# **EcoStruxure Building Operation**

### Enlighted Energy Manager SmartConnector

### **Installation & User Guide**

October 2022



Life Is On Schne





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## Contents

### Contents

1	Functional Overview	6
2	Restrictions & Limitations	7
2.1	SmartConnector Service Version	7
2.2	EWS Supported Systems	7
2.3	Enlighted EM Supported System	7
3	Installation	8
4	Configuration & Settings	9
4.1	Processor Configuration	9
4.2	Adding the Custom Assembly to the Service	10
5	Revision History	18
6	References	

## **1 Functional Overview**

The Enlighted EM interface is a middleware application that enables communication between Enlighted Energy Manager API service with EcoStruxure Building Operation via EcoStruxure Web Services (EWS). The interface communicates with the Enlighted Energy Manager API to get the information about the Company, Campus, floors, and areas the user has access, and the fixtures present in the floors and stores it in the EcoStruxure Web Services (EWS).

The processor leverages the SmartConnector Service framework and details of the application (release history, installation notes etc.) are available separately and are not covered in this manual.

The SmartConnector application is licensed on a single server basis but may also be configured to connect to both Automation Server (AS-P) devices as well as Enterprise Servers (ES).

## 2 **Restrictions & Limitations**

### 2.1 SmartConnector Service Version

The processors have been configured to operate with the SmartConnector version 2.4.40, use with any other version of the SmartConnector framework is not supported.

### 2.2 EWS Supported Systems

The processors can support EcoStruxure systems operating with the EcoStruxure Web Services (EWS) protocol v1.1 and v1.2.

### 2.3 Enlighted EM Supported System

The SmartConnector has been tested and validated against the Enlighted Energy Manager API.

Other versions may cause issues and are not supported. Please check with your supplier.

## 3 Installation

Please refer to the SmartConnector Installation and Configuration Guide.pdf for guidance on SmartConnector installation.

To deploy the Enlighted EM SmartConnector assembly, copy the files **"ISC.SmartConnector.EnlightedEMExtension.dll**", **"SmartConnector.Utilities.dll"** and **"ISC.EnlightedEM.API.Wrapper.dll**" into the service installation directory. Normally "C:\Program Files (x86)\Schneider Electric\SmartConnector"

## 4 **Configuration & Settings**

### 4.1 Processor Configuration

With a default installation of SmartConnector, the configuration pages for the server can be reached at the following address on the server the service has been installed on:

http://localhost:8082/

<ul> <li>Smart</li> </ul>	Conne	ctor × +		_	×
<b>(</b> ) () ()	calho	st:8082/status	▼ C Q Sea	rch 🗘 🖨 🖡 🌾	≡
	5	Status Configura	tions	About Logged in as admin •	
5	เล	tus			
	ofroch	a			
R	efresh	5			
1	Proces	ssor Threads Active Endp	oints Configuration Requests EW	/S Server Requests	
	#	Status	Elapsed Time (hh:mm:ss)	Processor Configuration	
	1	Waiting For Work			
	2	Waiting For Work			
	3	Waiting For Work			
	4	Waiting For Work			
	5	Waiting For Work			
			5 items present		
_					
S	C	Electric			
		Schneider Electric 2013-2017			

### 4.2 Adding the Custom Assembly to the Service

Switch to the Configurations tab and select Processor and click on Add New +

Add New 🕂

At the Add Configuration window, Step 1 – Pick an assembly, select the reference to "**ISC.SmartConnector.EnlightedEMExtension**" (this will be highlighted green when selected)

Status Configurations - EWS Servers Setup - About	Logged in as admin +
Add Processor Configuration	
Back Next Cancel	
Step 1 - Pick an assembly	
ISC SmartConnector EnlightedEMExtension	1 candidates
Mongoose.Process	(3 candidates
SmartConnector.Utilities	1 candidates
SmartConnectorWeatherExtension	2 candidates
Assembly Description	
ISC.SmartConnector.EnlightedEMExtension	
Assembly Company	
Schneider Electric Pvt. Ltd	
Assembly Copyright	
Copyright © 2022	
Assembly Version	
1.0.0.0	



