

# EcoStruxure Building Operation

UoD Booking System

Integration SmartConnector

Installation & User Guide

04-20018-02-en  
June 2024



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Schneider  
Electric



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# 1 Functional Overview

The UoD Booking System interface is a middleware application that enables communication between UoD Room Booking API service with EcoStruxure Building Operation via EcoStruxure Web Services (EWS). Each room in the UoD Booking System is represented in the EcoStruxure Building Operation model of the UoD Booking System. The interface can fully represent items in the Room Booking API system with data synchronisation between the two systems. This ensures the SmartConnector database is maintained and kept up to date without any user intervention.

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.

### 2.3 UoD Booking System Supported System



























The SmartConnector has been tested and validated against the UoD Booking System 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 UoD Booking System assembly copy the following files 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.UoDBookingSystem.dll
-  Microsoft.Bcl.AsyncInterfaces.dll
-  Microsoft.Rest.ClientRuntime.dll
-  NCrontab.Signed.dll
-  Newtonsoft.Json.Bson.dll
-  NLog.Targets.Syslog.dll
-  RestSharp.dll
-  SmartConnector.Utilities.dll
-  Syncfusion.Compression.NET.dll
-  Syncfusion.Licensing.dll
-  Syncfusion.XlsIO.NET.dll
-  System Buffers.dll
-  System.Memory.dll
-  System.Numerics.Vectors.dll
-  System.Runtime.CompilerServices.Unsafe.dll
-  System.Text.Encodings.Web.dll
-  System.Text.Json.dll
-  System.Threading.Tasks.Extensions.dll
-  TechTalk.SpecFlow.dll
-  Utf8Json.dll

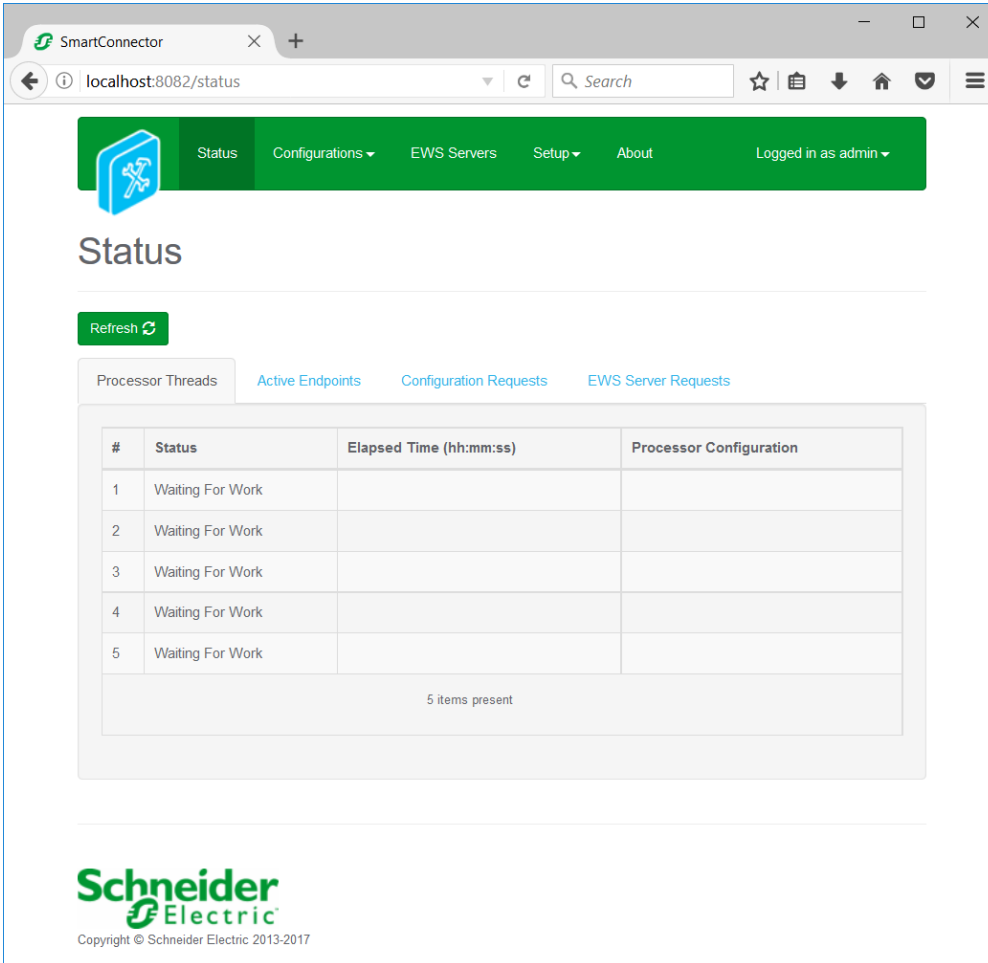


# 4 Configuration & Settings

## 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 is the title "Status" and a "Refresh" button. There are four tabs: "Processor Threads" (selected), "Active Endpoints", "Configuration Requests", and "EWS Server Requests". A table displays the status of five processor threads, all of which are "Waiting For Work".

#	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

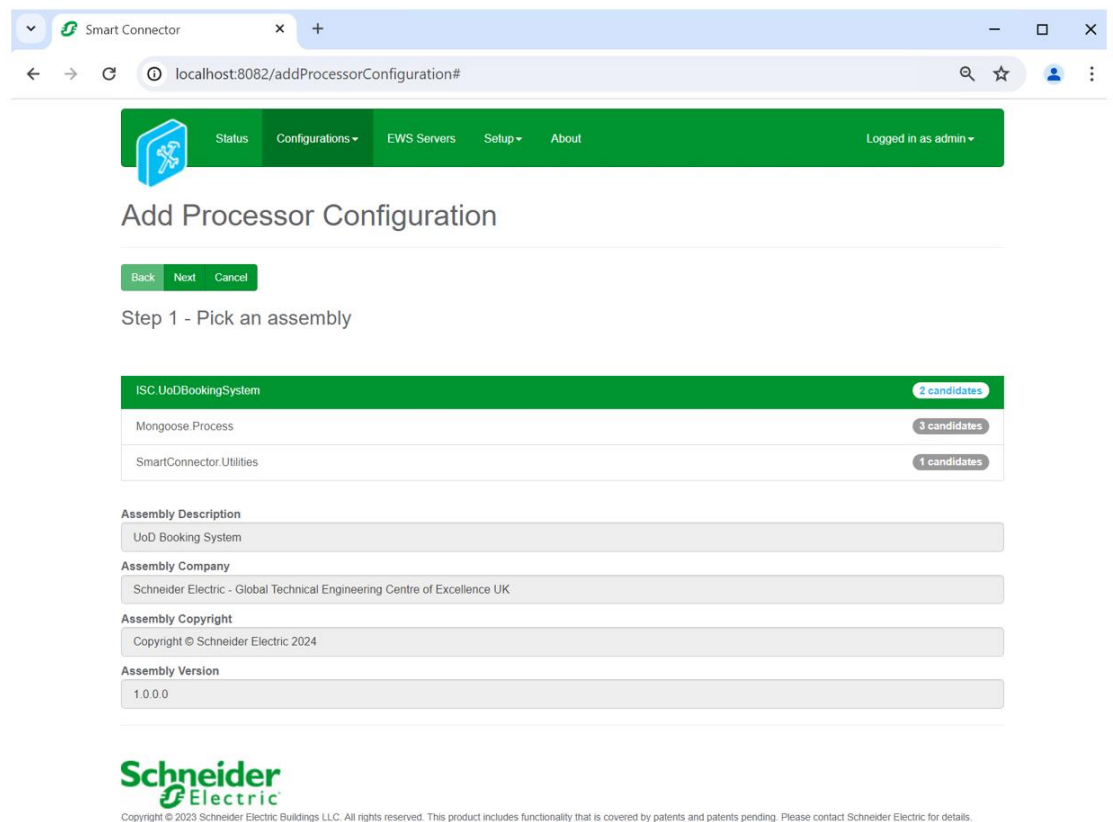
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## 4.2 Adding the Custom Assembly to the Service

Switch to the Configurations tab and select Add New +



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



Select Next and proceed to Step 2 Choose a Class

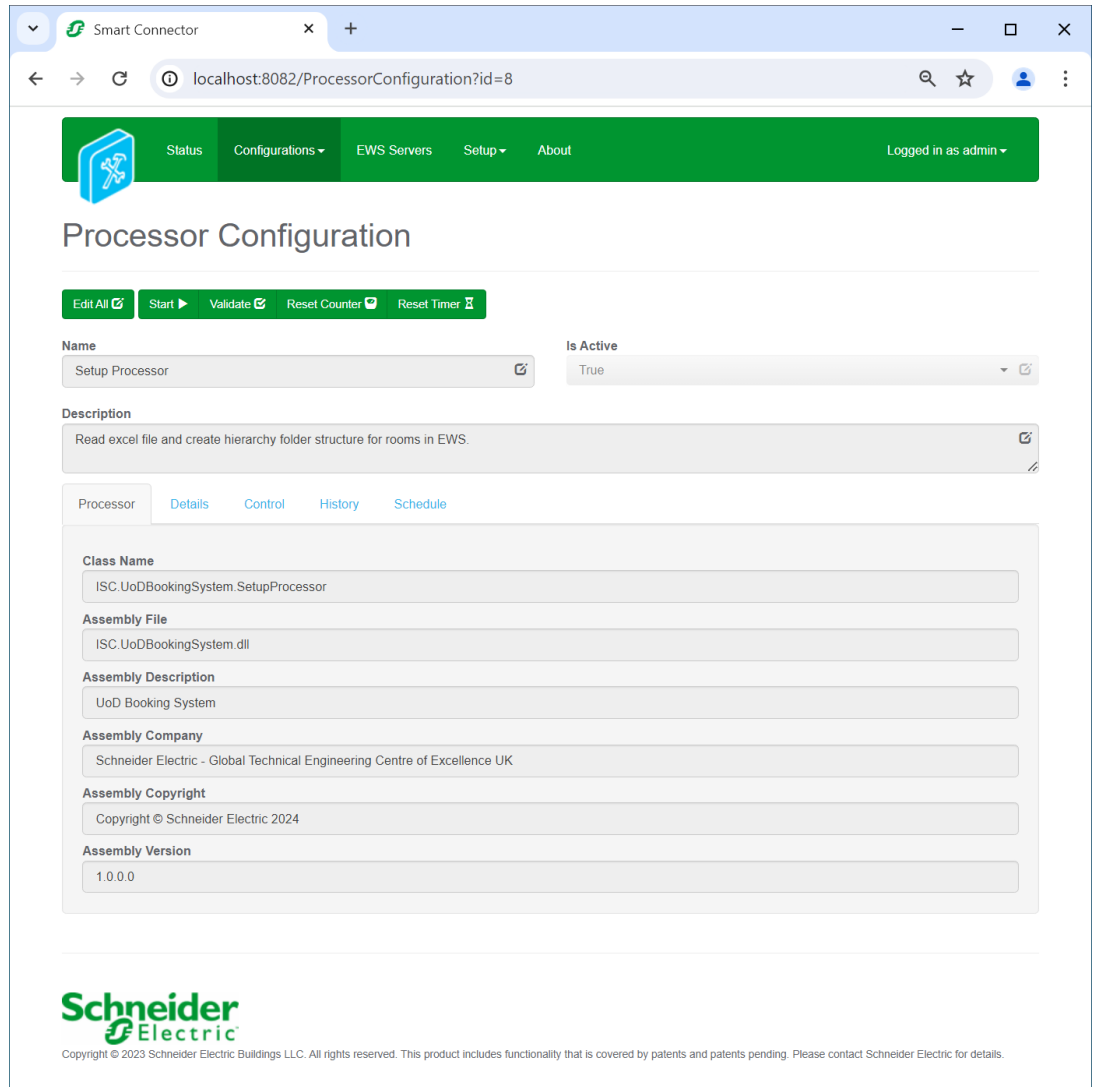
Ensure the class `ISC.UoDBookingSystem.SetupProcessor` is selected first

`ISC.UoDBookingSystem.SetupProcessor`

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.



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.

### **Excel File Path**

This property is required to read and create the Site hierarchy in the EWS server.

### **Root Folder**

This property is a friendly name for the root folder which will be created in the EWS server and it is required.

## **Expand EWS Configuration field**

### **Ews User Name**

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**

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\(56892\)>/EcoStruxure/DataExchange](http://<IPADDRESS>:<PORT(56892)>/EcoStruxure/DataExchange)

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

### **Ews Server Name**

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

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

**Excel File Path \***  
C:\Users\Administrator\Documents\Room Table Data.xlsx

**Root Folder \***  
UoD Structure

**Ews Configurations**

**Ews User Name \***  
admin

**Ews Password \***  
~ Encrypted ~

**Ews Server Address \***  
http://localhost:56892/EcoStruxure/DataExchange

**Ews Server Name \***  
Room Booking Server

Follow the same procedure to configure the second Processor.

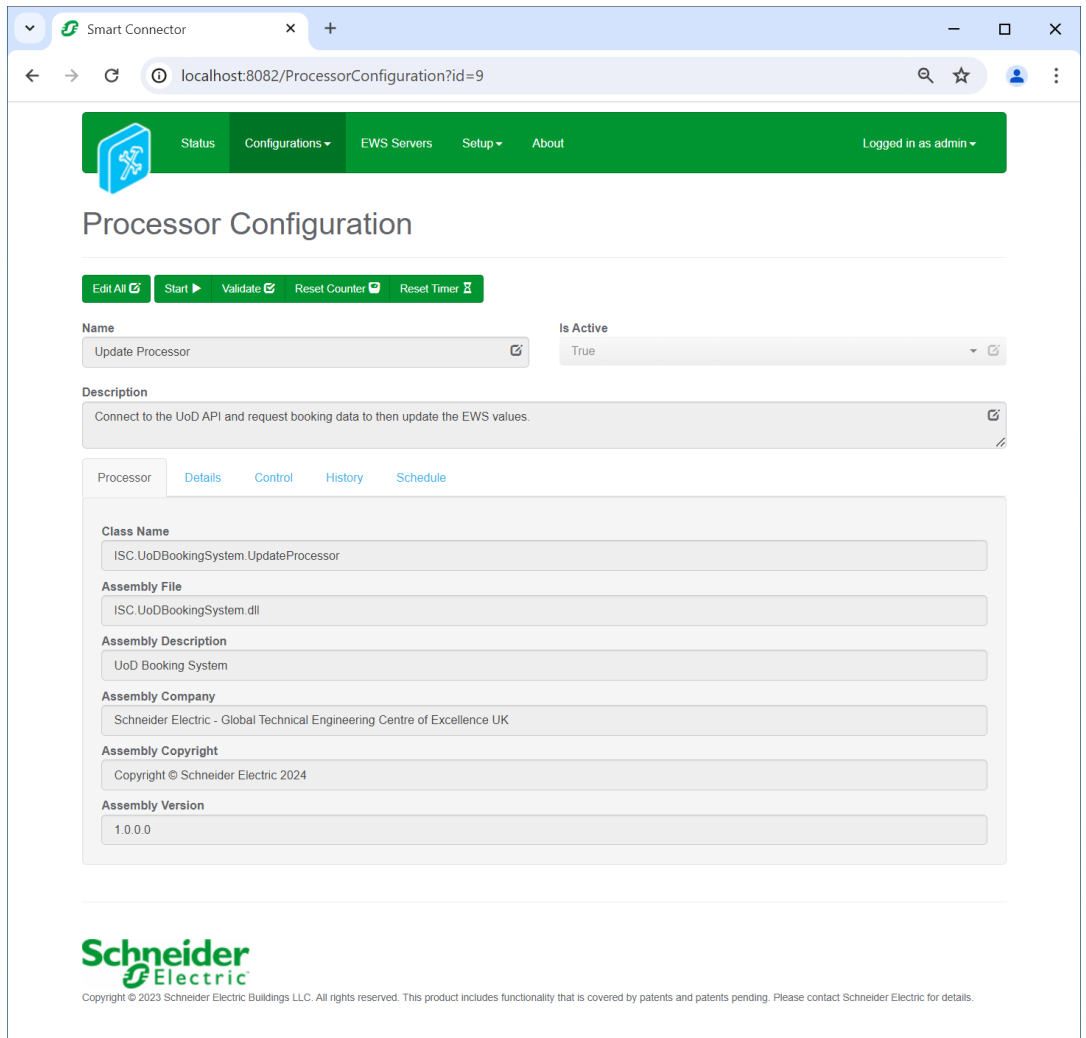
Ensure the class `ISC.UoDBookingSystem.UpdateProcessor` is selected

`ISC.UoDBookingSystem.UpdateProcessor`

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.



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**

This property is required to access the Booking System API.

### **Api Request**

This property is required to make the request to the Booking System API.

### **Api Key**

This property is required to allow the Booking System API connection to be authenticated.

### **Root Folder**

This property is a friendly name for the root folder which will be created in the EWS server and it is required.

## **Expand EWS Configuration field**

### **Ews User Name**

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**

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\(56892\)>/EcoStruxure/DataExchange](http://<IPADDRESS>:<PORT(56892)>/EcoStruxure/DataExchange)

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

### **Ews Server Name**

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

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 data will be requested from the Booking System to updated the EWS server with the latest 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:

Expand All Collapse All

Details

**Base Uri \***

https://uod-uks-udo-room-usage-dev-as.azurewebsites.net



**Api Request \***

api/roomusage



**Api Key \***

~ Encrypted ~



**Root Folder \***

UoD Structure



**Ews Configurations**

**Ews User Name \***

admin



**Ews Password \***

~ Encrypted ~



**Ews Server Address \***

http://localhost:56892/EcoStruxure/DataExchange



**Ews Server Name \***

Room Booking Server





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

The screenshot shows the 'UoD Structure' view in the EcoStruxure Building Operation interface. The left pane displays a system tree with the following structure:

- UoD Server
  - Room Booking Server
    - UoD Structure
      - 1FGS
      - BH
      - BRIT
      - CF
      - DEV
      - DT
      - EC
      - HH
      - IHUB
      - IISE
      - JB
      - KR
      - LDC
      - LEEK
      - LH
      - MS
      - No67
      - NON
      - NSA
      - OAK
      - RH
        - OFFSITERH
          - EndTime
          - Occupied
          - RoomId
          - Siteld
          - SlotId
          - StartDateTime
        - ConnectionAlarm
        - ConnectionState

The right pane shows a list of rooms with the following columns: Name, Description, Value, and EWS Alarm State.

Name	Description	Value	EWS Alarm State
1FGS	1FGS		
BH	BH		
BRIT	BRIT		
CF	CF		
DEV	DEV		
DT	DT		
EC	EC		
HH	HH		
IHUB	IHUB		
IISE	IISE		
JB	JB		
KR	KR		
LDC	LDC		
LEEK	LEEK		
LH	LH		
MS	MS		
No67	No67		
NON	NON		
NSA	NSA		
OAK	OAK		
RH	RH		
ConnectionAlarm	ConnectionAlarm		Normal
ConnectionState	ConnectionState	True	

The screenshot shows the 'SB103' view in the EcoStruxure Building Operation interface. The left pane displays a system tree with the following structure:

- SB103
  - EndTime
  - Occupied
  - RoomId
  - Siteld
  - SlotId
  - StartDateTime
  - SB111
  - SB112
  - SB117
  - SB118
  - SBG03
  - SPA



























The right pane shows a list of properties for SB103 with the following columns: Name, Description, and Value.

Name	Description	Value
EndTime	EndTime	12/06/2024 18:00:00
Occupied	Occupancy	True
RoomId	RoomId	SB103
Siteld	Siteld	DEV
SlotId	SlotId	72,780
StartDateTime	StartDateTime	12/06/2024 14:45:00

# 5 Revision History

Version	Assembly File Details	Date
1.1.0.1793	ISC.UoDBookingSystem.dll	12 <sup>th</sup> June 2024

## Assembly files required:

-  AMS.Profile.dll
-  BoDi.dll
-  BouncyCastle.Crypto.dll
-  Cucumber.Messages.dll
-  Gherkin.dll
-  Google.Protobuf.dll
-  ISC.UoDBookingSystem.dll
-  Microsoft.Bcl.AsyncInterfaces.dll
-  Microsoft.Rest.ClientRuntime.dll
-  NCrontab.Signed.dll
-  Newtonsoft.Json.Bson.dll
-  NLog.Targets.Syslog.dll
-  RestSharp.dll
-  SmartConnector.Utilities.dll
-  Syncfusion.Compression.NET.dll
-  Syncfusion.Licensing.dll
-  Syncfusion.XlsIO.NET.dll
-  System Buffers.dll
-  System.Memory.dll
-  System.Numerics.Vectors.dll
-  System.Runtime.CompilerServices.Unsafe.dll
-  System.Text.Encodings.Web.dll
-  System.Text.Json.dll
-  System.Threading.Tasks.Extensions.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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