



io-base
value-added data

TERĒGA
SOLUTIONS

Indabox

Web configuration interface

Content

1. Installation	5
1.1 Indabox Connection	5
1.1.1 Equipment details	5
1.1.1.1 RevPi modules connection through the electronic module	7
1.1.1.2 RevPi local network connection (protected side)	8
1.1.1.3 RevPi cloud connection (unsecured side)	9
1.1.2 Powering the RevPi module	11
2. Pre-required configuration after installation	14
2.1 Indabox Configuration	14
2.1.1 Configuration of the Indabox function	14
2.1.2 Setting a temporary IP address	18
2.1.3 Editing a box label	20
2.2 Log in to / Log out of the web application	22
2.2.1 Connection	23
2.2.2 Language selection	24
2.2.3 Logout	25
2.3 Date and time configuration	25
2.4 Cloud configuration	27
2.5 Network configuration	29
3. Introduction to the Web Configuration Interface	31
3.1 Home page	31
3.2 Help with the meaning of the LEDs	32
3.3 Indabox Status	33
3.3.1 Available metrics details	34
3.3.1.1 Metrics from the Indus module	34
3.3.1.2 Metrics from the cloud module	35
4. Devices	36
4.1 Add a device	36

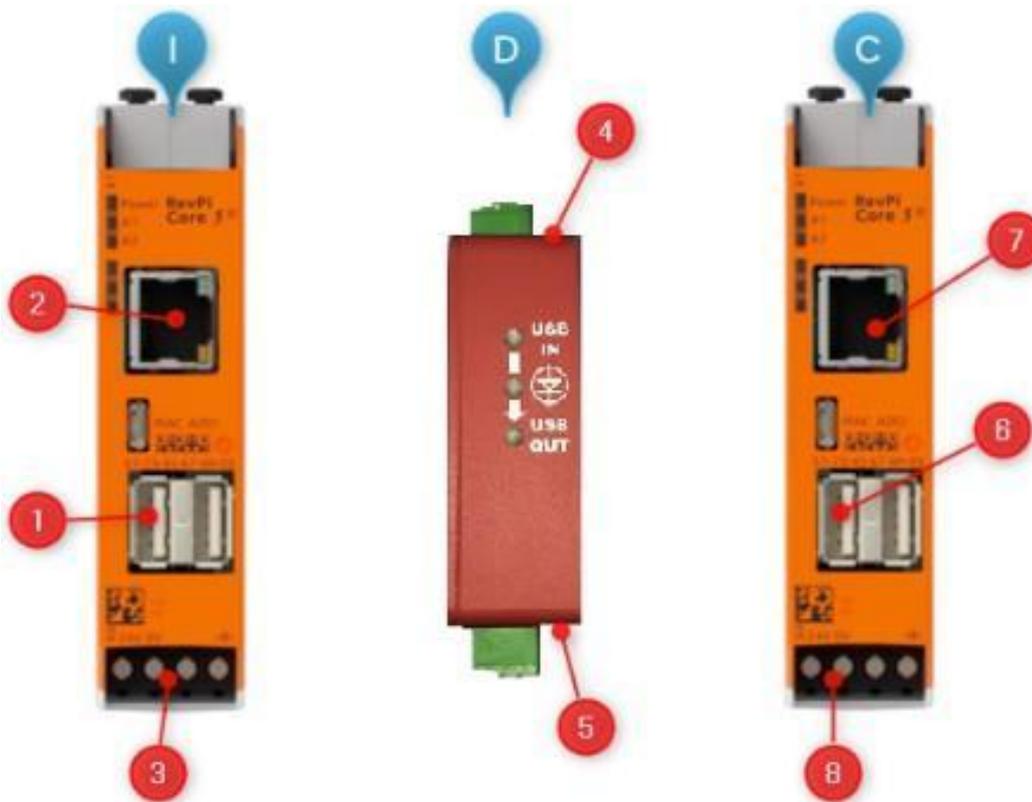
4.2 Device configuration	38
4.3 Edit a device	39
4.4 Delete a device	40
4.5 Export all devices	41
4.6 Export a device	42
4.7 Import a device	43
5. Variables	44
5.1 Add a variable	44
5.2 Edit a variable	47
5.3 Filter variables	48
5.4 Delete a variable	50
5.5 Access the variables of a device	51
6. Users	53
6.1 Add a user	53
6.2 Delete a user	55
6.3 Edit a user	57
6.4 Reset a user's password	59
6.5 Edit the user profile	60
7. Complementary services	62
7.1 Service management	62
7.2 Save / Restore the configuration	64
7.2.1 Save the configuration	65
7.2.2 Restore a configuration	66
7.3 Restart the box	67
8. Specific features	68
8.1 MQTTBox	68
8.1.1 Setting the MqttBox functionality	68
8.1.1.1 Client configuration access	68
8.1.1.2 Client configuration	69
8.1.1.3 Mqtt broker settings	69
8.1.1.4 Authentication mode	70