Select Next and proceed to Step 2 Choose a Class

Ensure the class "ISC.SmartConnector.EnlightedEMExtension.Processor. EnlightedEmPeriodicProcessor" is selected first

Step 2 - Choose a Class

ISC SmartConnector EnlightedEMExtension Processor EnlightedEmLongRunningProcessor ISC SmartConnector EnlightedEMExtension Processor EnlightedEmPeriodicProcessor Select Next and proceed to Step 3 Name Configuration

Enter a meaningful name and description for the Processor which will enable you to identify this process in the configuration window later.

Select Finish and proceed to the Configuration screen.

Status Configurations - EWS Servers Setup	✓ About	Logged in as admin <del>-</del>
Processor Configuration		
Edit All [27] Start 🕨 Validate 127 Reset Counter <table-cell> Reset Timer 표</table-cell>		
ame	Is Active	
Enlighted EM Periodic Processor	🗹 True	*
escription		
Pulls data from Enlighted Energy Manager server systems and puts into pro	cessing	
Class Name ISC.SmartConnector.EnlightedEMExtension.Processor.EnlightedEmPer	iodicProcessor	
Class Name	iodicProcessor	
Class Name ISC SmartConnector EnlightedEMExtension.Processor.EnlightedEmPer Assembly File ISC SmartConnector EnlightedEMExtension.dll	iodicProcessor	
Class Name ISC.SmartConnector.EnlightedEMExtension.Processor.EnlightedEmPer Assembly File	iodicProcessor	
Class Name ISC SmartConnector EnlightedEMExtension Processor.EnlightedEmPer Assembly File ISC SmartConnector EnlightedEMExtension.dll Assembly Description	iodicProcessor	
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Class Name ISC SmartConnector EnlightedEMExtension Processor.EnlightedEmPer Assembly File ISC.SmartConnector.EnlightedEMExtension.dll Assembly Description ISC.SmartConnector EnlightedEMExtension Assembly Company Schneider Electric Pvt.Ltd Assembly Copyright	iodicProcessor	

Schneider Electric Copyright © Schneider Electric 2013-2019

In the configuration window select the Details Tab, you will then be presented with the screen to enter the configuration information. Much of the configuration has default options however they should be checked and validated for the installation. Edit the applicable fields as follows.

#### Base Url

The Base URL to connect to the Enlighted EM. By Default, it is <u>https://<YOUR\_TENANT>.emc.enlightedinc.com</u>.

#### <u>Username</u>

Username needed to access the Enlighted EM.

#### Api Key

Api Key needed to access the Enlighted EM.

#### Proxy Address

Proxy Address that is used by the server/machine.

#### Proxy Port Number

Proxy Port Number that is used by the server/machine.

Processor	Details Control History Schedule	
Expan	nd All Collapse All	
	Details	
	Base Url *	
		G
	Username *	
		G
	Api Key *	
	~ Encrypted ~	G
	Proxy Address	
		G
	Proxy Port Number	
		ß
	C      Enlighted Em Ews Server	

#### Expand Enlighted EM Ews Server Configuration field

#### Ews Server Address

This property should be set to the full address required to access the EWS Server being hosted. This is normally in the case of a StruxureWare ES or AS device as follows:

http://<IPADDRESS>:<PORT(8093)>/EcoStruxure/DataExchange

\*Note that the address is case sensitive!

#### Ews Realm

Realm for the EWS Server.

#### **Ews Server Name**

This property is just a friendly text name field to allow you to easily identify the specific Endpoint you are configuring.

#### Ews Username

This property is required to allow the EWS server connection to be authenticated.

#### Ews Password

As above, this is the password related to the user credentials.

-	Ews Server Address *
	http://localhost.51351/EcoStruxure/DataExchange
	Ews Realm
	Key
	Ews Server Name *
	EnlightedEmServer
-	Ews User Name *
	admin
L	Ews Password *
	~ Encrypted ~

In the configuration window select the Control Tab, you will then be presented with several options to define the Processor's default behavior. It is recommended to set the following:

Runs On Start – Yes (To enable the Processor to automatically start with the machine)

Runs On Schedule – Yes (Define a schedule that determines how often the server is updated with messages received from the PMS)

Manually Startable – Yes (To allow a user to start through the configuration window Manually Stoppable - Yes

The Save Button allows the process configuration to be saved to the database.

Save 🛓

A complete configuration will appear as follows:

Processor	Detai	is	Control History	Schedule		
Expan	SAI C	Collaps	a All			
	Details	]				
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						Ø
	H	0	Jsemame *			
						C
	H		Apl Key •			G
			анаурина -			
		6	Proxy Address		 	 
			,			ß
	H	0	Proxy Port Number			
						C
		_	-			
	Щ	-	9 Enlighted Em Ewe \$			
		-	Ews Server Address	51/EcoStruxure/DataExchange		C
				on Ecolorional a brancher hange		
			Ews Realm			
			Key			Ø
			Ews Server Name •			
			EnlightedEmServe	r		Ø
		-	Ews User Name	•		C
			B Ews Password	•		
		-	~ Encrypted ~			Ø

After adding the first Processor, navigate back to Processor screen, click on 'Add New' and Select "**ISC.SmartConnector.EnlightedEMExtension**" (this will be highlighted green when selected)

Click on Next and select the processor

"ISC.SmartConnector.EnlightedEMExtension.Processor.EnlightedEmLongR unningProcessor". This is a long running processor, so we need to set the schedule interval.

Step 2 - Choose a Class

ISC.SmartConnector.EnlightedEMExtension Processor.EnlightedEmLongRunningProcessor ISC.SmartConnector.EnlightedEMExtension.Processor.EnlightedEmPeriodicProcessor

Click on Next and select Finish. Please provide the same configuration details and EWS server details, that has been provided to the processor - "ISC.SmartConnector.EnlightedEMExtension.Processor.EnlightedEmPeriodi cProcessor".

After Adding both the processors, first step is to run the periodic processor – "ISC.SmartConnector.EnlightedEMExtension.Processor.EnlightedEmPeriodi cProcessor" only.

After this processor is executed once, we can execute the processor – "ISC.SmartConnector.EnlightedEMExtension.Processor.EnlightedEmLongR unningProcessor", this is long running processor and will update the Area Occupancy state, Light Levels and Last communication time every 5 mins.

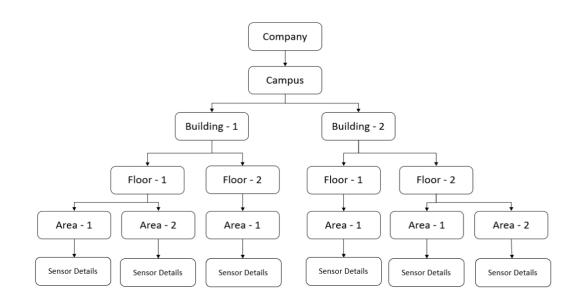
Once the Smart Connector EWS Server Interface has been hosted in EcoStruxure Building Operation, the sensor details grouped by area under floors will be displayed as follows:

m Tree	× Level 1 ×		
	List View	Properties	
≰ Server 1 ▷ 🔯 System	- 🔁 🗇 😳 t	रे 🖉 Quick filter	
▷ and Servers ▲ ④ Enlighted EM	Name	Description	Value
	🗃 MR 1. D.03	MR 1. D.03	
Fidelity Business Services Pvt. Ltd	📷 MR 1. E.01	MR 1. E.01	
Embassy Golflinks Business Park	🗃 MR 1.2.01	MR 1.2.01	
∡ 📷 2 ▷ 🔯 8th Floor	MR 1.E.02	MR 1.E.02	
∠ Starribor	WR 1.E.03	MR 1.E.03	
> 🔯 15 pax meeting room	T.E.01	MR 1.F.01	
Auditor Level 1	MR 1.G.01	MR 1.G.01	
⊳ 🥁 DR .1.D.01 ⊳ 🌍 DR 1. C .01	MR 1.G.03	MR 1.G.03	
) 🔐 DR 1. C. 03	MR 1.G.04	MR 1.G.04	
Þ 🛐 DR 1. C.02	MR 1.H.01	MR 1.H.01	
▷ 🛜 DR 1.E.01	MR 1.X.02		
⊳ 🥁 DR 1.E.02 ⊳ 🌍 DR 1.E.03	_	MR 1.X.02	
DR 1.H.01	Payrool	Payrool	
⊳ 🛜 ER 1.F.01	TOM Level 1	TOM Level 1	
▷ 🔯 ISSAC Room	TRAINING RM	1.C TRAINING RM	
▷ isotation isotation in the second seco	Building	Building	2
Source A contraction of the c	Campus	Campus	Embassy Golflinks Business Park
) 🔯 MR . 1. D.02	Company	Company	Fidelity Business Services Pvt. Ltd.
⊳ 🜍 MR 1	Description	Description	Fidelity 1 st floor
MR 1. C .03	Floor Plan Url	Floor Plan Url	T6-min (1).jpg
⊳ 🥁 MR 1. C. 02 ⊳ 🏹 MR 1. C.01	Name	Name	Level 1

ystem Tree	- 4 ×	Auditor Level 1 ×		
		List View Properties		
<ul> <li>Enlighted EM</li> </ul>		Name	Description	Value
Enlighted EmServer		Sensor7650a0	Sensor7650a0	
🖌 🔯 Fidelity Business Services Pv	t. Ltd	Sensor76504e	Sensor76504e	
🖌 🎑 Embassy Golflinks Busine	ss Park	Sensor765084	Sensor765084	
∡ 👸 2 ▶ 🔯 8th Floor		Area Occupancy State	Area Occupancy State	0
🖌 📷 Level 1		Description	Description	
15 pax meetin	•	Lighting - Area Energy Consumption	Lighting - Area Energy Consumption	21.00 Wh
Auditor Level Auditor Level Auditor Level	1	Name	Name	Auditor Level 1
⊳ 🔯 DR 1. C .01		Out Sensors	Out Sensors	0
▷ 🔯 DR 1. C. 03		Total Sensors	Total Sensors	3
DR 1. C.02 R 1. E.01		Zone Sensor Enable	Zone Sensor Enable	True

tem Tree		×		
Server 1     System	List View	Properties           Quick filter		
▷ a Servers ▲ ④ Enlighted EM	Name	Description	Value	
EnlightedEmServer	Energy Consumption	Energy Consumption	7.00 Wh	
🖌 🔯 Fidelity Business Services Pvt. Ltd	Last Communication	n Time Last Communication Tim	e 11/15/2022 10:53:00 PM	
Embassy Golflinks Business Park	Light Level	Light Level	20.00	
∠ 🛜 2 ▷ 🖾 8th Floor	Name	Name	Sensor7650a0	
🖌 📷 Level 1	Power	Power	28.00 W	
15 pax meeting room	Sensor Id	Sensor Id	593	
Auditor Level 1 Sensor7650a0	Temperature	Temperature	19.56 °C	

The organization of Enlighted EM data hierarchy that is stored in EWS is shown in below diagram.



## 5 **Revision History**

Version	Assembly File Details	Date
1.0.0.11	ISC.SmartConnector.EnlightedEMExtension.dll	19 <sup>th</sup> October 2022

#### Assembly files required:

ISC.SmartConnector.EnlightedEMExtension.dll ISC.EnlightedEM.API.Wrapper.dll SmartConnector.Utilities.dll

## 6 References

SmartConnector Installation and Configuration Guide.pdf (TDS-M-INSTALLCONFIG-US.BU.N.EN.12.2017.2.30.CC)

SmartConnector Version 2.2 Release Notes.pdf (TDS-M-RELEASENOTES-US.BU.N.EN.12.2017.2.30.CC)

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