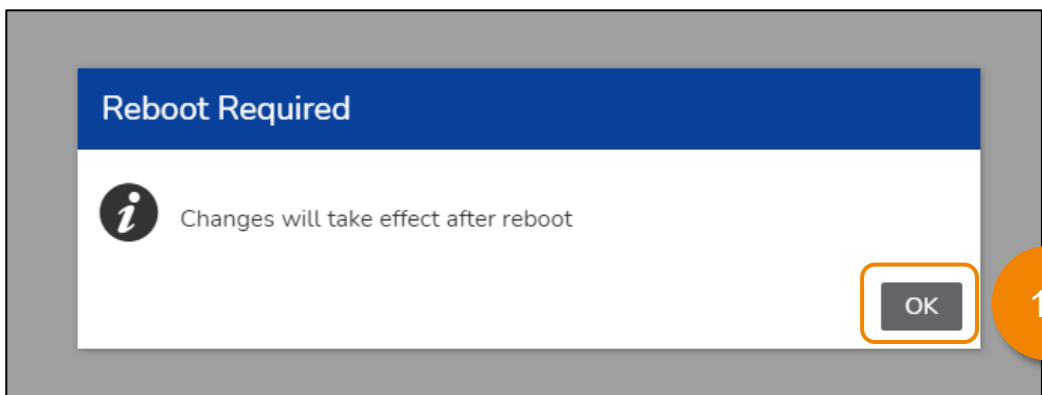
3. Hardware Configuration

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

The screenshot shows the 'Hardware Configuration' page with the 'SYSTEM' tab selected. Under the 'Date and Time' sub-tab, the following fields are visible:

- Date:** A text input field containing '2022-04-12' with a calendar icon on the right. An orange circle with the number '17' is overlaid on the right side of the field.
- Time:** A text input field containing '05:56:00 PM' with a clock icon on the right. An orange circle with the number '17' is overlaid on the right side of the field.
- Time-zone:** A dropdown menu showing '(UTC-04:00) Canada/Eastern'. An orange circle with the number '17' is overlaid on the right side of the field.
- Synchronized with NTP Server:** A checkbox that is currently unchecked.
- NTP Server:** An empty text input field.
- Submit:** A blue button with the text 'Submit'. An orange circle with the number '18' is overlaid on the right side of the button.

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

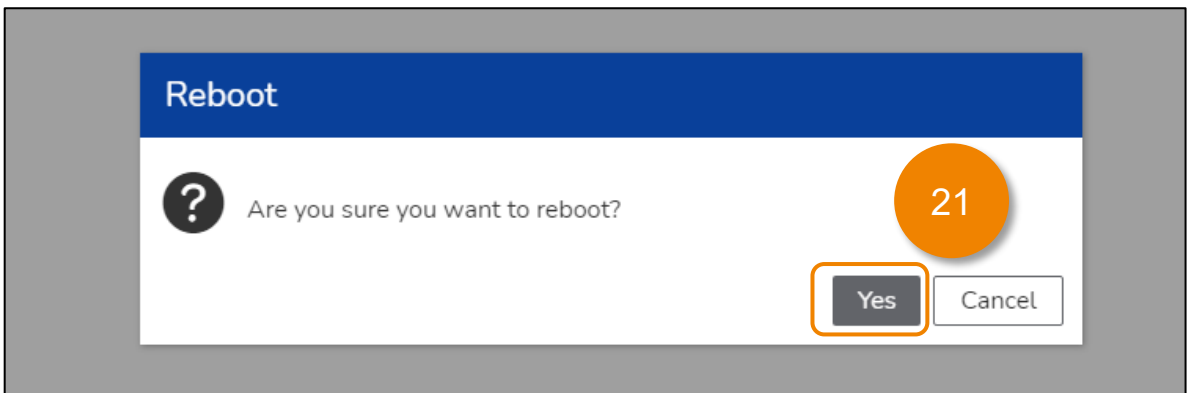


3. Hardware Configuration

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



21. Click [Yes] in the Reboot dialog.



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.

3. Hardware Configuration

Hardware Configuration

INFORMATION ETHERNET COM USB DOWNLOAD SITEMANAGER SECURITY SYSTEM

System Status

Status Runtime does not exist. Or, Waiting for download. Please download runtime.
 System Version 1.0.11
 Runtime Version -----
 Project File -----

Ethernet 1

IP Mode Manual
 IP Address 192.168.1.80 255.255.255.0
 MACAddress 00:80:F4:A2:2D:41

Ethernet 2

IP Mode Automatic
 IP Address 175.172.0.225 255.255.255.0
 MACAddress 00:80:F4:A2:2D:42

Hardware Configuration

INFORMATION ETHERNET COM USB DOWNLOAD SITEMANAGER SECURITY SYSTEM

Enable Project File Download

? If the download is enabled, the risk of unauthorized access and infection of malicious software increases. Disable download after use

Submit

Hardware Configuration

INFORMATION ETHERNET COM USB DOWNLOAD SITEMANAGER SECURITY SYSTEM

Date and Time Firmware Update Factory Reset Backup and Restore Configuration

Date
 2022-04-12

Time
 05:56:00 PM

Time-zone
 (UTC-04:00) Canada/Eastern

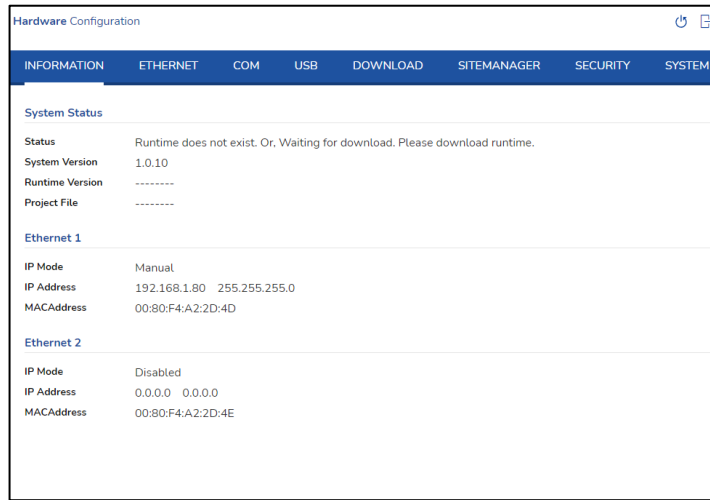
Synchronized with NTP Server

NTP Server

Submit

3. Hardware Configuration

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

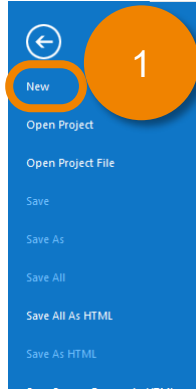
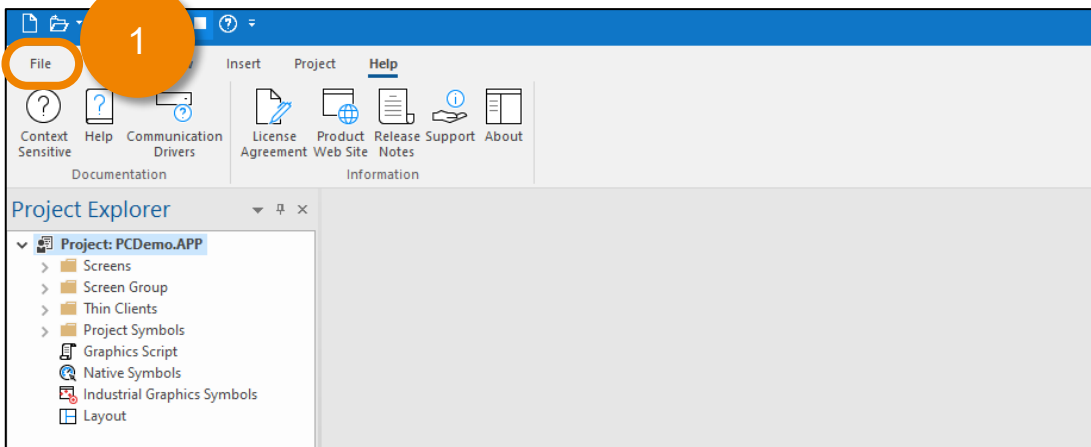


Function name	Description
INFORMATION	You can check the product system version, runtime version, IP address, and so on. Also, if a System Error/Runtime Error occurs, you can check the error information in [Status] area.
ETHERNET	Configure Ethernet settings, which are required when communicating over Ethernet with connected devices, or when using functions that interact with a network PC, such as downloading project files.
COM	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	<p>[Date and Time] tab: set the internal clock of the product. You can also set up an NTP server to synchronize the clock.</p> <p>[Firmware Update] tab: update the firmware.</p> <p>[Factory Reset] tab: you can reset the product to the factory default settings.</p> <p>[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.</p> <p>NOTE: The following settings are not backed up or restored.</p> <ul style="list-style-type: none"> • SECURITY tab • Date and Time tab in the SYSTEM tab

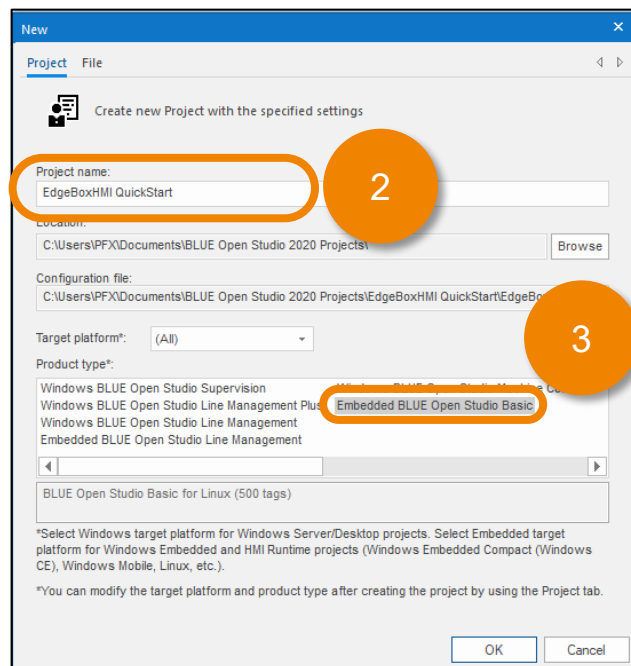
4. HMI Project Creation

Create Project

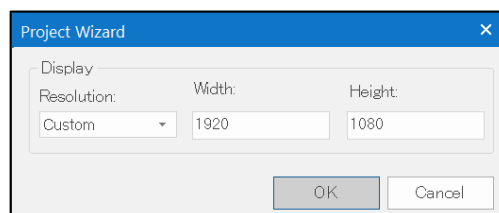
1. Start up BLUE Open Studio 2020 SP2 or later and click [File] > [New].



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



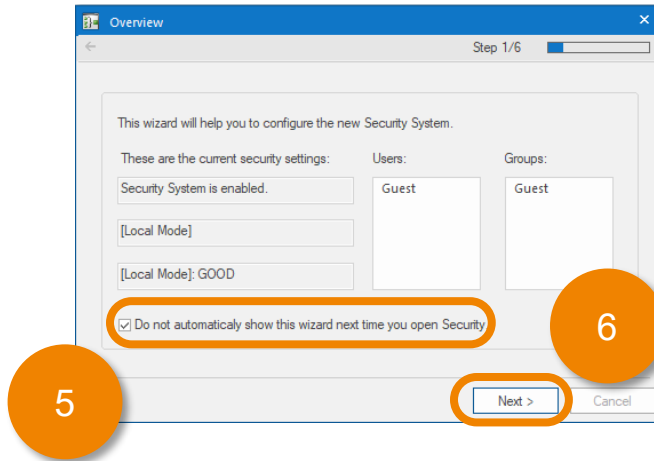
4. Select resolution (you can use any) and click [OK].



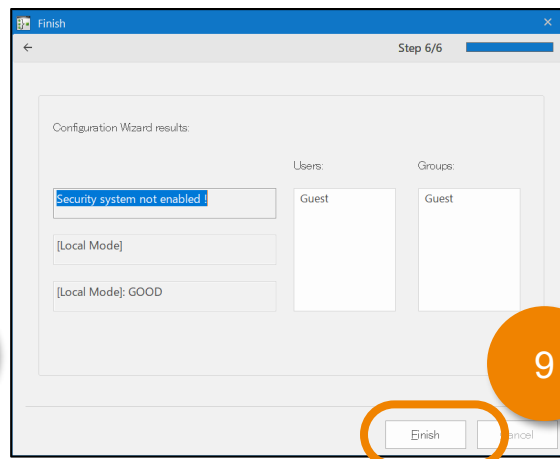
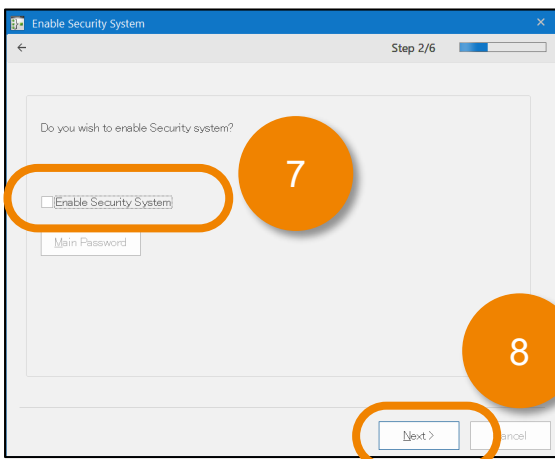
4. HMI Project Creation

Create Project

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



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.

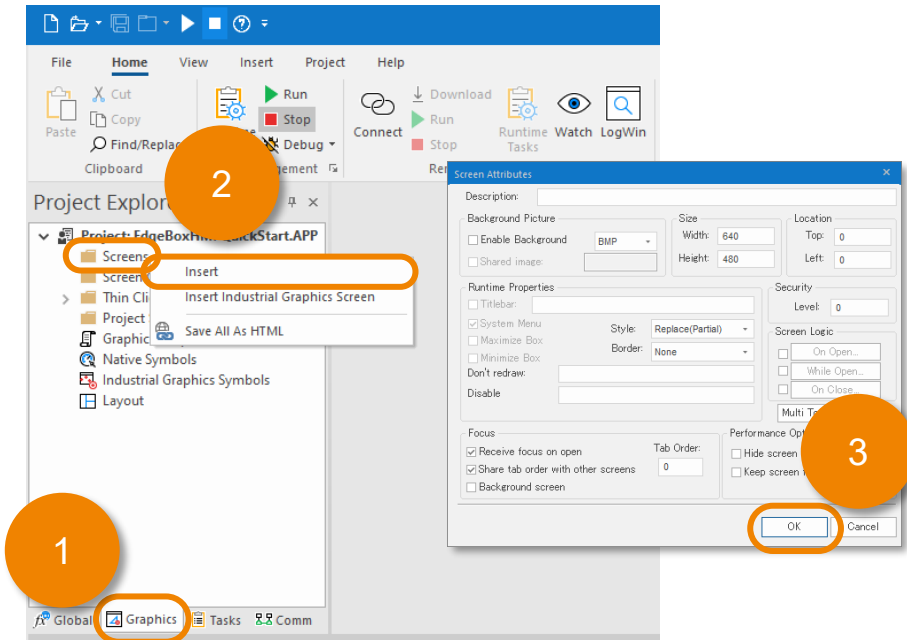


NOTE: You can configure security system later. So, skip here for quick start.

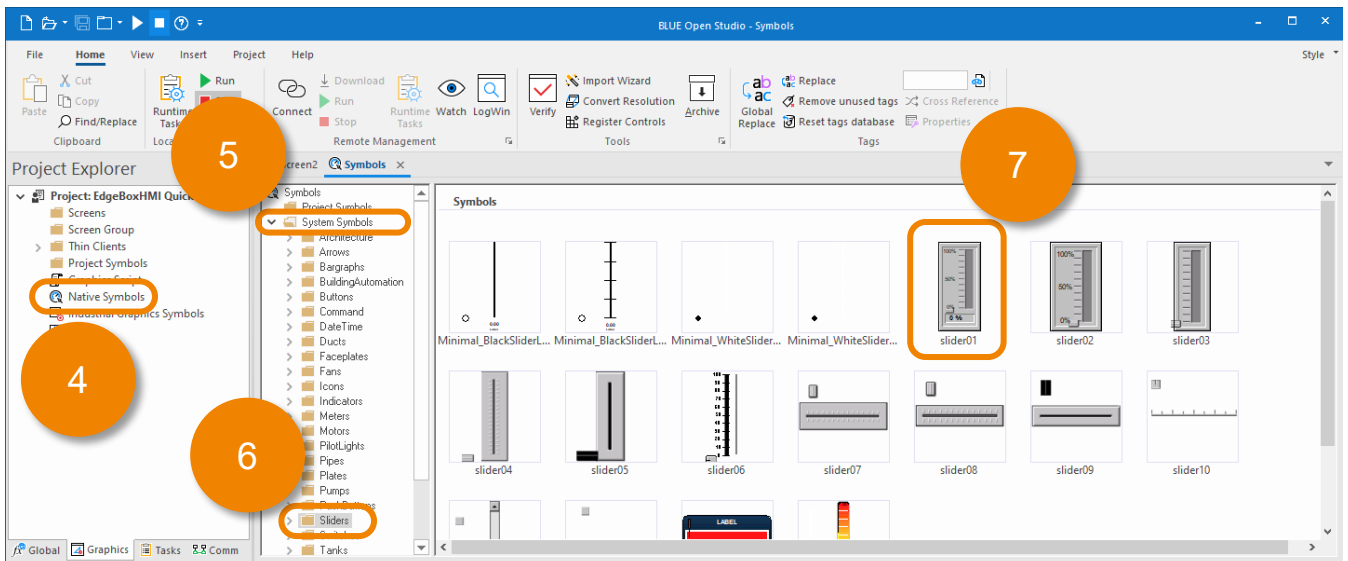
4. HMI Project Creation

Create Screen and Tag

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




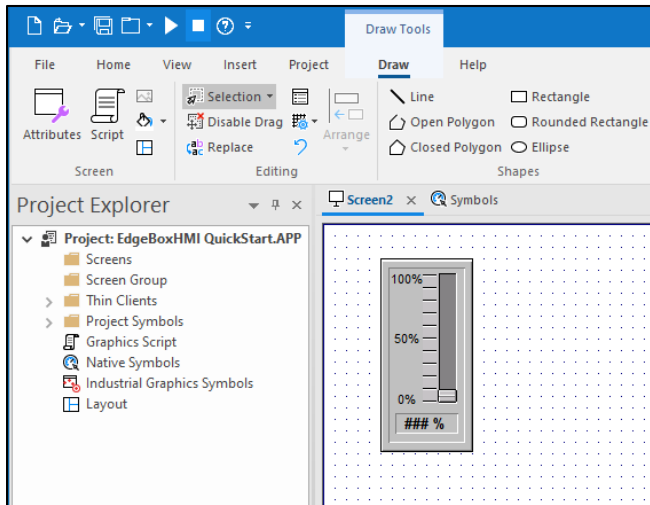
4. Double-Click [Native Symbols].
5. Expand [System Symbols].
6. Select [Sliders].
7. Select [slider01], the mouse icon should change to



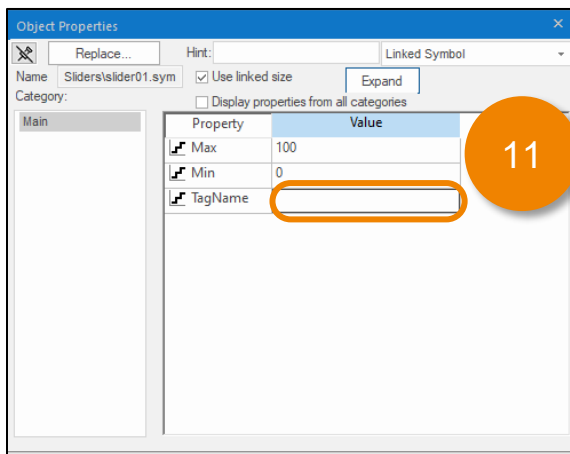
4. HMI Project Creation

Create Screen and Tag

8. With the mouse cursor still as  click on the new screen's tab, which will show the newly created screen again.
9. Click anywhere on the screen to drop the slider01 symbol.



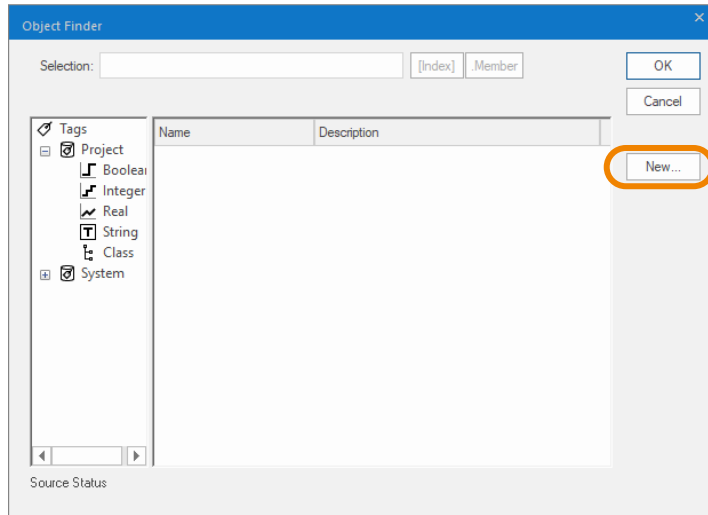
10. Double-click the newly created slider01 symbol which will open the [Object Properties] dialog.
11. Double-click the [TagName] [Value] field which will open the [Object Finder].



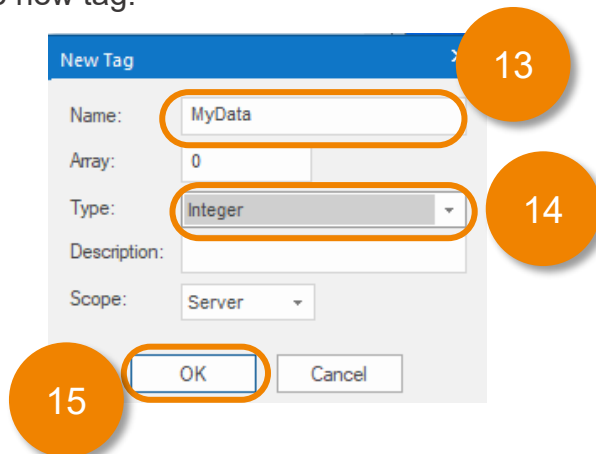
4. HMI Project Creation

Create Screen and Tag

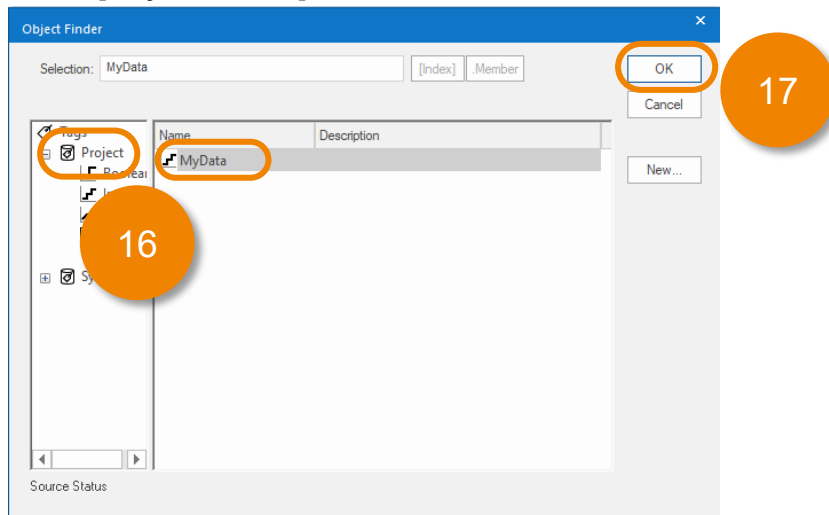
12. Click [New].



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



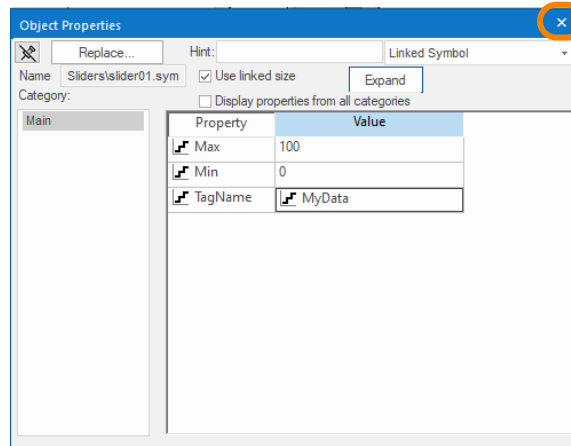
16. Select [Project] and select the newly created tag, e.g. MyData.
 17. Click [OK] to close the [Object Finder].



4. HMI Project Creation

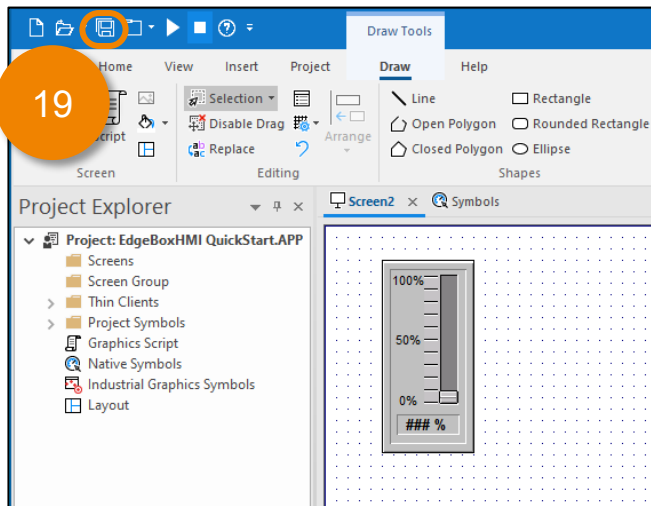
Create Screen and Tag

18. Close the [Object Properties] window



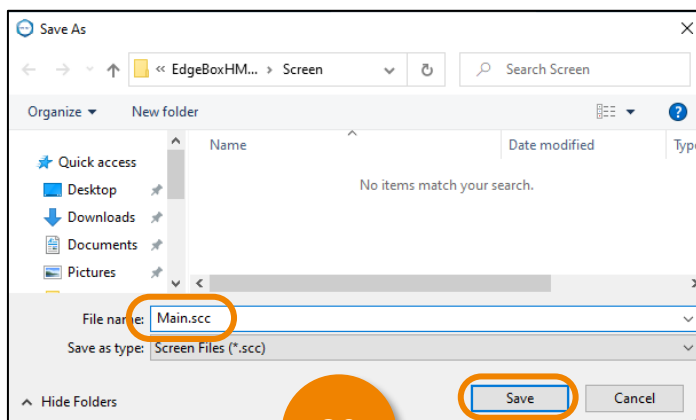
18

19. Click the [Save] Icon



19

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

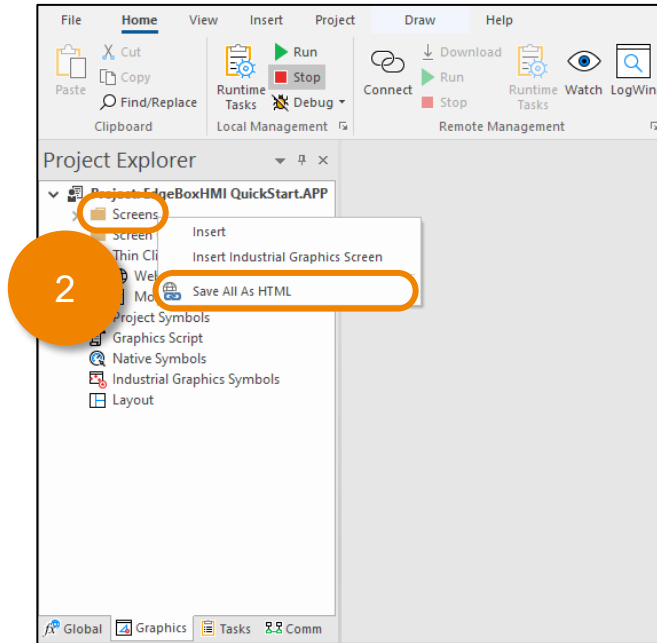


20

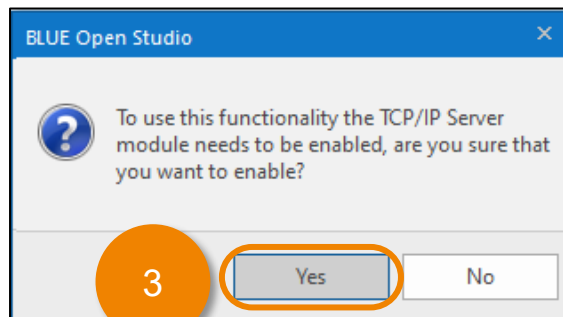
4. HMI Project Creation

Mobile Access Configuration

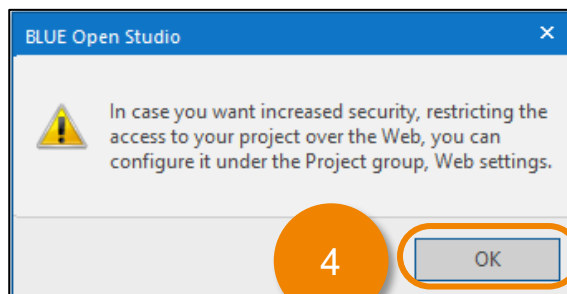
1. Close all open tabs. E.g. Main.scc, Symbols
2. Right-Click [Screens] and click [Save All as HTML]



3. If prompted, click [Yes]



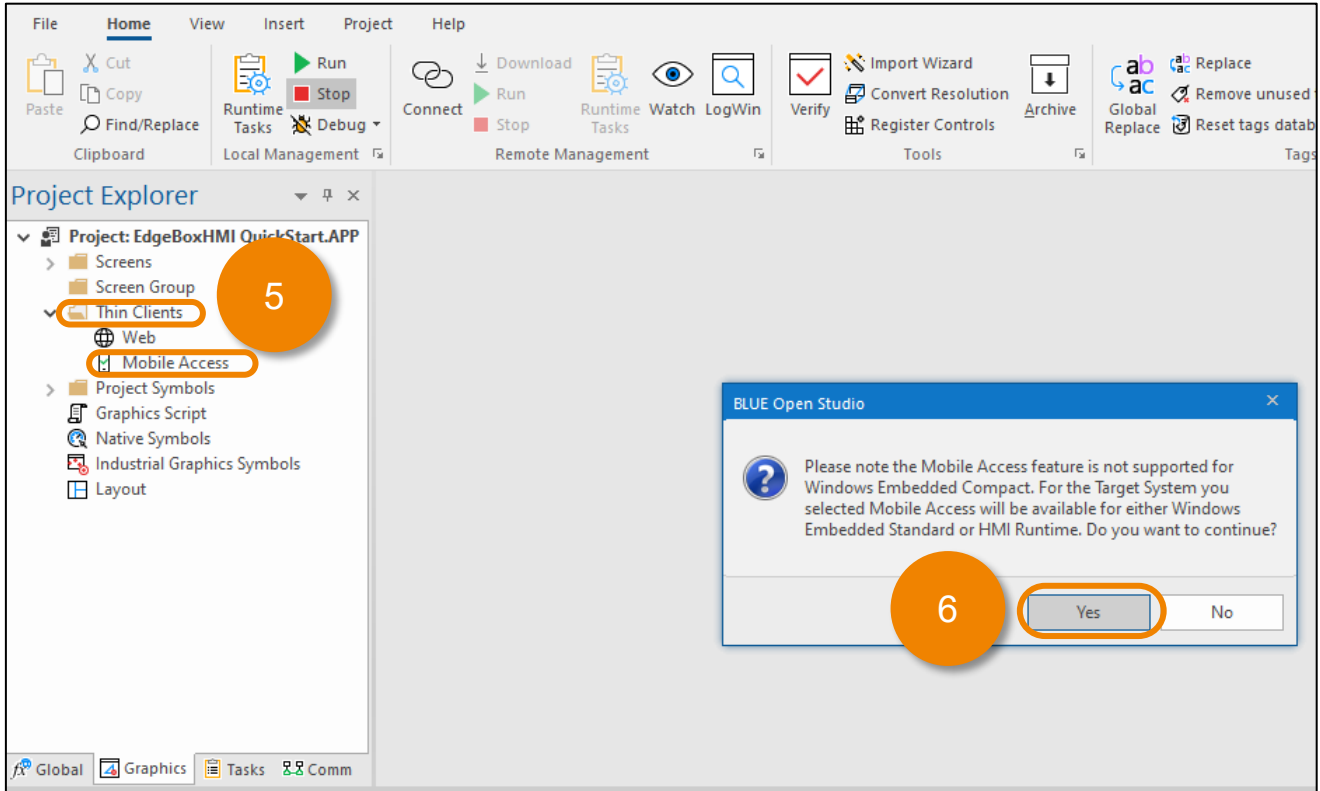
4. If prompted again, click [OK]



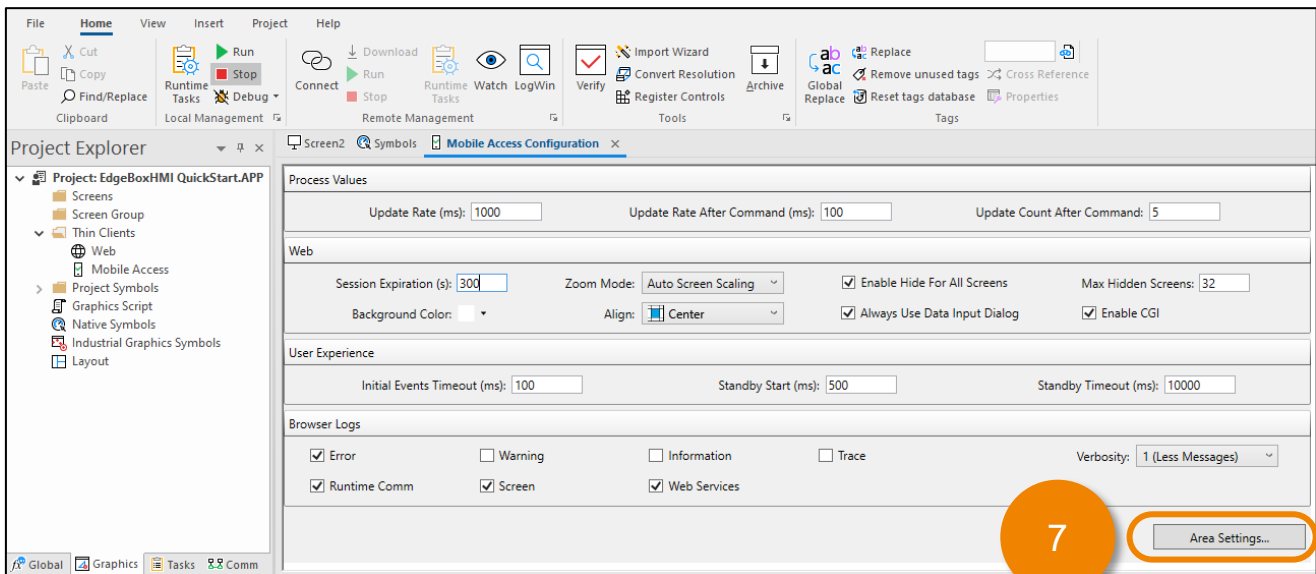
4. HMI Project Creation

Mobile Access Configuration

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



- Click [Area Settings...]



4. HMI Project Creation

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

Show process values alarms only

Trend and Process Values

Tag Name	Label	Write	Min	Max	Widget	Pen Color
MyData	MyData	<input checked="" type="checkbox"/>	0	100	None	■
		<input type="checkbox"/>	0	100	None	■
		<input type="checkbox"/>	0	100	None	■
		<input type="checkbox"/>	0	100	None	■

Widget Size: Medium Write Access Level: 0

Screens

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

Widget Size: Medium Write Access Level: 0

Screens

Screen	Label
main	Main

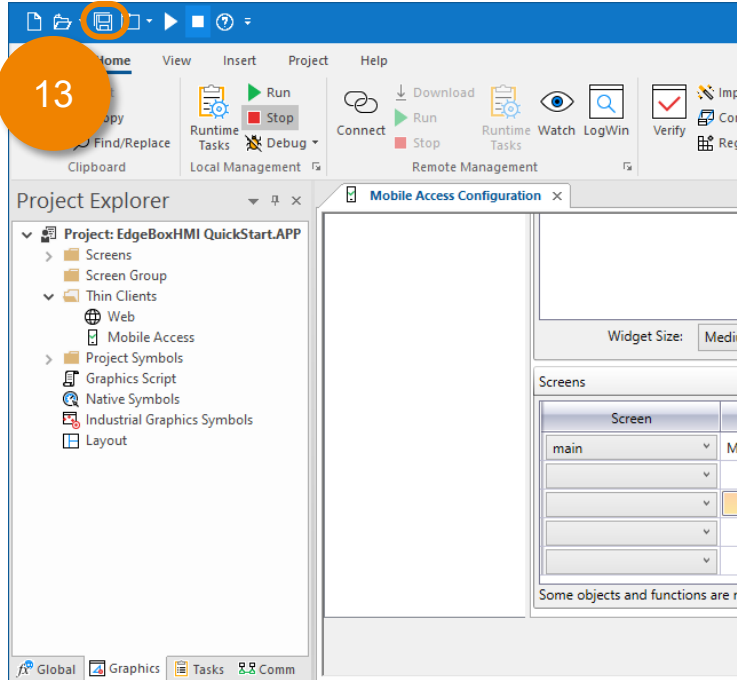
Some objects and functions are not supported in screens, please see the documentation for more details. You must also save your screens as HTML.

Web Settings...

4. HMI Project Creation

Mobile Access Configuration

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



14. Close the [Mobile Access Configuration] tab.

5. Transfer

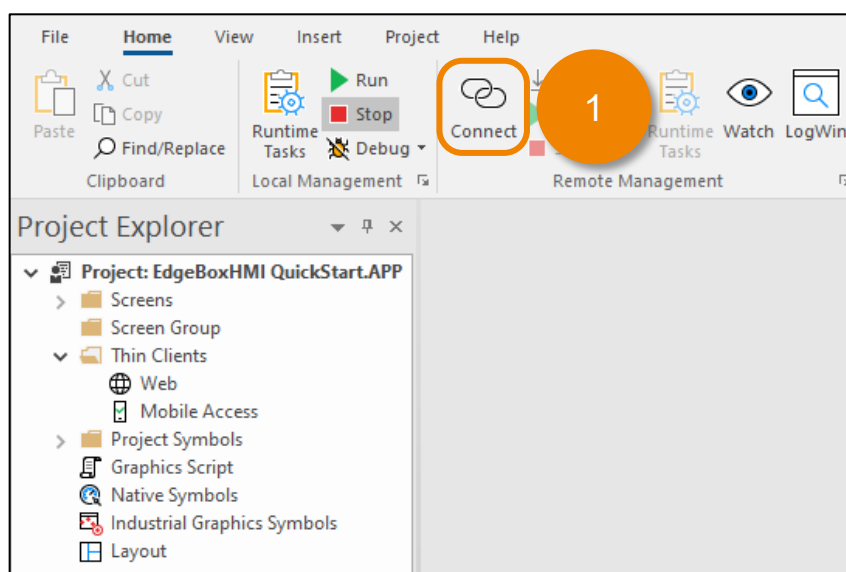
The Edge Box HMI (model number: PFXSTM6B00DIOT) includes an HMI Runtime license (500 tags supported) and a Mobile Access license. There is no need to activate them.

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).

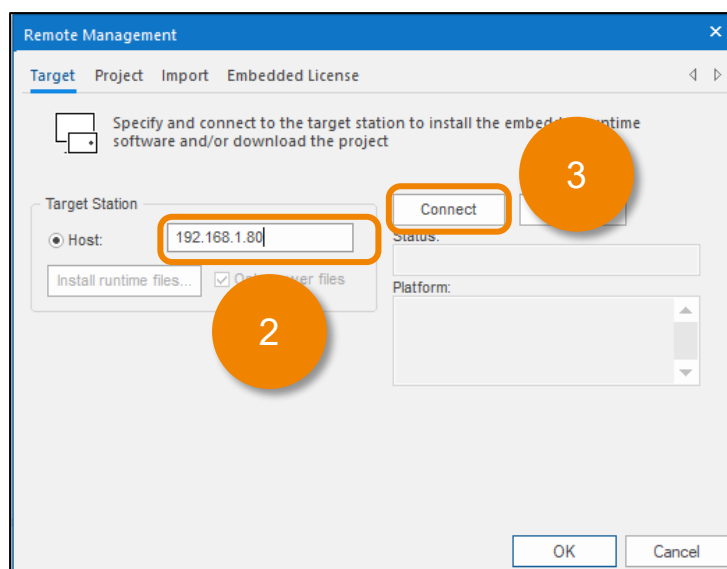
The following settings are required in BLUE Open Studio to enable transferring a project to the Edge Box HMI.

Install Runtime Files

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



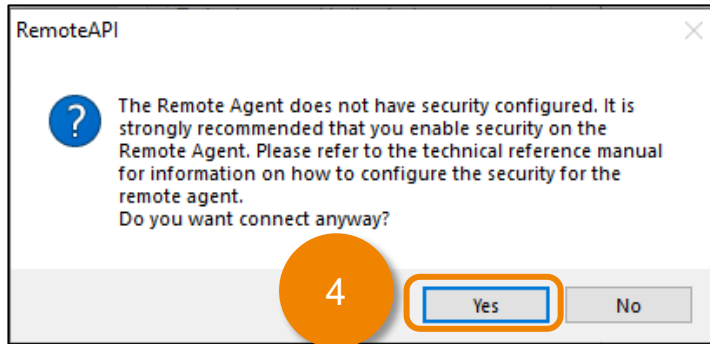
2. [Target] tab, enter the [Target Station] [Host] IP address of the Edge Box HMI
e.g. 192.168.1.80 (Ethernet cable) e.g. 169.254.100.100 (USB)
3. Click [Connect]



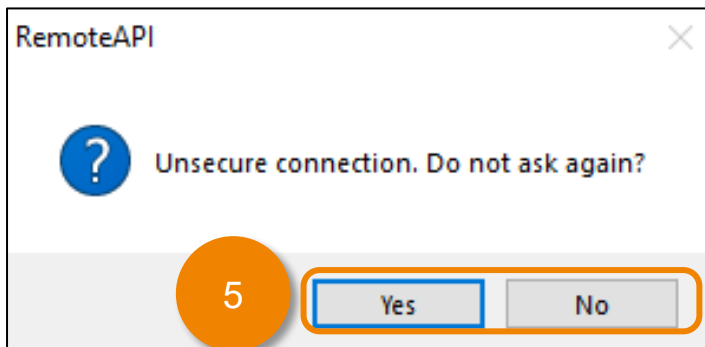
5. Transfer

Install Runtime Files

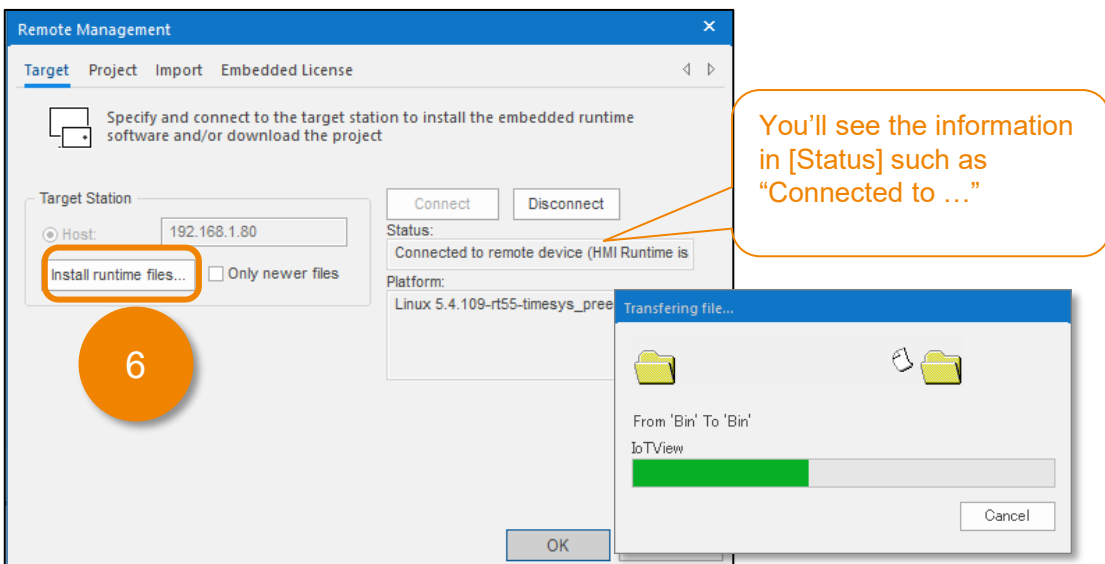
4. If prompted, click [Yes].



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].

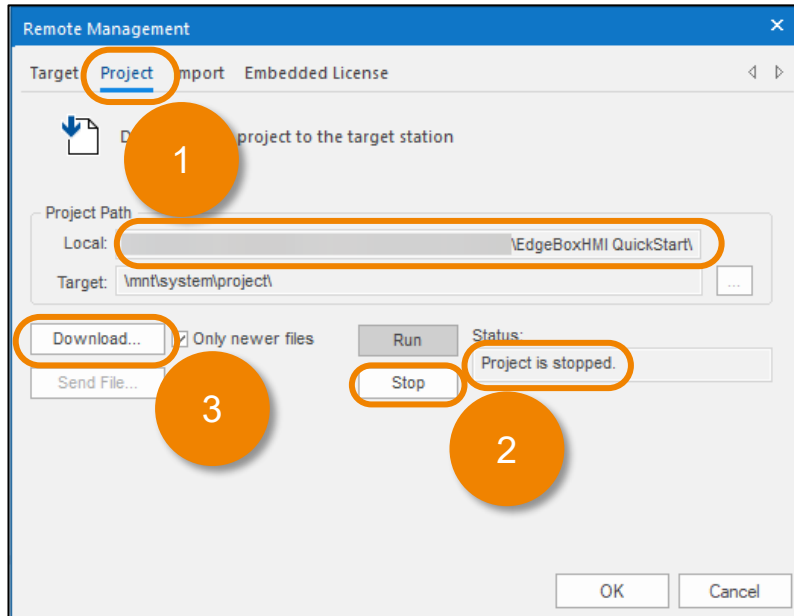


Note: It will take a while to install HMI Runtime.

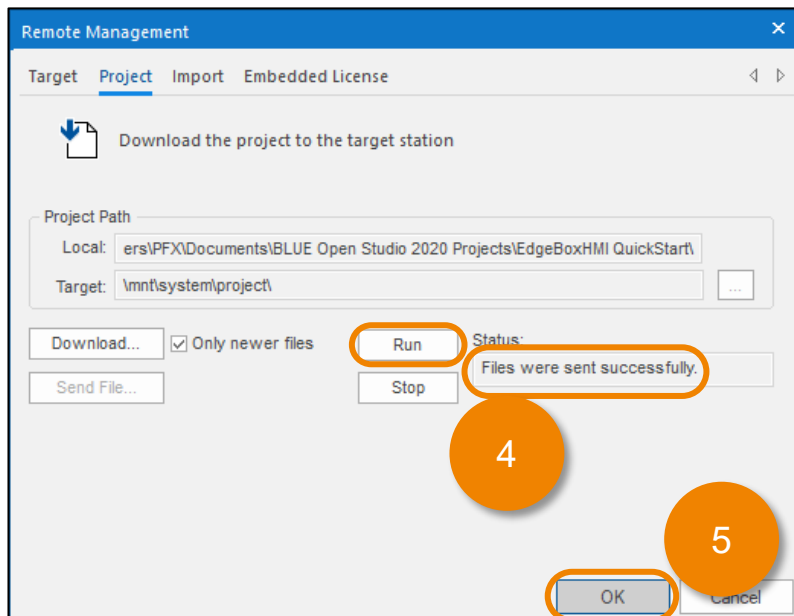
5. Transfer

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].



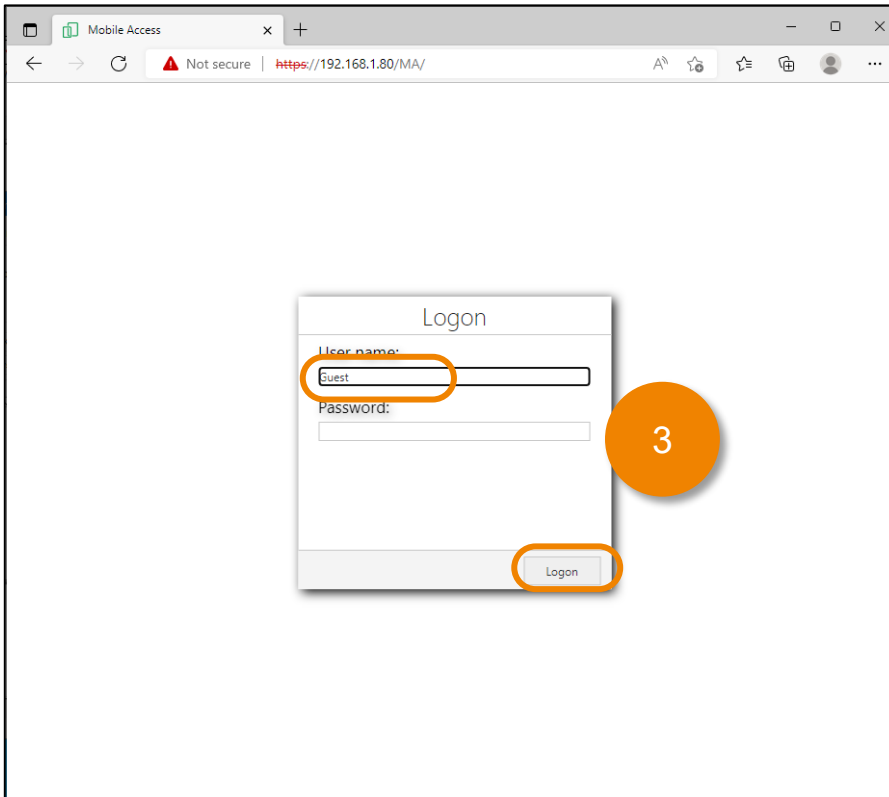
4. After the [Status] has changes to “Files were sent successfully”, click [Run]
5. Click [OK] to close the dialog window.



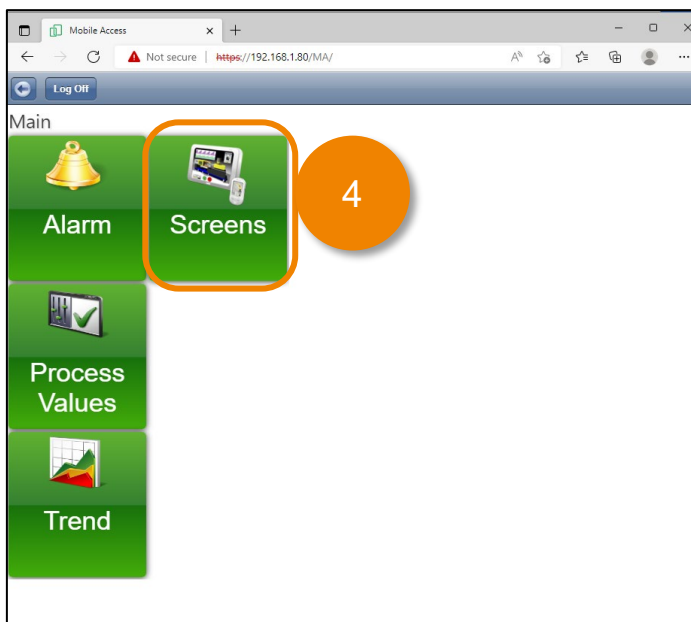
6. Accessing the HMI Screen using Mobile Access

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

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

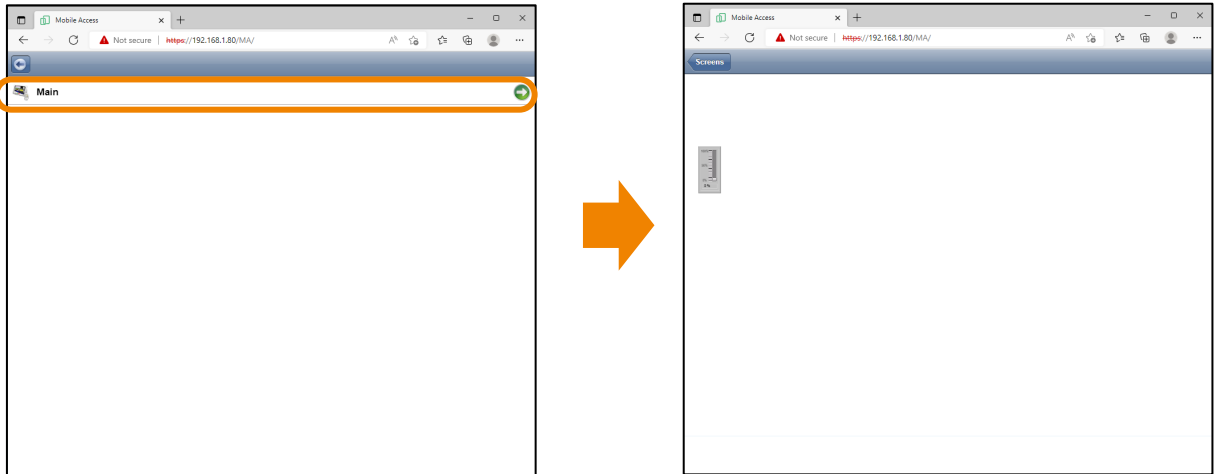


4. Click [Screens], then screen list that you configured in Mobile Access worksheet appears.



6. Accessing the HMI Screen using Mobile Access

5. Click screen menu item to see the screen.



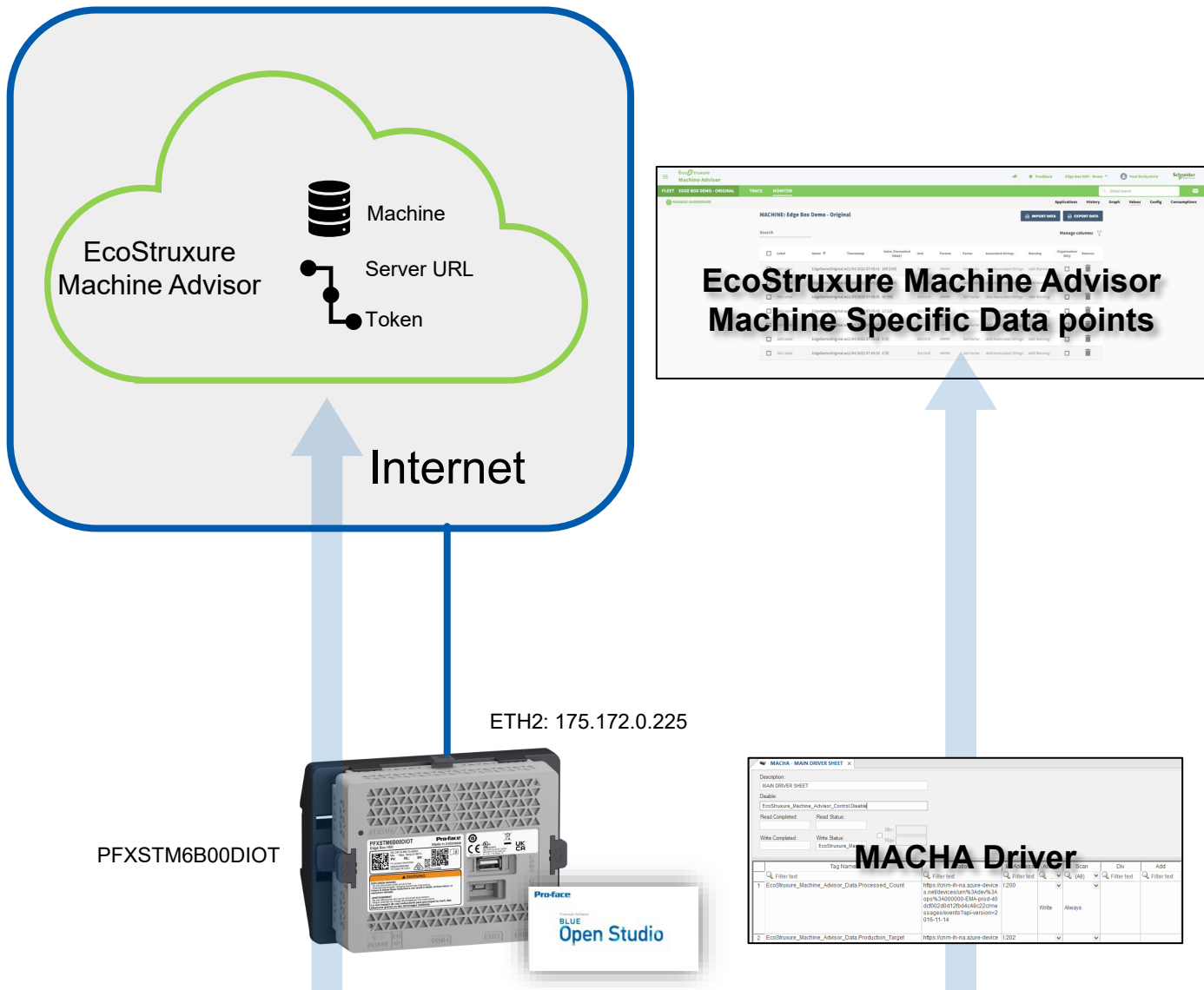
NOTE: You can go directly to the screen by specifying the screen name in URL.
https://<EdgeBoxHMI IP Address>/MA/#screen=<Screen Name>&guestuser=1
e.g. <https://192.168.1.80/MA/#screen=main&guestuser=1>

7. 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.



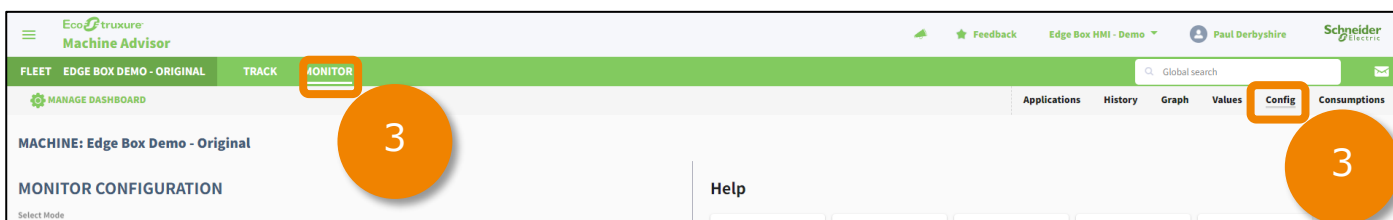
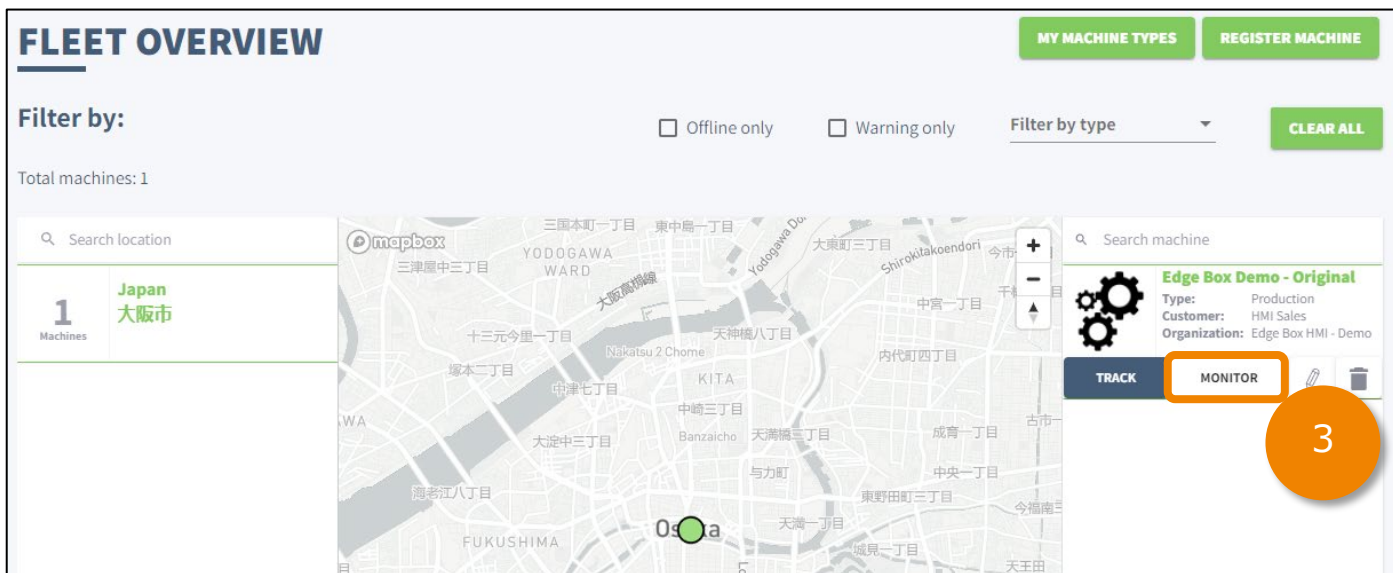
7. EcoStruxure Machine Advisor Configuration

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 <https://ecostruxure-machine-advisor.se.app/welcome>
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].



7. 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]

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].


7. EcoStruxure Machine Advisor Configuration


EcoStruxure Machine Advisor Machine Connection


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

Generated Configuration

Protocol: 

Custom header 1: 

Server:  **11**


Connection string: 


[+ New Token](#)

The last generated token is valid for 9 Years 11 Months 30 Days.

Success! ×

You have successfully added a new access token. Copy the token Now!

Token:  **12**

 Warning - Make sure you copy the above token now. We do not store it and you will not be able to see it again.

Notepad

File Edit View Help

```
https://cnm-ih-na.azure-devices.net/devices/urn%3Adev%3Aops%3A000000-EMA-prod-XXXXXXXXXXXXXXXXXXXX
XXXX/messages/events?api-version=2016-11-14

Authorization;SharedAccessSignature sr=cnm-ih-na.azure-devices.net%2Furn%3Adev%3Aops%3A000000-EMA-prod-
XXXXXXXXXXXXXXXXXXXXXXXXXXXX&sig=XXXXXXXXXXXXXXXXXXXX&se=XXXXXXXXXXXX
```


7. EcoStruxure Machine Advisor Configuration

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-gnueabi-hf-2.13-6.0.17\drv

The screenshot shows a web browser window displaying the curl website's 'CA Extract' page. The browser address bar shows the URL curl.se/docs/caextract.html. The page title is 'CA certificates extracted from Mozilla'. A red circle with the number '2' highlights the text 'cacert.pem' in the first paragraph. A 'Related: SSL Certs' link is visible on the right. Below the main text, there is a section titled 'File name' and another titled 'CA file revisions per date of appearance' which contains a table.

Date	Certificates
2021-09-30	127
2021-07-05	128
2021-05-25	127
2021-04-13	129
2021-01-19	129

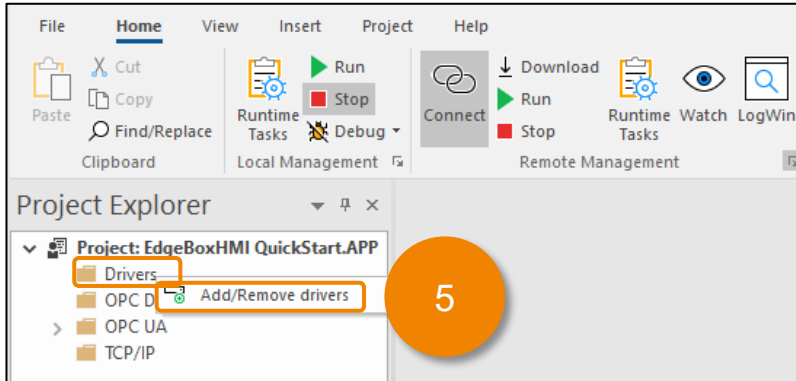
The screenshot shows a Windows File Explorer window with the address bar displaying the path: C:\Program Files (x86)\Pro-face\BLUE Open Studio 2020\Redist\IoTView\Linux\arm-gnueabi-hf-2.13-6.0.17\drv. The file list contains the following items:

Name	Date modified	Type	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	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

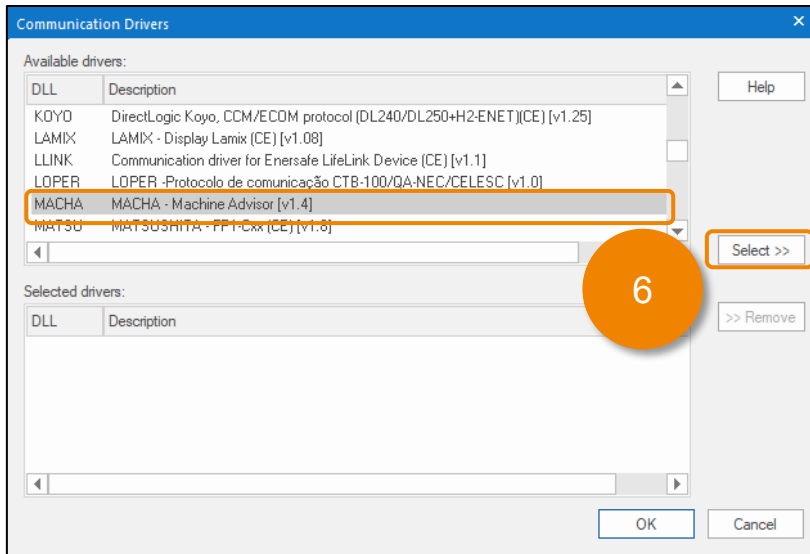
7. EcoStruxure Machine Advisor Configuration

BLUE Open Studio Project Settings

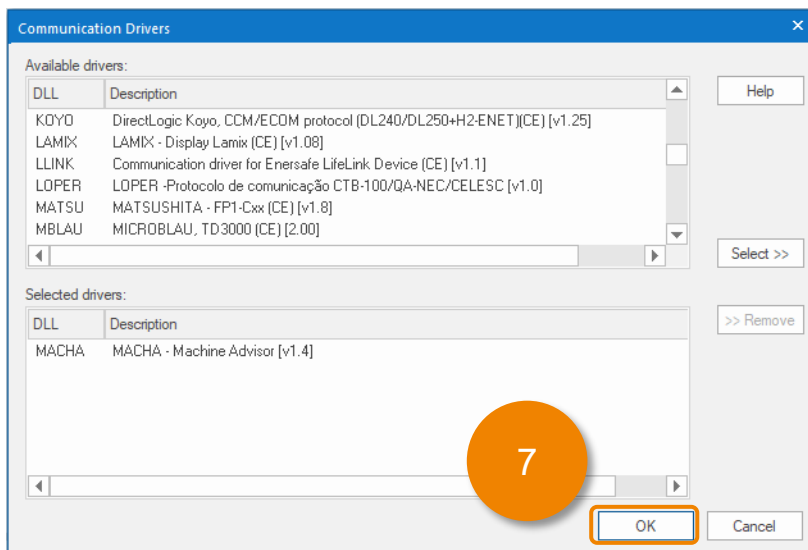
- In BLUE Open Studio, {Project Explorer} -> [Comm] tab, right-click drivers and select [Add/Remove Drivers].



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



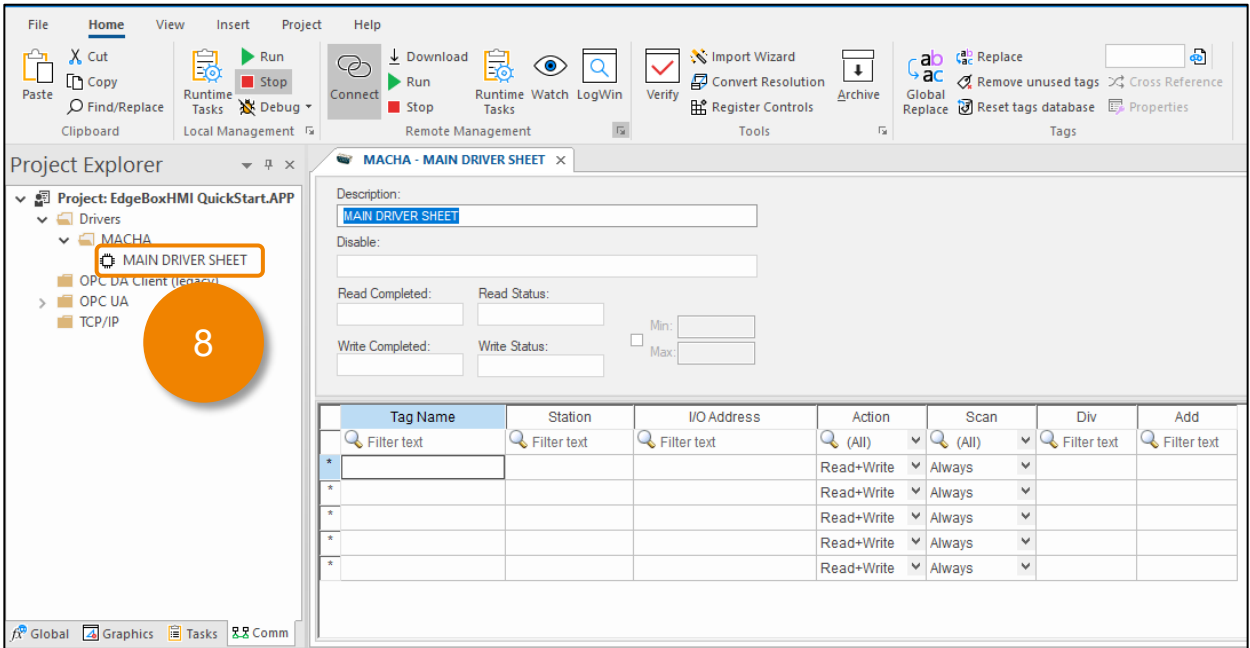
- Click [OK] to close the [Communication Drivers] dialog.



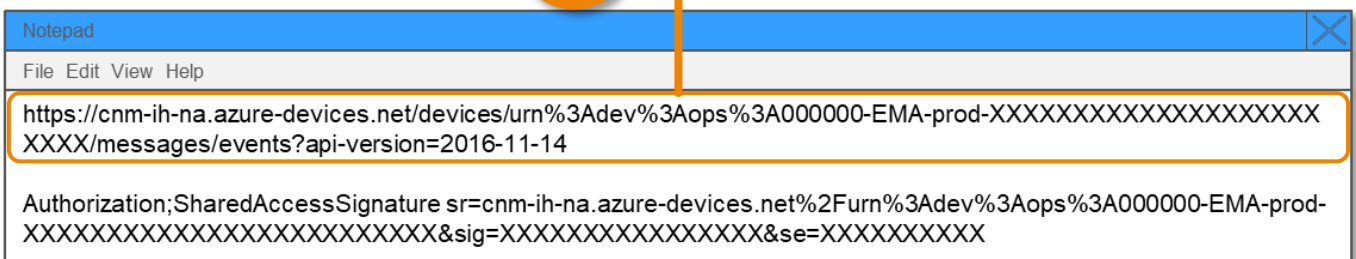
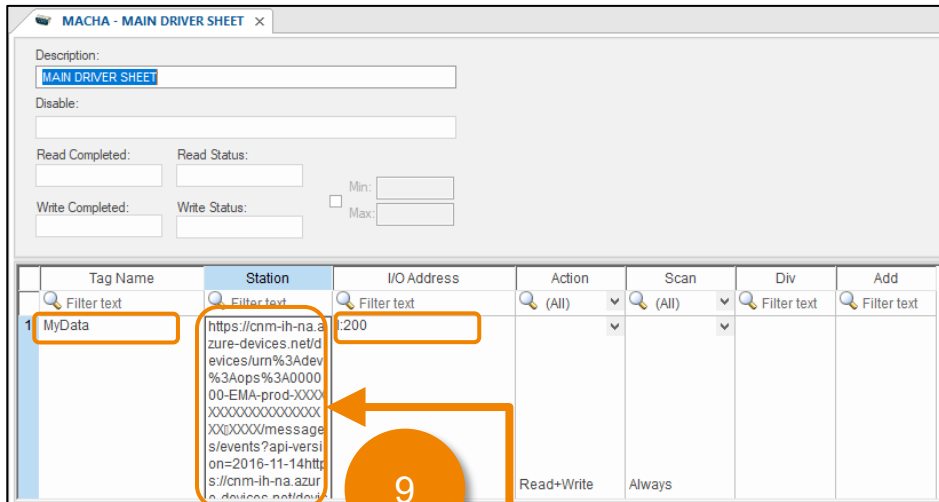
7. EcoStruxure Machine Advisor Configuration

BLUE Open Studio Project Settings

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



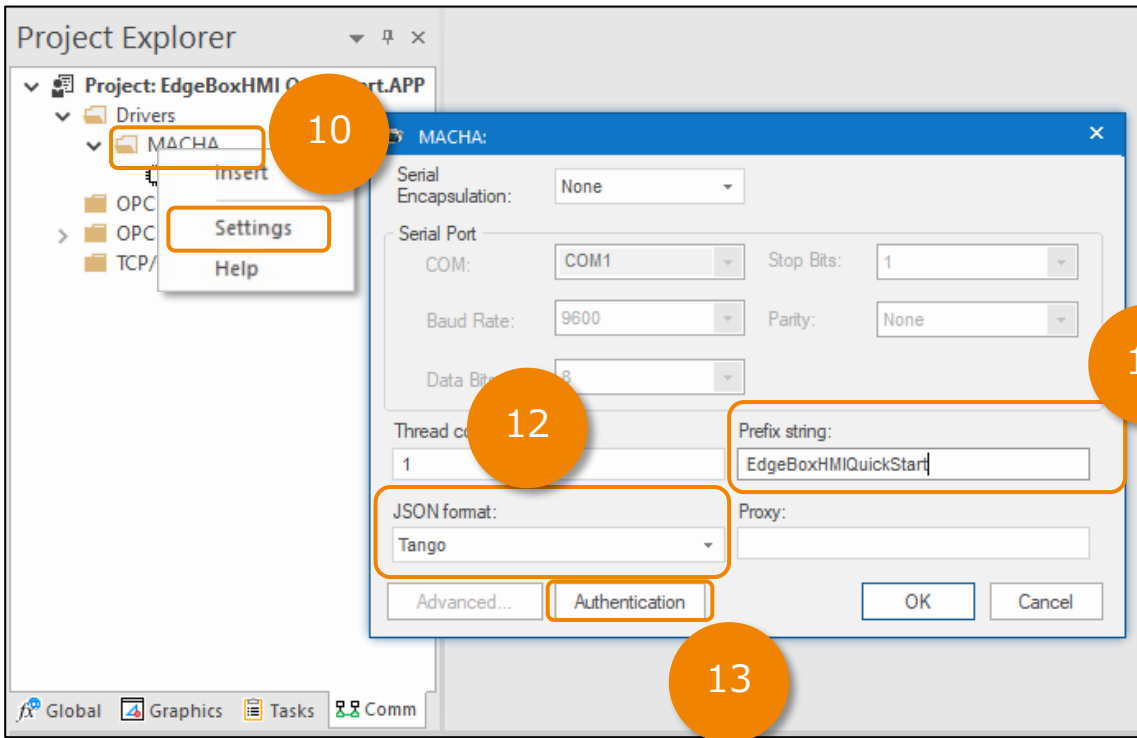
- Enter the [Tag Name] = My Data, [I/O Address] = I:200 and copy/paste the Station address from notepad into the [Station] field.



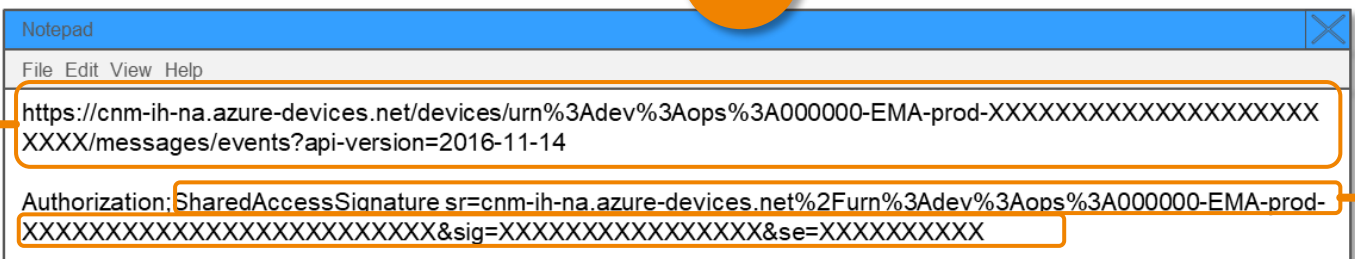
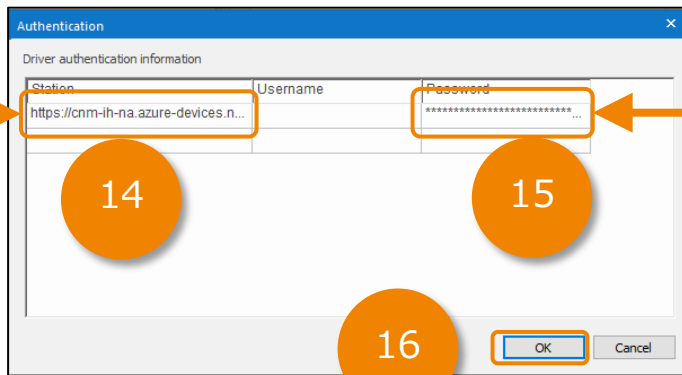
7. EcoStruxure Machine Advisor Configuration

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]



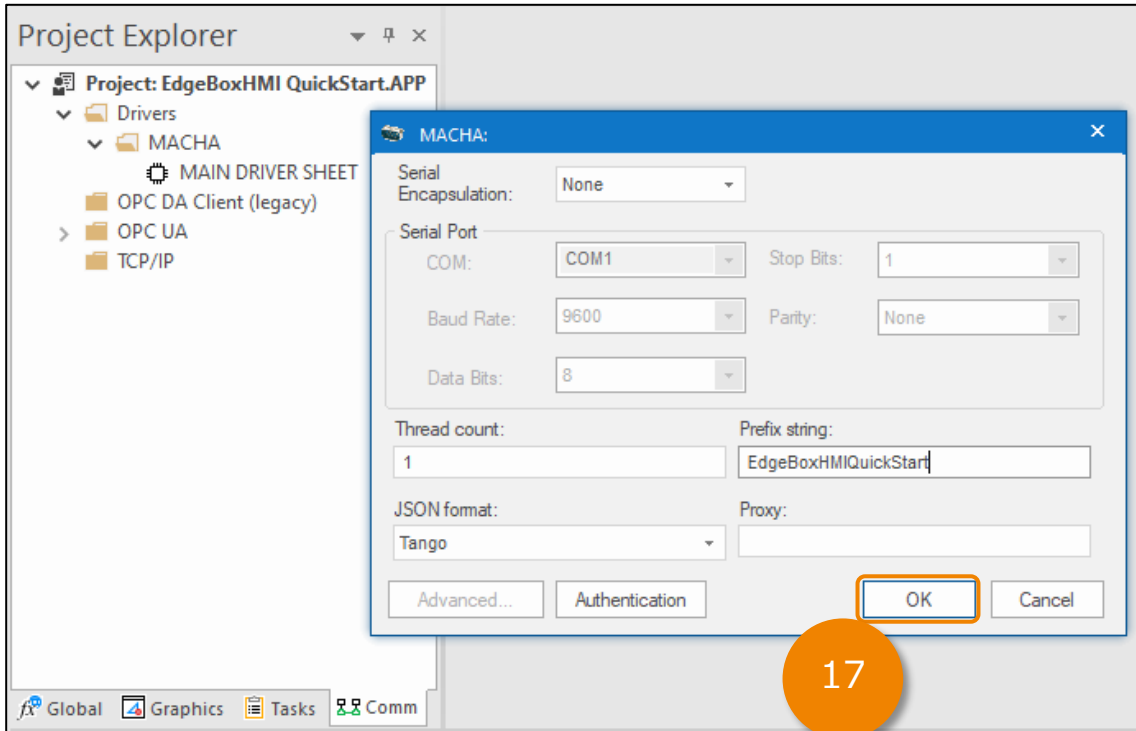
14. Copy URL and overwrite Station field.
15. Copy Token (after "Authorization;") and overwrite the Password field.
16. Click [OK]



7. EcoStruxure Machine Advisor Configuration

BLUE Open Studio Project Settings

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

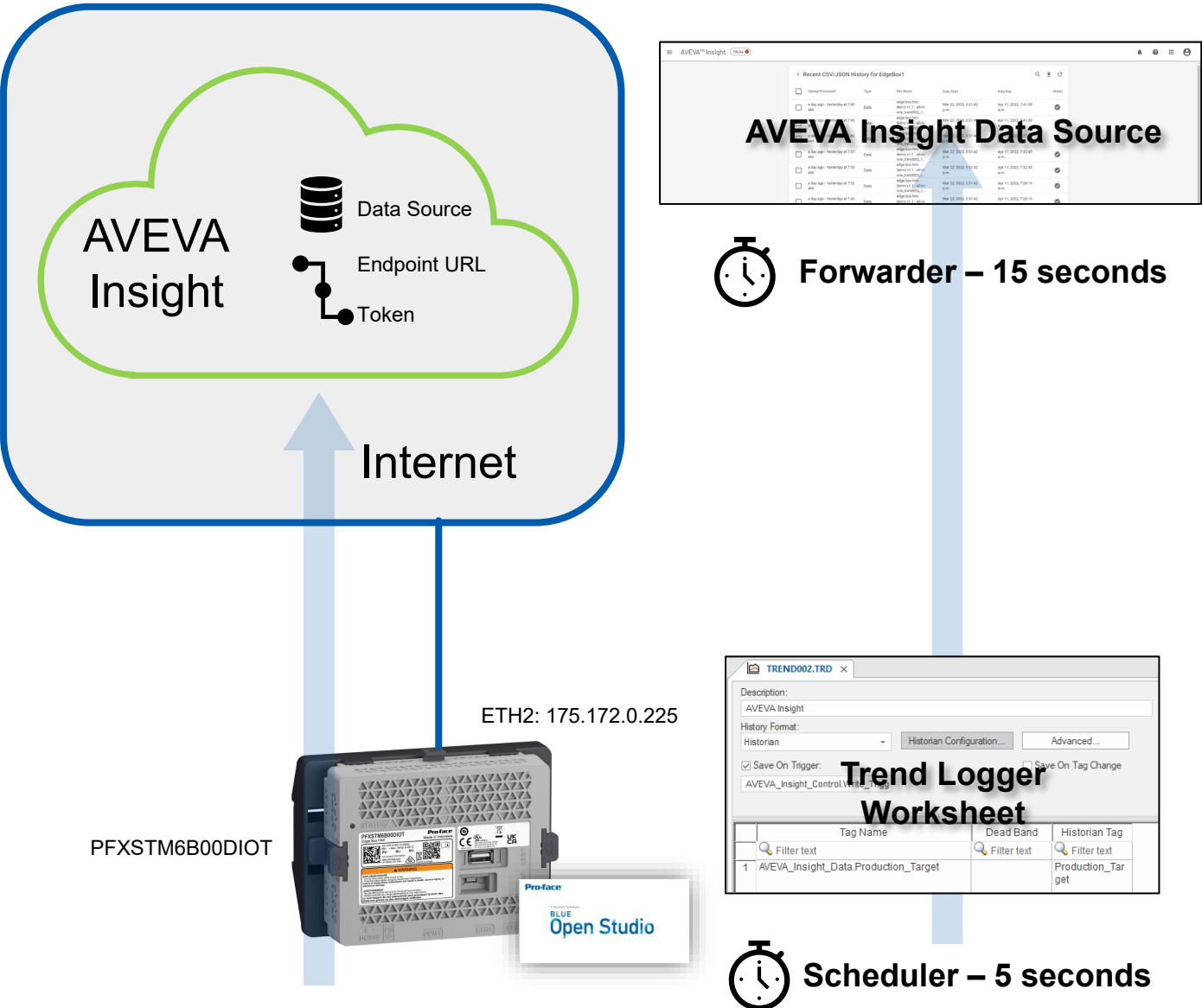


- Transfer both the Runtime (to include macha.pem) and Project files to the Edge Box HMI as shown in [Section 5](#).

8. AVEVA Insight Configuration

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.



8. AVEVA Insight Configuration

AVEVA Insight Connection

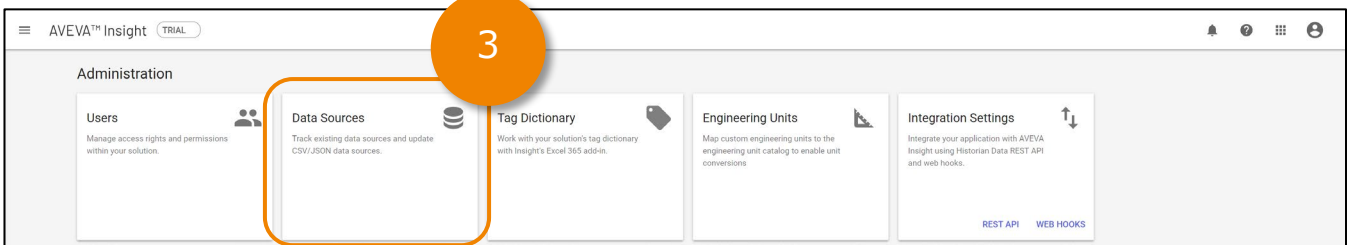
To establish a connection to EcoStruxure Machine Advisor you will need the following:

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

1. SIGN-IN to AVEVA Insight (<https://insight.connect.aveva.com>) and create a solution.
2. Navigate to AVEVA Insight Suite -> [Administration]



3. Navigate to [Data Sources]



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



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

Add CSV/JSON Data Source

Name*

The following fields will apply to all new tags, but do not apply to existing tags.

Location

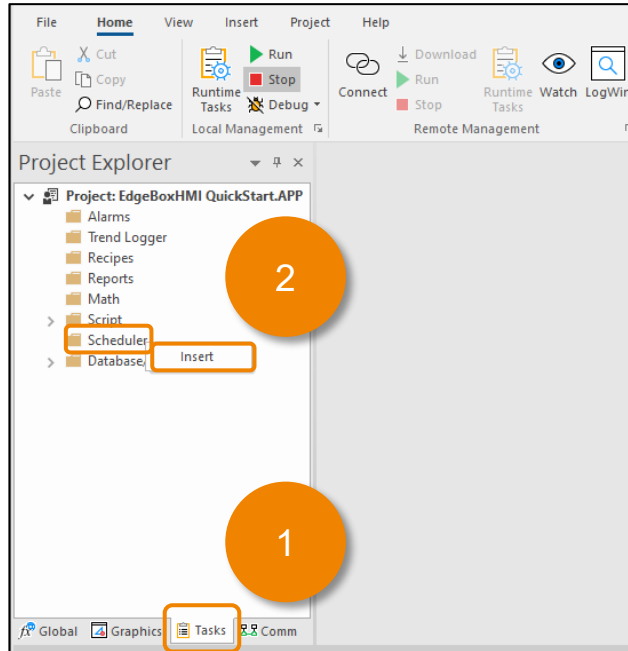
If you define a new default location, it will be created when the first new tag using this default is created.

Geolocation Coordinates

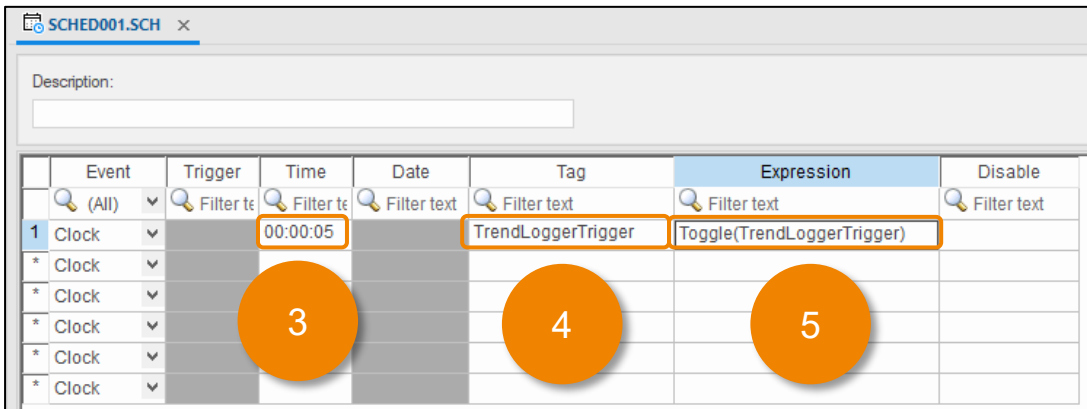
8. AVEVA Insight Configuration

BLUE Open Studio Project Settings

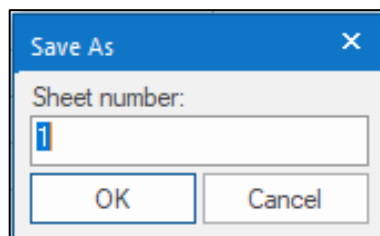
1. [Project Explorer] -> [Tasks] Tab
2. Right-Click Scheduler -> Click [Insert]



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)".



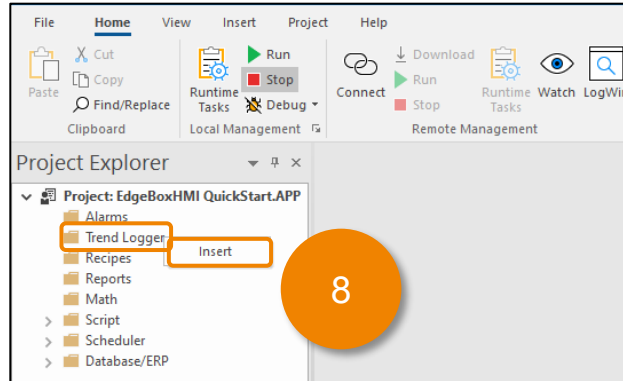
6. Save the worksheet. If prompted, enter "1" as the [Sheet number]



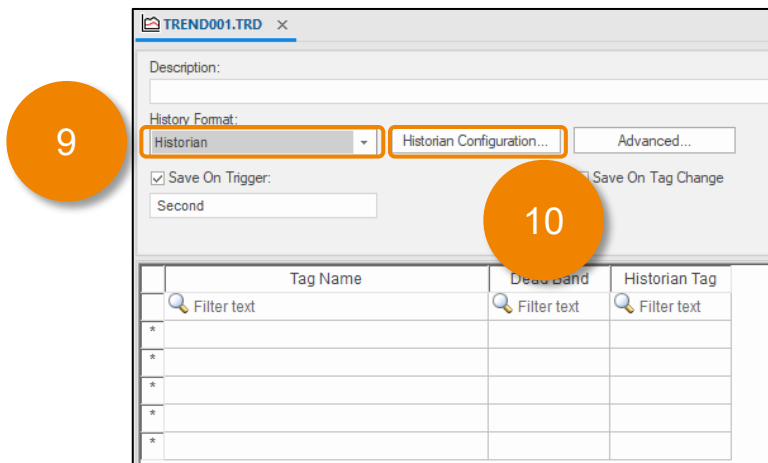
8. AVEVA Insight Configuration

BLUE Open Studio Project Settings

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



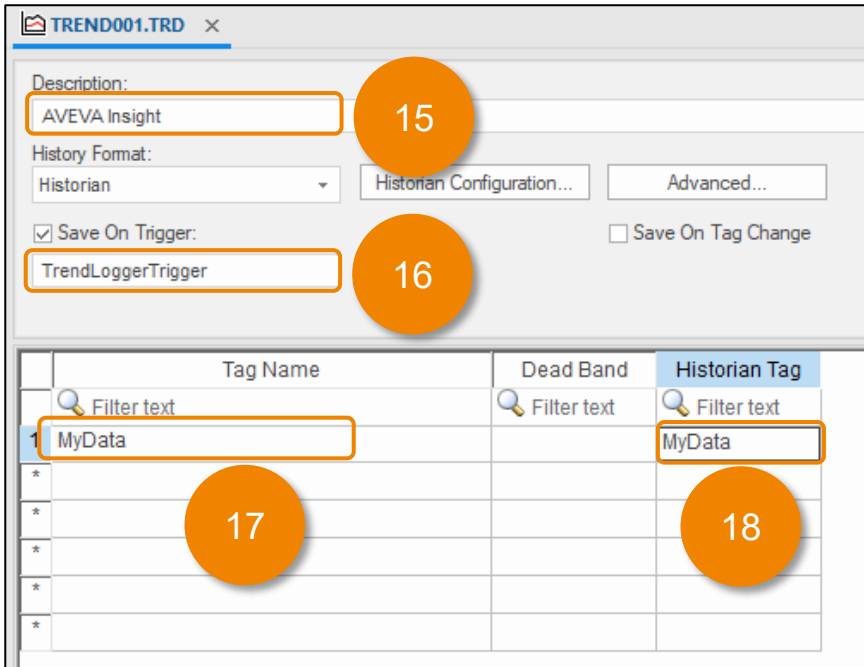
9. Change the [History Format] to [Historian].
10. Click [Historian Configuration]



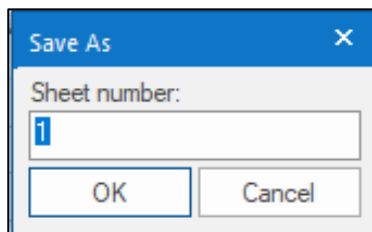
8. AVEVA Insight Configuration

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]



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

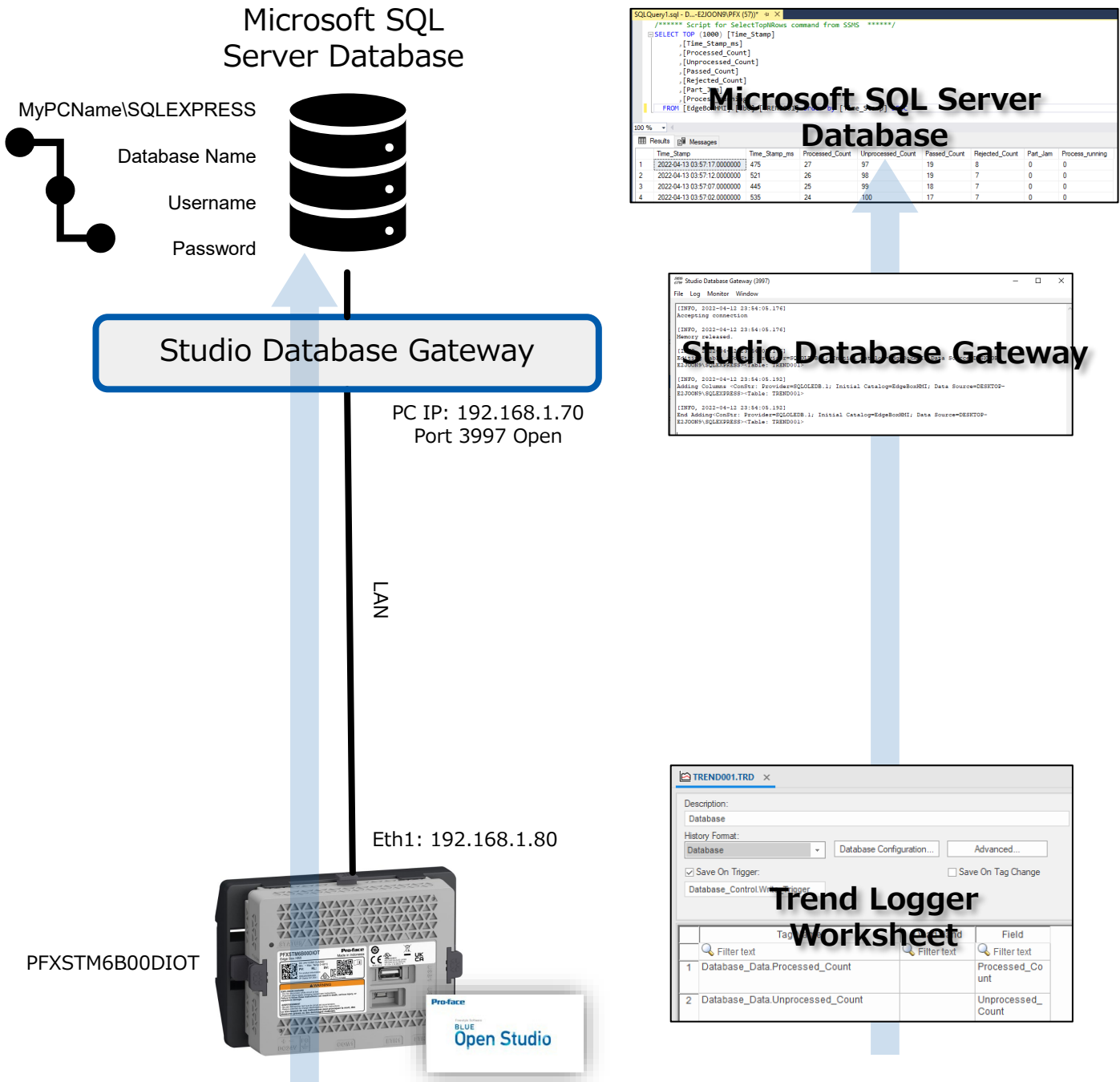


20. Transfer the project files to the Edge Box HMI as shown in [Section 5](#).

9. 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.



9. Database Configuration

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:

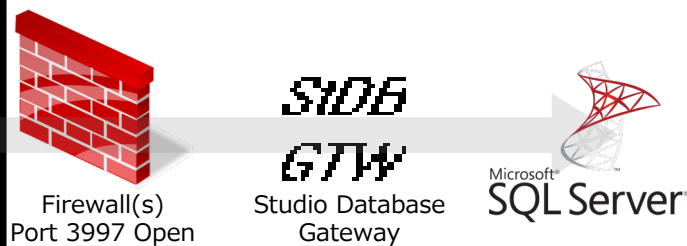
- Path to SQL Server = PCNAME\SQLEXPRESS
- Database name = EdgeBoxHMI
- Mixed mode authentication with a local user account as db_Owner for the EdgeBoxHMI database and login rights
 - Username = EdgeBoxHMI
 - Password = !Proface1234

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

Edge Box HMI
Connection



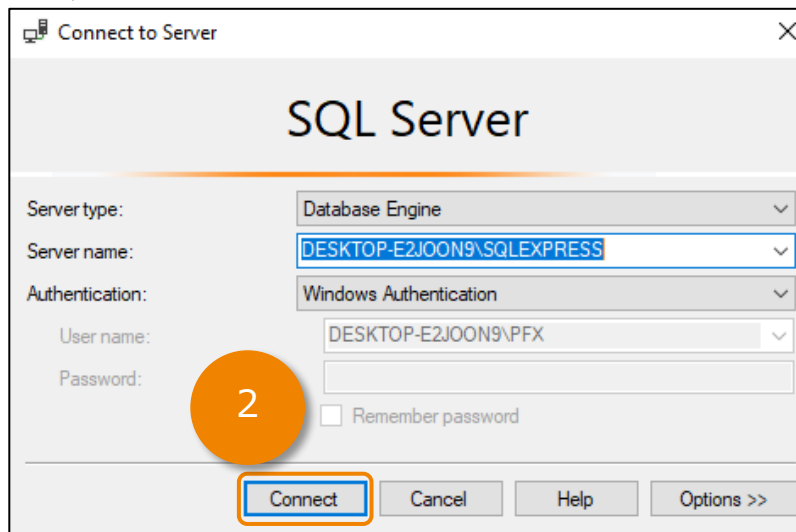
9. Database Configuration

Create a SQL Database

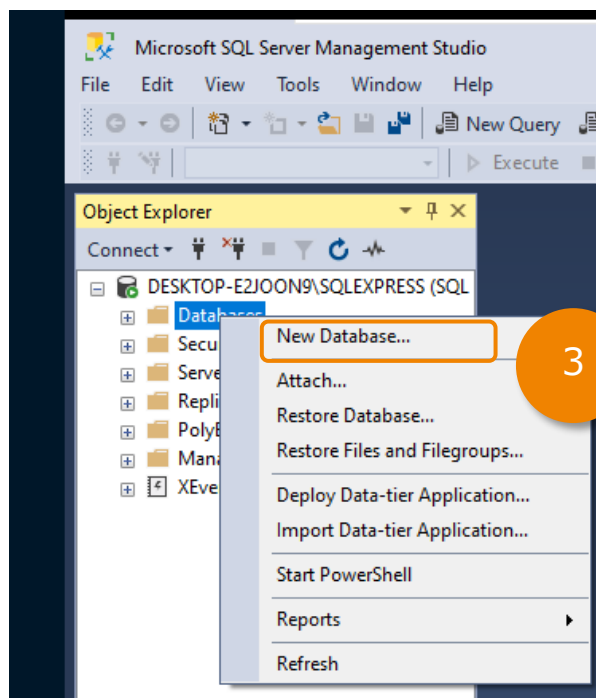
This procedure assumes there is not an existing database for use with the project.

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.



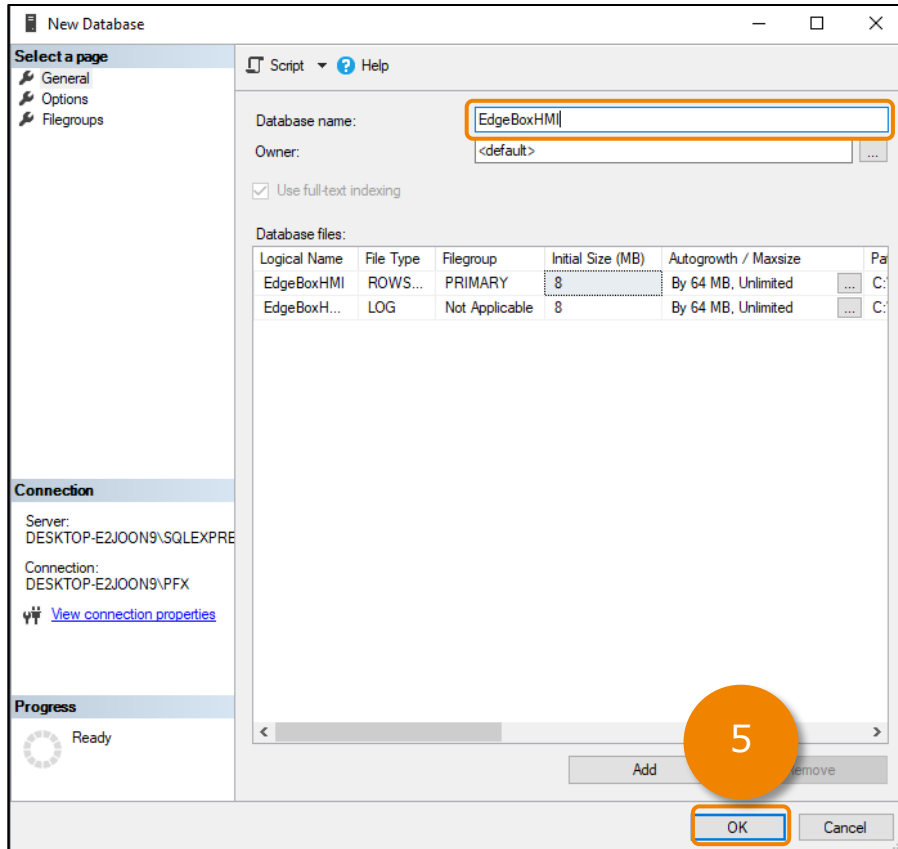
3. [Object Explorer] -> [Databases] right-click [Databases] and click [New Database...] .



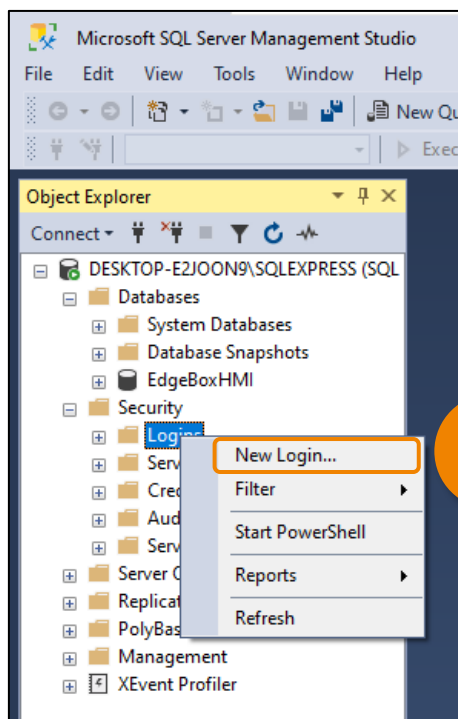
9. Database Configuration

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...]



9. Database Configuration

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.

12 Select a page

- General
- Server Roles
- User Mapping**
- Securables
- Status

8 Login name: EdgeBoxHMI **7**

Windows authentication
 SQL Server authentication **8**

Password: **9**
 Confirm password: **9**

Specify old password
 Old password:

Enforce password policy **10**
 Enforce password expiration
 User must change password at next login

Mapped to certificate
 Mapped to asymmetric key
 Map to Credential

Mapped Credentials

Credential	Provider
------------	----------

Add

Default database: EdgeBoxHMI **11**
 Default language: <default>

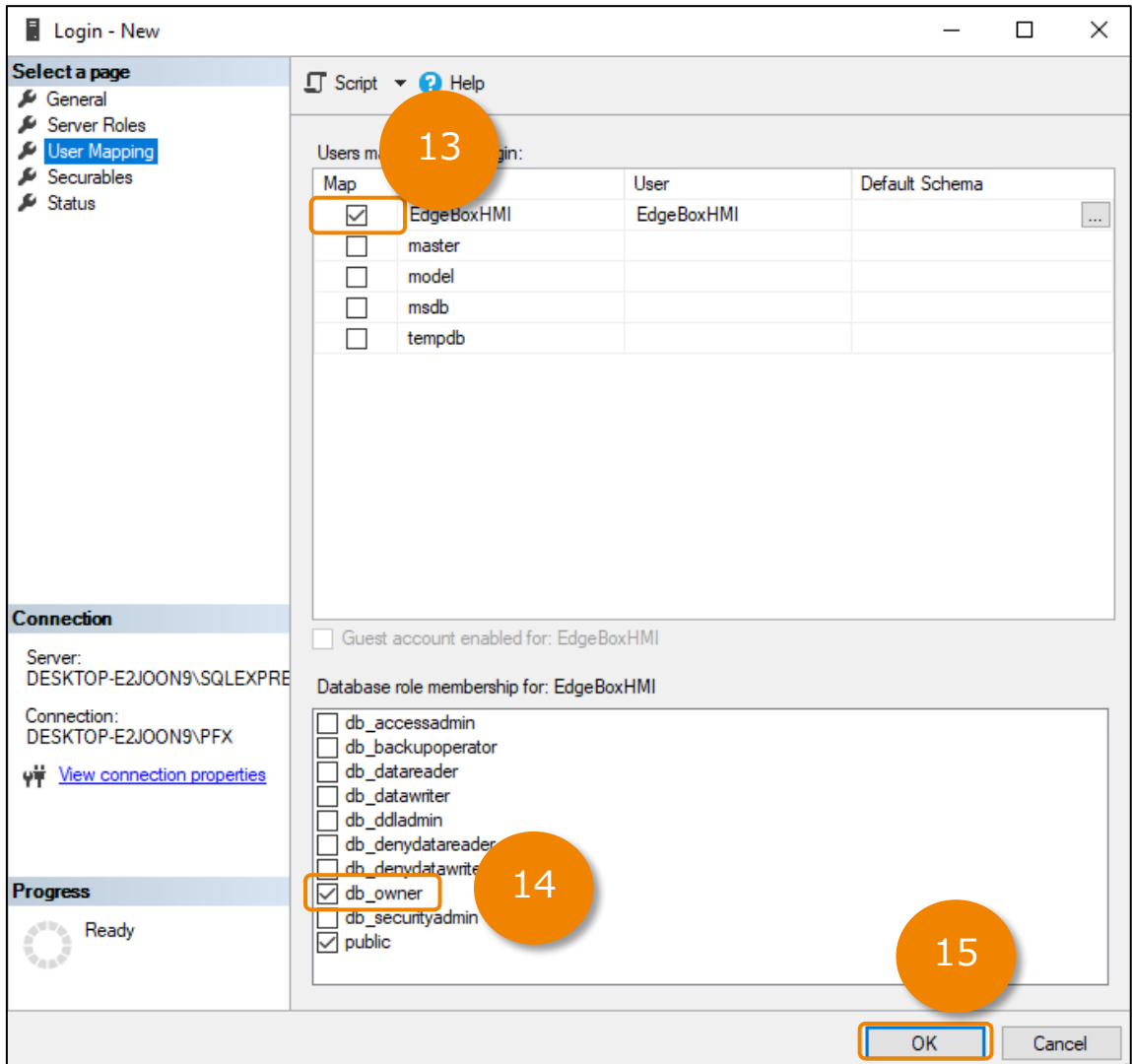
OK Cancel

11 Progress
 Ready

9. Database Configuration

Create a SQL Database

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



9. Database Configuration

Studio Database Gateway Installation

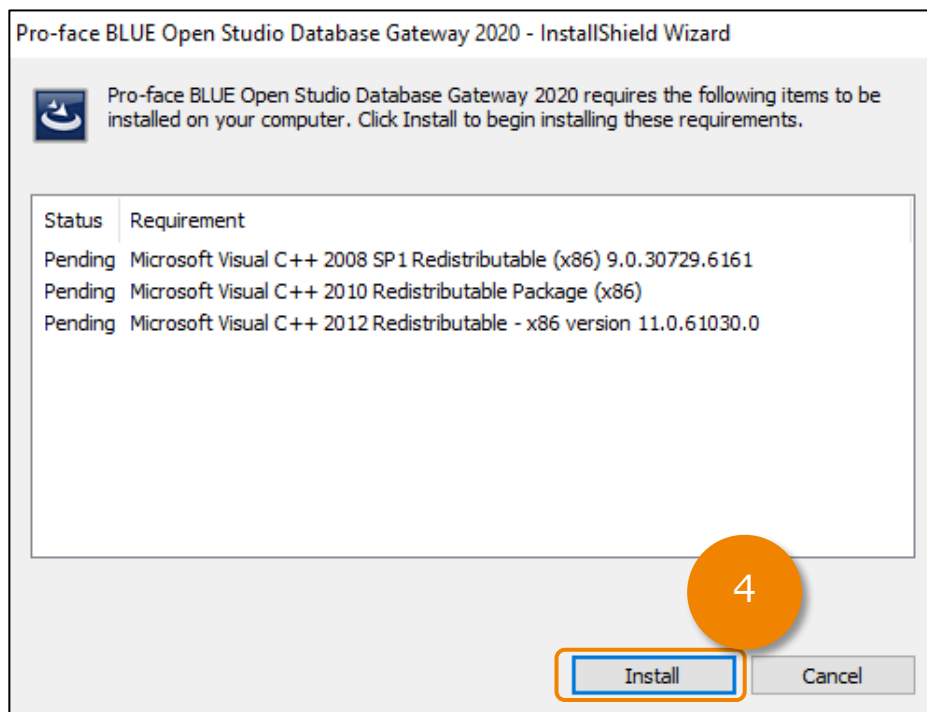
To allow the HMI runtime running on the Edge Box HMI to communicate with SQL Server the Studio Database Gateway needs to be installed on a Windows PC on the same network as the Microsoft SQL Server. For an easy demonstration configuration, install the Studio Database Gateway on the same Windows PC as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

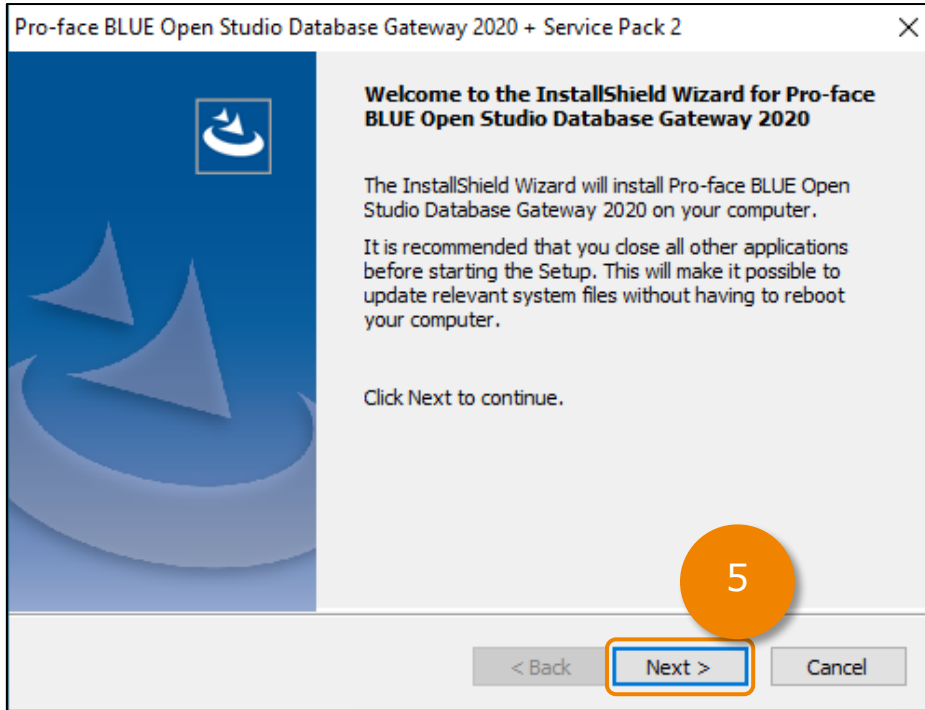
1. If not already installed on the Microsoft SQL Server Windows PC, install .NET Framework 3.5 via [Turn Windows features on or off].
2. On the BLUE Open Studio development PC copy the [GatewaySteup.exe] from **C:\Program Files (x86)\Pro-face\BLUE Open Studio 2020\Redist\DatabaseGateway\GatewaySetup.exe**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



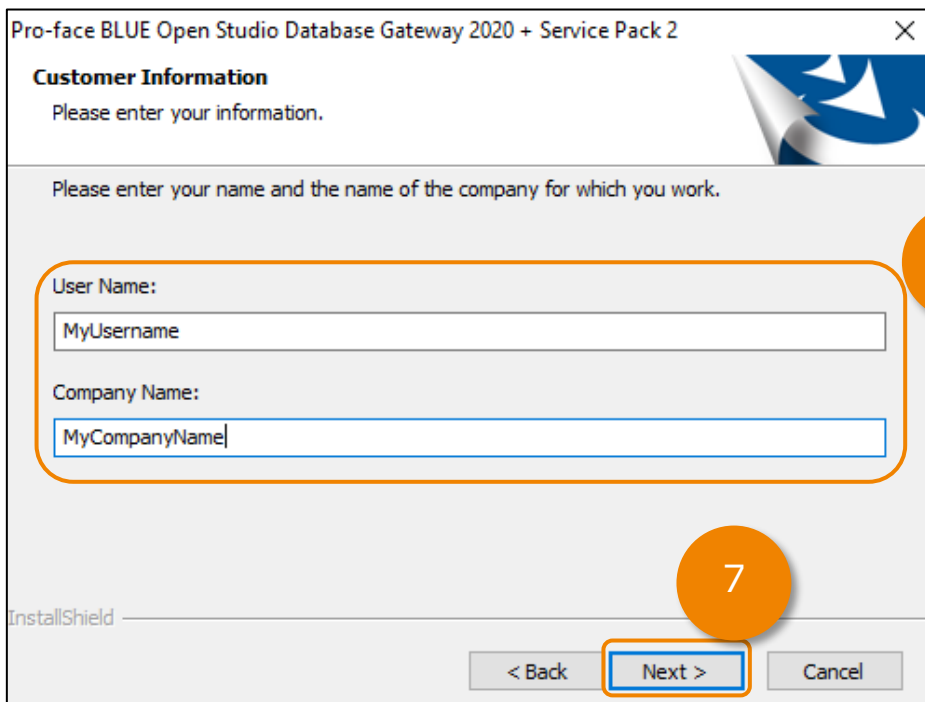
9. Database Configuration

Studio Database Gateway Installation

5. Click [Next].



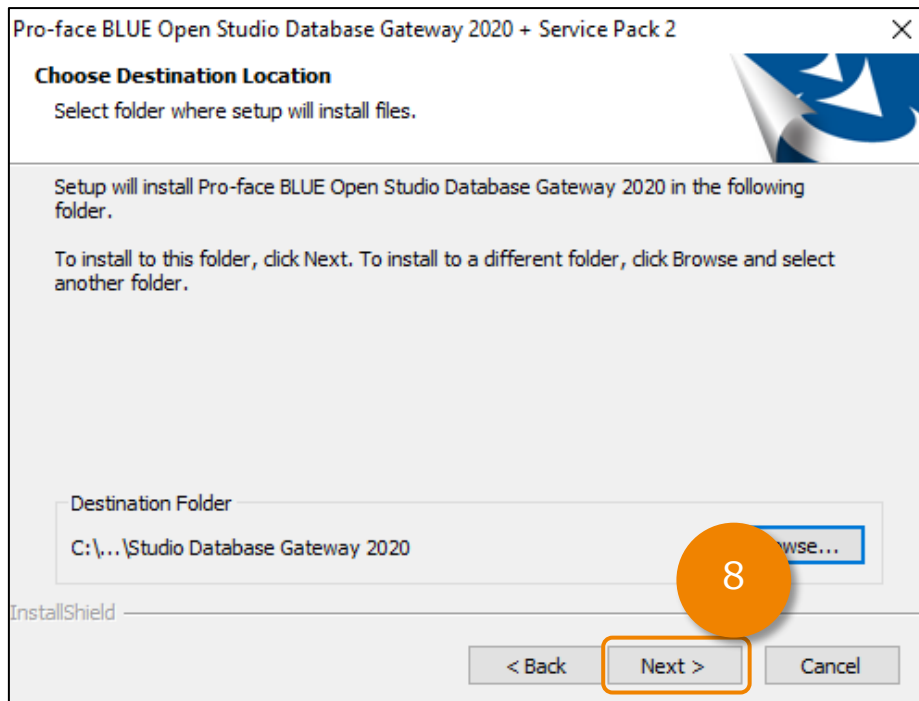
6. Enter a [User Name] and [Company Name]
7. Click [Next]



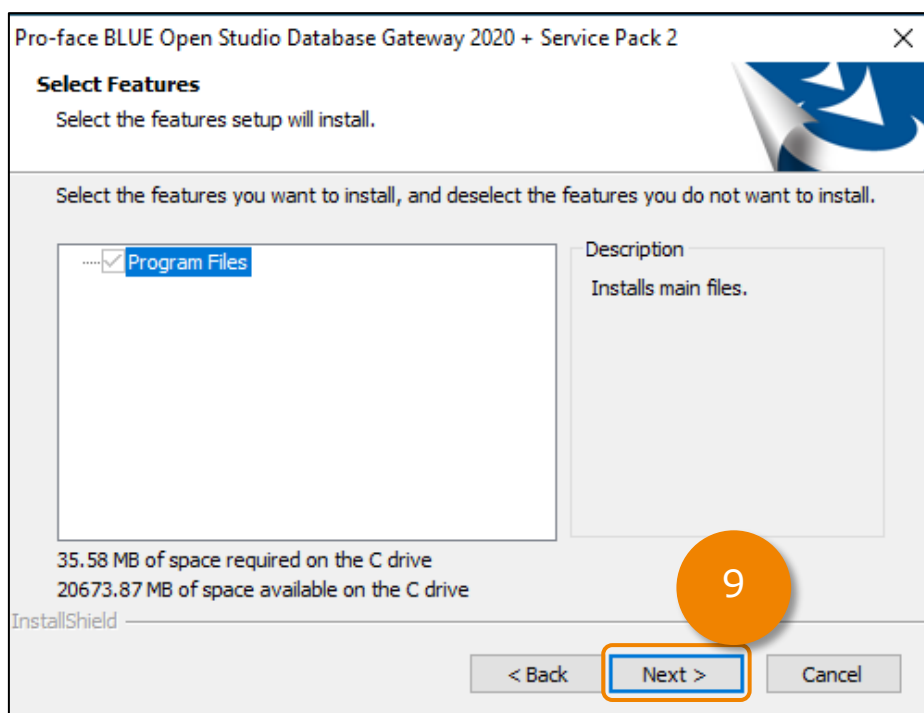
9. Database Configuration

Studio Database Gateway Installation

8. Click [Next].



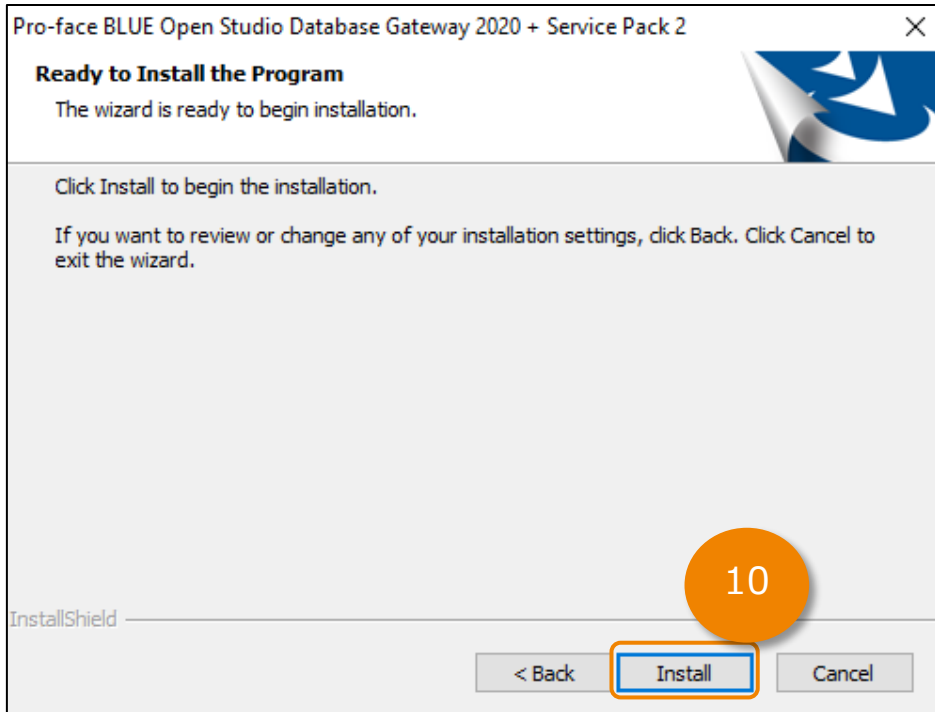
9. Click [Next].



9. Database Configuration

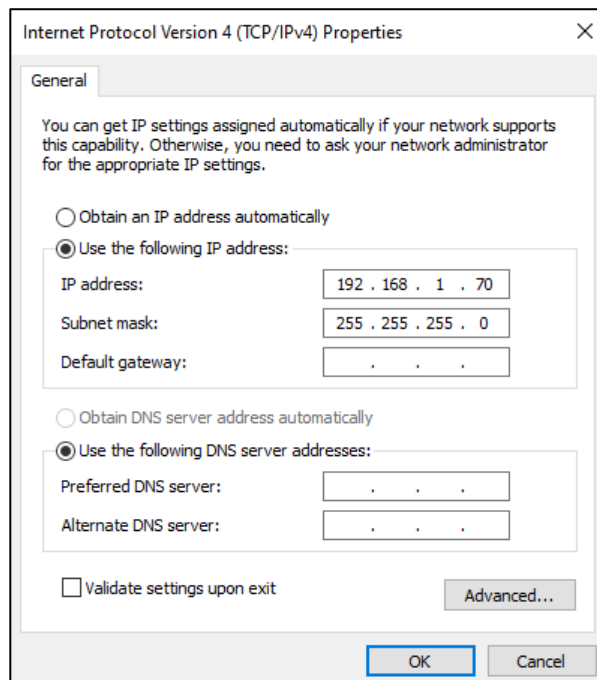
Studio Database Gateway Installation

10. Click [Install].



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



9. Database Configuration

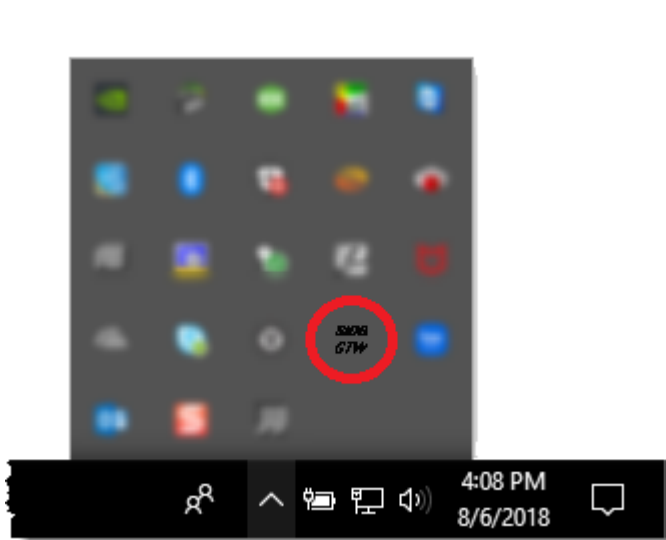
Studio Database Gateway Installation

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**

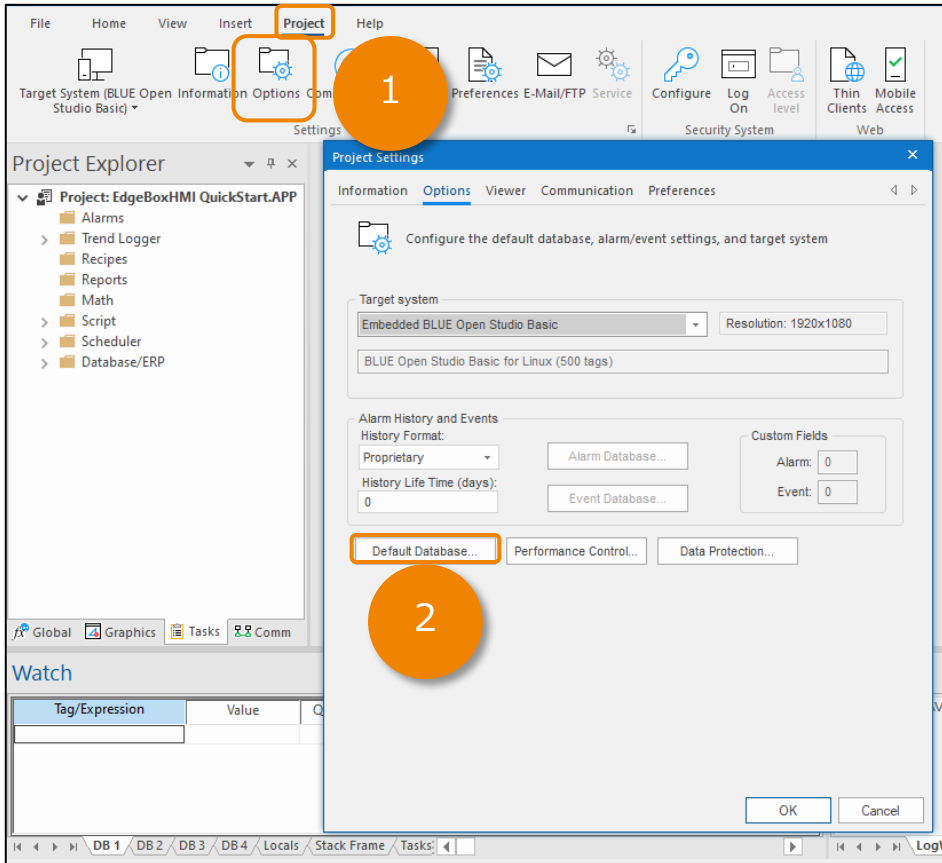
14. Confirm the Studio Database Gateway is running by checking for the Icon in the notification area of the taskbar.



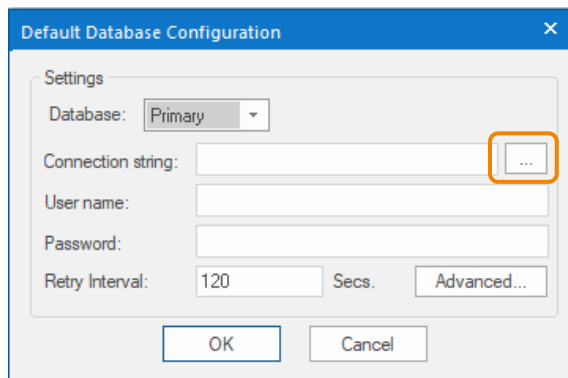
9. Database Configuration

BLUE Open Studio Project Settings

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



3. Click [...]

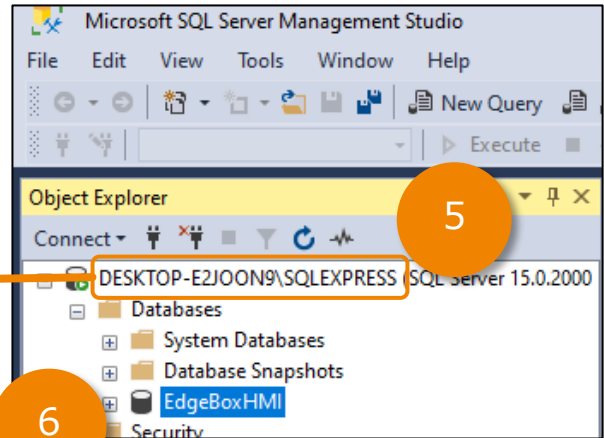
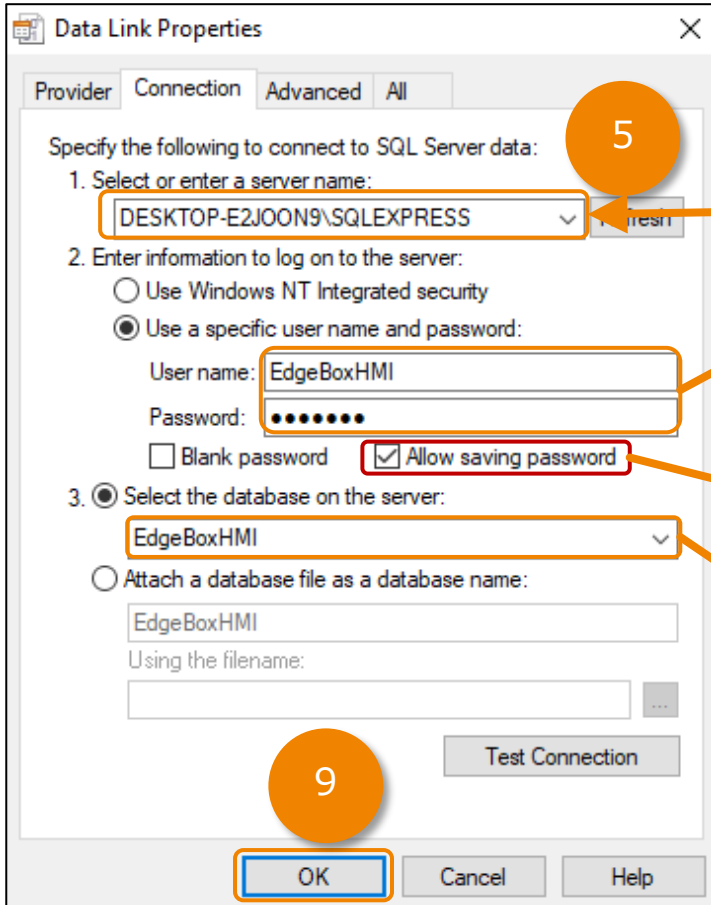


4. Select [Microsoft OLE DB Provider for SQL Server] and click [Next]

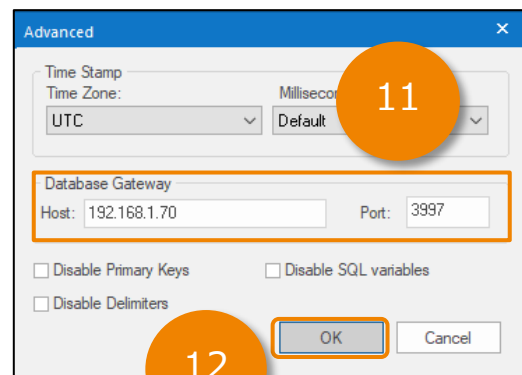
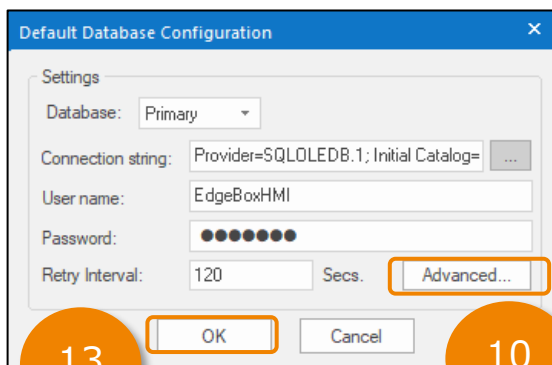
9. Database Configuration

BLUE Open Studio Project Settings

5. Enter the server name so that it matches the SQL server instance name.
6. Enter the user name and password if different (user name = EdgeBoxHMI, password = !SE1234)
7. Check [Allow saving password]
8. Enter the database if different (EdgeBoxHMI)
9. Click [OK]



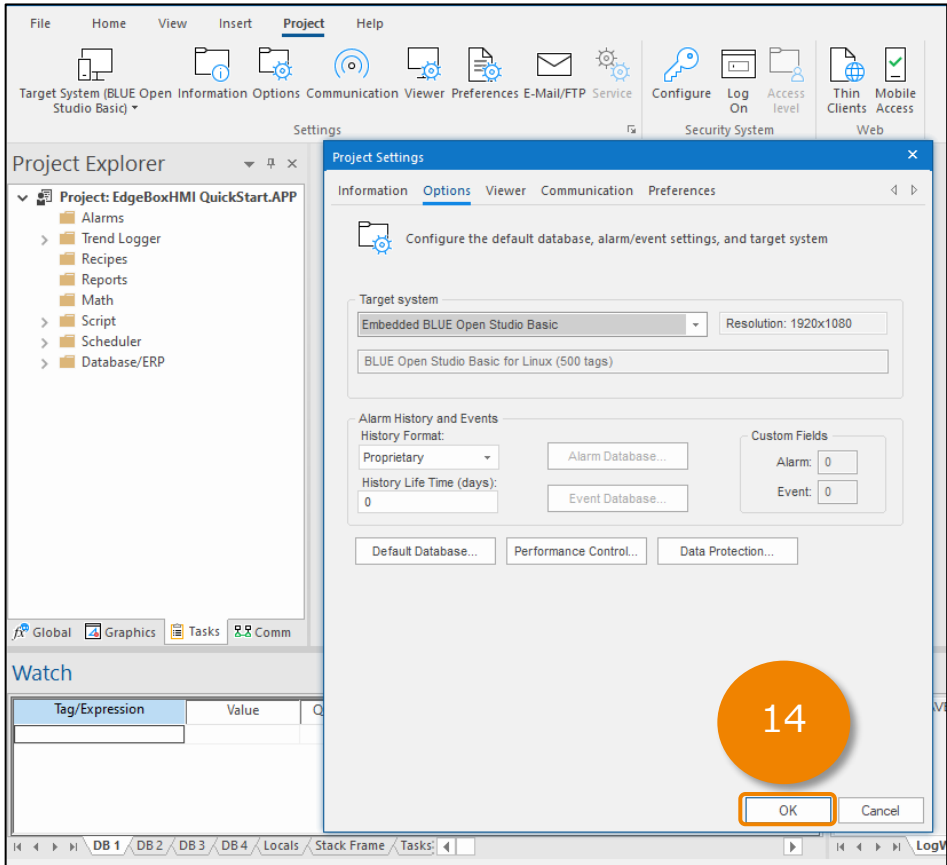
10. Click [Advanced]
11. Enter the Database Gateway Host and Port if different (Host = 192.168.1.70, Port = 3997)
12. Click [OK]
13. Click [OK]



9. Database Configuration

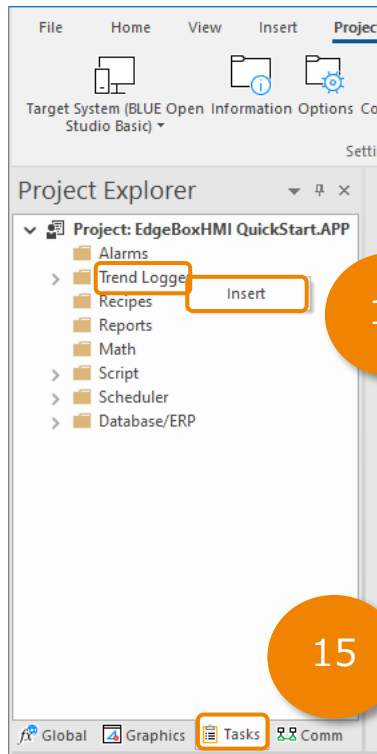
BLUE Open Studio Project Settings

14. Click [OK]



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

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

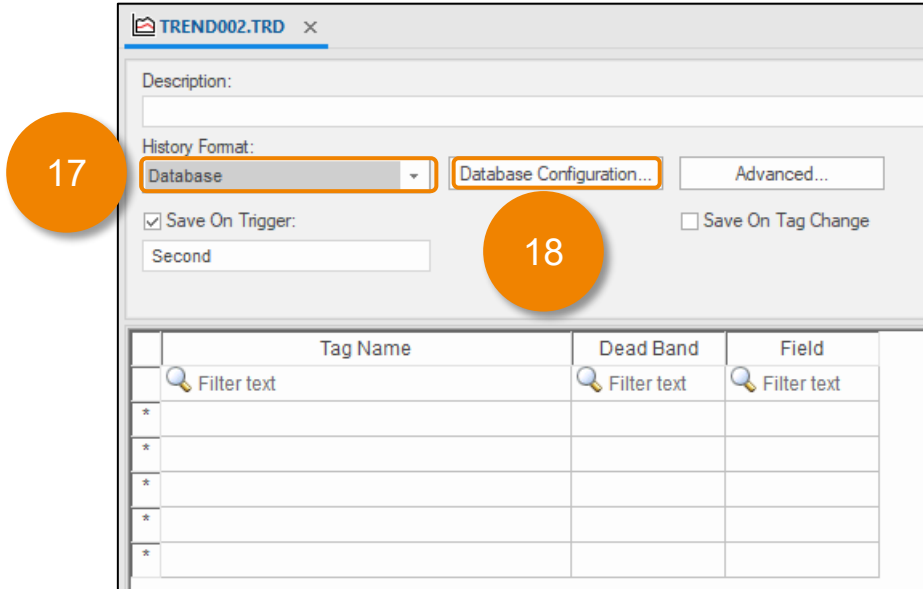


9. Database Configuration

BLUE Open Studio Project Settings

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

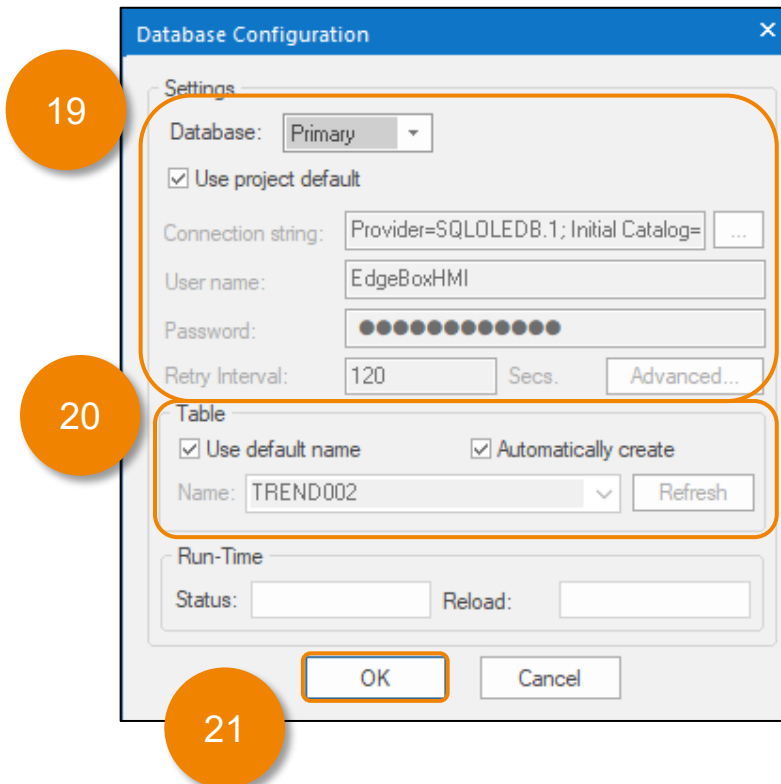
18. Click [Database Configuration]



19. Confirm the Database setting are correct.

20. Leave [Table] Settings as default

21. Click [OK]



9. Database Configuration

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.

TREND002.TRD

Description:
Database

History Format:
Database Database Configuration... Advanced...

Save On Trigger: Second Save On Tag Change

	Tag Name	Dead Band	Field
1	MyData		MyData
*			
*			
*			
*			
*			

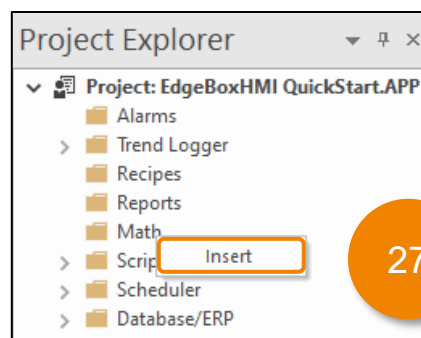
25. Save the Trend Logger worksheet. If prompted, enter 2 as the [Sheet number].

Save As

Sheet number:
2

OK Cancel

26. Close the [TREND002.TRD] tab.
27. In the [Project Explorer], Right-Click [Math] and Click [Insert]



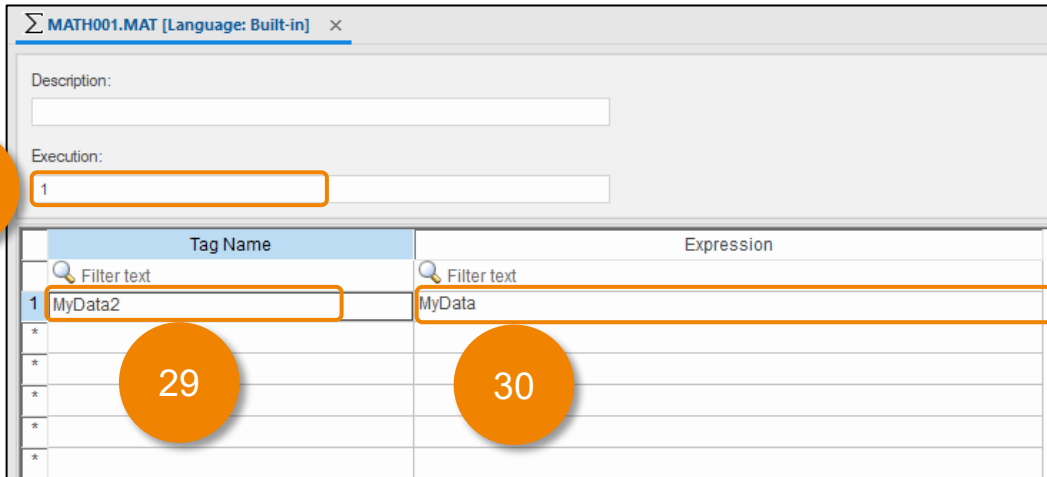
9. Database Configuration

BLUE Open Studio Project Settings

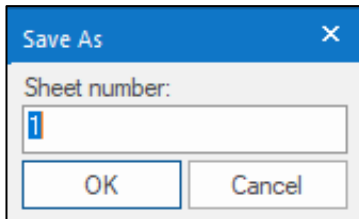
28. In [Execution] enter “1”

29. Enter “MyData2” into the first row [Tag Name] column.

30. Enter “MyData” into the first row [Expression] column.



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



32. Close the [MATH001.MAT] tab.

33. Transfer the project files to the Edge Box HMI as shown in [Section 5](#).

10. 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.

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.)