8.1.2 Configuration of the data to be published	71
8.1.2.1 From the interface	71
8.1.2.2 By exporting/importing	72
8.1.3 Notes	73
8.2 ClientBox configuration	73
8.2.1. Configuring the ClientBox feature	74
8.2.1.1 Activating the feature	74
8.2.1.2 Modbus RTU mode	75
8.2.1.3 Modbus TCP mode	76
8.2.2 Setting the parameters of the data to be exposed	76
8.2.2.1 Exporting a device	76
8.2.2.2 Configuring the variables to be exposed	78
8.2.2.3 Importing equipment	79
8.2.3 Accessing the data	80
8.2.3.1 Modbus RTU	80
8.2.3.2 Modbus TCP	81
8.3 InfluxDb configuration	82
8.4 FTP configuration	85
8.5 OPC UA protocol	89
8.5.1 Add an OPC UA Device	89
8.5.1.1 Add a Device	89
8.5.1.2 Configuration example	92
8.5.1.3 User Authentication Modes	92
8.5.2 Certificate management	93
8.5.2.1 Server certificate	94
8.5.2.2 Delete a certificate	95
8.5.3 OPC UA Server Namespace	96
8.5.3.1 Server certificate	98
8.5.3.2 Refresh the Namespace	98
8.5.4 Variable Selection with the Namespace	99
8.5.4.1 Selecting a set of variables	99
8.5.4.2 Adding / Editing a variable	104

1. Installation

1.1 Indabox Connection

1.1.1 Equipment details





RevPi INDUS

- 1 USB OUTPUT
- 2 RJ45 NETWORK PORT
- 3 POWER SUPPLY TERMINALS



Electronic module

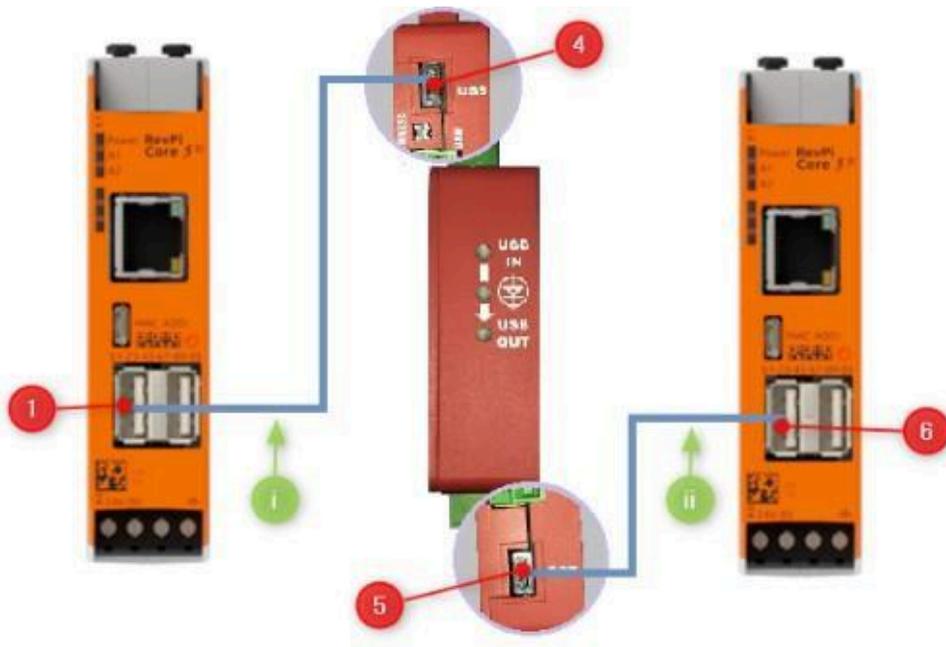
- 4 MICRO-USB IN PORT
- 5 MICRO-USB OUT PORT



RevPi CLOUD

- 6 USB INPUT
- 7 RJ45 NETWORK PORT
- 8 POWER SUPPLY TERMINALS

1.1.1.1 RevPi modules connection through the electronic module



- i** Using a USB / