

# EcoStruxure Building Operation

Syllabus Plus Integration

SmartConnector

Installation & User Guide

04-20018-02-en  
April 2024



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# 1

## Functional Overview

Integration between EcoStruxure Building Operation and Syllabus Plus, is developed to achieve energy efficiencies within the University's mechanical and electric systems by optimizing the run time and software control based on booking events occurring at different rooms. By using SmartConnector Extension to Integrate these 2 platforms, information from the Syllabus Plus database will be presented to an EWS Server for EWS Clients such as EcoStruxure Building Operation to consume.

Each room in the Syllabus Plus is represented in the EcoStruxure Building Operation model of the Syllabus Plus. Syllabus Plus attributes configured in the interface may be used to implement custom sequences. Values in each room will present information about the current activity in the room as well as room occupancy, time to next event, room capacity and some other information. A room can hold 1 to 5 activities at a time. Activity values indicate the name of the activity, as well as start and end time of the event, activity duration and some other relevant information about the activity.

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 2.5, 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.

# 3 Installation

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

To deploy the Syllabus Plus assembly copy the files below into the service installation directory. Normally “C:\Program Files (x86)\Schneider Electric\SmartConnector”

-  AMS.Profile.dll
-  BoDi.dll
-  BouncyCastle.Crypto.dll
-  Cucumber.Messages.dll
-  Gherkin.dll
-  Google.Protobuf.dll
-  ISC.SyllabusPlus.dll
-  Microsoft.Rest.ClientRuntime.dll
-  NCrontab.Signed.dll
-  Newtonsoft.Json.Bson.dll
-  NLog.Targets.Syslog.dll
-  SmartConnector.Utilities.dll
-  System Buffers.dll
-  System.Memory.dll
-  System.Numerics.Vectors.dll
-  System.Runtime.CompilerServices.Unsafe.dll
-  System.Threading.Tasks.Extensions.dll
-  System.Web.Http.WebHost.dll
-  TechTalk.SpecFlow.dll
-  Utf8Json.dll

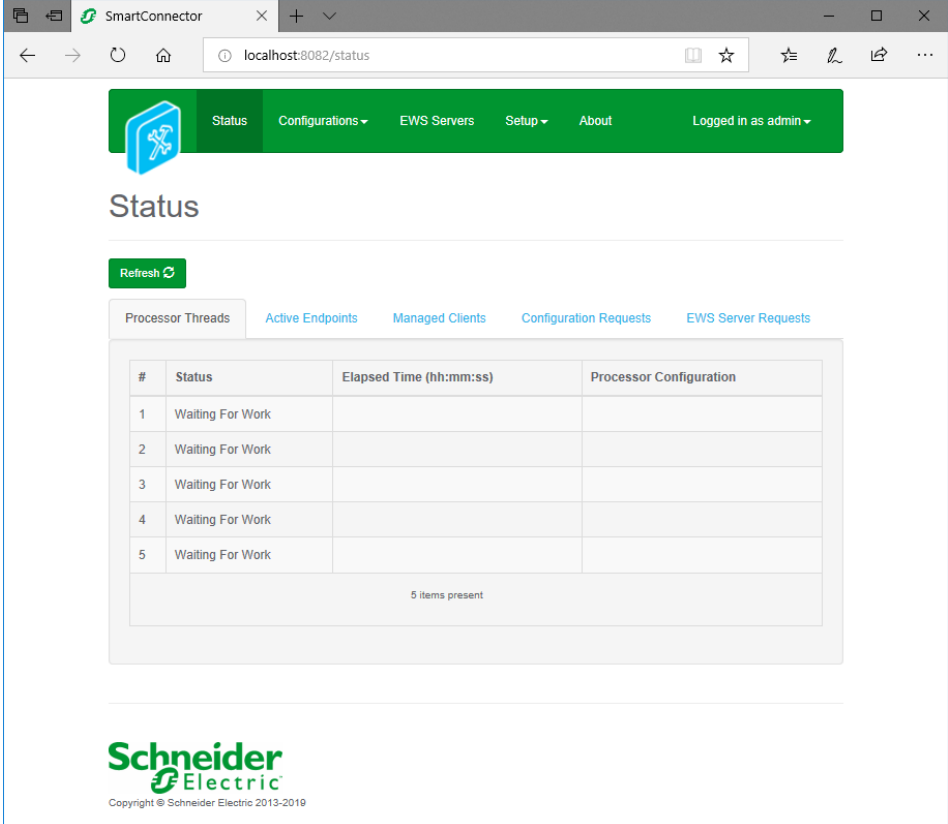


# 4 Configuration & Settings

## 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/>



The screenshot shows a web browser window with the URL `localhost:8082/status`. The page has a green navigation bar with a logo and menu items: Status, Configurations, EWS Servers, Setup, About, and Logged in as admin. Below the navigation bar, the main heading is "Status". There is a "Refresh" button and a set of tabs: Processor Threads (selected), Active Endpoints, Managed Clients, Configuration Requests, and EWS Server Requests. The main content area displays a table with the following data:

#	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		

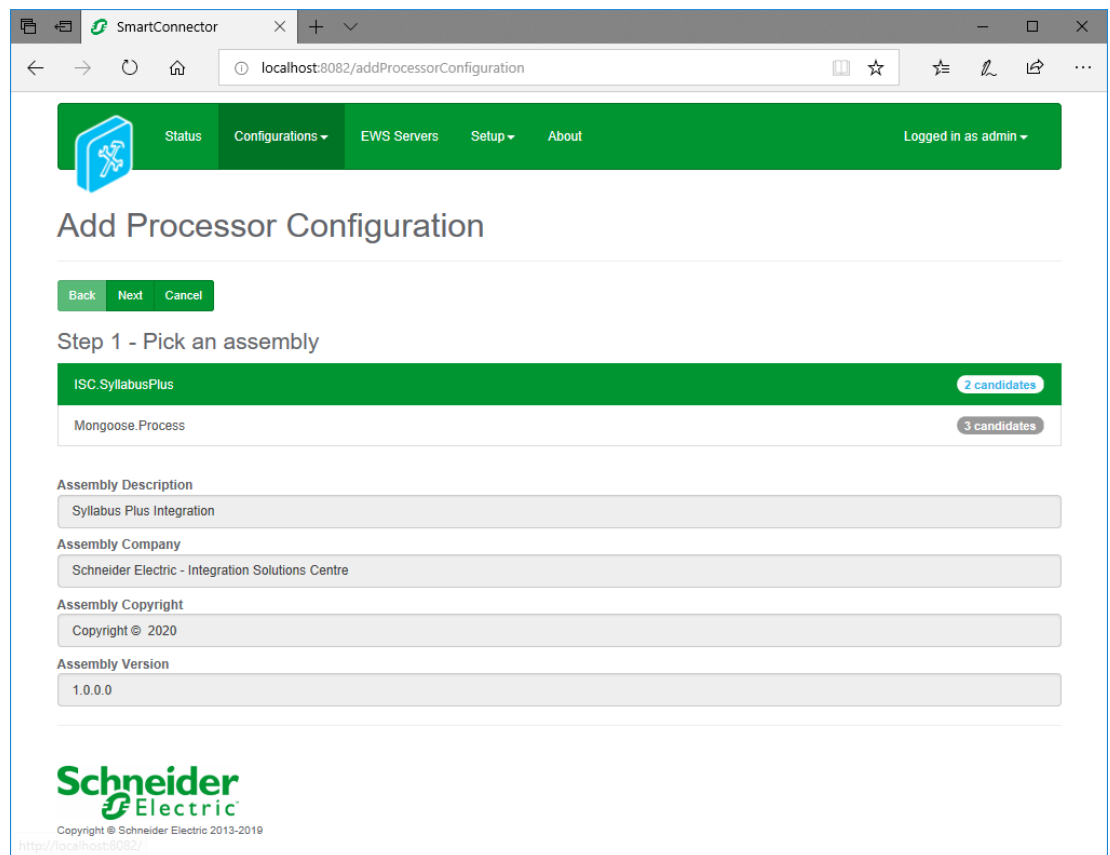
Below the table, it indicates "5 items present". At the bottom of the page, the Schneider Electric logo is displayed with the copyright notice "Copyright © Schneider Electric 2013-2019".

## 4.2 Adding the Custom Assembly to the Service

Switch to the Configurations tab and select Add New +



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



Select Next and proceed to Step 2 Choose a Class

Ensure the class `ISC.SyllabusPlus.SyllabusPlusSetupProcessor` is selected first

`ISC.SyllabusPlus.SyllabusPlusSetupProcessor`

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.

SmartConnector

localhost:8082/ProcessorConfiguration?id=51

Status Configurations EWS Servers Setup About Logged in as admin

## Processor Configuration

Edit All Start Validate Reset Counter Reset Timer

Name Syllabus Plus Setup Processor Is Active True

Description Connect to DB and create Sullabus Plus EWS Server and its objects

Processor Details Control History Schedule

Class Name ISC.SyllabusPlus.SyllabusPlusSetupProcessor

Assembly File ISC.SyllabusPlus.dll

Assembly Description Syllabus Plus Integration

Assembly Company Schneider Electric - Integration Solutions Centre

Assembly Copyright Copyright © 2020

Assembly Version 1.0.0.0

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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.

### **Activity Buffer**

This property should be set to the number of activities that can be held in the EWS Model. Minimum and default value is 1, Maximum value is 5.

### **Sql Connection String**

This property should be set to the full connection string required to access SQL database.

### **Ews Server Name**

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

### **User Name**

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

### **Password**

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

### **Server Address**

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

[http://<IPADDRESS>:<PORT\(8073\)>/EcoStruxure/DataExchange](http://<IPADDRESS>:<PORT(8073)>/EcoStruxure/DataExchange)

### **\*Note that the address is case sensitive!**

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 – No

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.



A complete configuration will appear as follows:

Expand All Collapse All

Details

- Activity Buffer \*  
5
- Sql Connection String \*  
~ Encrypted ~
- Ews Server Name \*  
SyllabusPlusServer
- User Name \*  
admin
- Password \*  
~ Encrypted ~
- Server Address \*  
http://localhost:8073/EcoStruxure/DataExchange

Data Adapter

Follow the same procedure to configure the second Processor.

Ensure the class `ISC.SyllabusPlus.SyllabusPlusUpdateProcessor` is selected

`ISC.SyllabusPlus.SyllabusPlusUpdateProcessor`

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.

The screenshot displays the SmartConnector web application interface for configuring a processor. The browser window shows the URL `localhost:8082/ProcessorConfiguration?id=52`. The application's navigation bar is green and contains links for **Status**, **Configurations**, **EWS Servers**, **Setup**, and **About**, along with a user indicator **Logged in as admin**. The main content area is titled **Processor Configuration** and features a toolbar with **Edit All**, **Start**, **Validate**, **Reset Counter**, and **Reset Timer** buttons. The configuration form includes a **Name** field set to "Syllabus Plus Update Processor" and an **Is Active** dropdown set to "True". A **Description** field contains the text "Connecto to Database and update EWS Server values.". Below the form is a tabbed interface with **Processor** selected, and sub-tabs for **Details**, **Control**, **History**, and **Schedule**. The **Details** tab shows the following configuration fields:

- Class Name:** ISC.SyllabusPlus.SyllabusPlusUpdateProcessor
- Assembly File:** ISC.SyllabusPlus.dll
- Assembly Description:** Syllabus Plus Integration
- Assembly Company:** Schneider Electric - Integration Solutions Centre
- Assembly Copyright:** Copyright © 2020
- Assembly Version:** 1.0.0.0

At the bottom of the page, the **Schneider Electric** logo is displayed, along with the copyright notice: **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.

### **Sql Connection String**

This property should be set to the full connection string required to access SQL database.

### **Ews Server Name**

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

### User Name

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

### Password

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

### Server Address

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

[http://<IPADDRESS>:<PORT\(8073\)>/EcoStruxure/DataExchange](http://<IPADDRESS>:<PORT(8073)>/EcoStruxure/DataExchange)

### **\*Note that the address is case sensitive!**

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 (Attach a short cycling schedule to update EWS server values.)

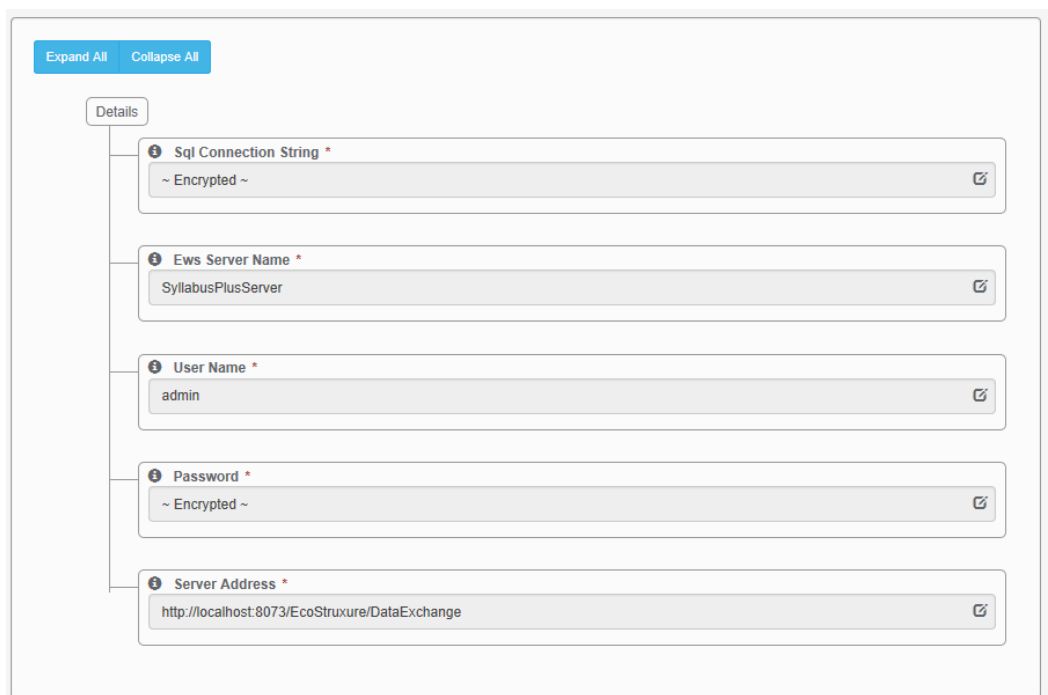
Manually Startable – Yes (To allow a user to start through the configuration window)

Manually Stoppable - Yes

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



A complete configuration will appear as follows:



The screenshot shows a configuration window with a 'Details' tab. At the top, there are 'Expand All' and 'Collapse All' buttons. The configuration fields are as follows:

- Sql Connection String \***: ~ Encrypted ~
- Ews Server Name \***: SyllabusPlusServer
- User Name \***: admin
- Password \***: ~ Encrypted ~
- Server Address \***: http://localhost:8073/EcoStruxure/DataExchange

Once the SmartConnector EWS Server Interface has been hosted in EcoStruxure Building Operation, rooms will be displayed as follows:

The screenshot displays the EcoStruxure Building Operation interface. On the left is the 'System Tree' showing a hierarchical view of the system. The main window on the right is titled 'CLT 02' and shows the 'Properties' view for a specific room. The properties are organized into a table with columns for Name, Description, and Value.





















Name	Description	Value
Activity 1	Activity	
Activity 2	Activity	
Activity 3	Activity	
Activity 4	Activity	
Activity 5	Activity	
Capacity	Room Capacity	100
Department	Department	Est
Description	Description	Coniston Lecture Theatre 2 (1st Floor, Flat)
HostKeyld	Host Key ID	#SPLUSF64AAC
Name	Room Activity Name	CLT 02
NextEventStatus	Next Event Status	BS103/Lec/01
Occupancy	Room Occupancy	False
Suitabilities	Suitabilities	#SPLUS565CD9,#SPLUS565CDE
TimeToNextEvent	Time To Next Event	220,217
UserText1	User Text 1	
UserText2	User Text 2	
UserText3	User Text 3	
UserText4	User Text 4	
UserText5	User Text 5	



# 5 Revision History

Version	Assembly File Details	Date
1.0.0.1631	ISC.SyllabusPlus.dll	23 <sup>rd</sup> Apr 2024

## Assembly files required:

-  AMS.Profile.dll
-  BoDi.dll
-  BouncyCastle.Crypto.dll
-  Cucumber.Messages.dll
-  Gherkin.dll
-  Google.Protobuf.dll
-  ISC.SyllabusPlus.dll
-  Microsoft.Rest.ClientRuntime.dll
-  NCrontab.Signed.dll
-  Newtonsoft.Json.Bson.dll
-  NLog.Targets.Syslog.dll
-  SmartConnector.Utilities.dll
-  System Buffers.dll
-  System.Memory.dll
-  System.Numerics.Vectors.dll
-  System.Runtime.CompilerServices.Unsafe.dll
-  System.Threading.Tasks.Extensions.dll
-  System.Web.Http.WebHost.dll
-  TechTalk.SpecFlow.dll
-  Utf8Json.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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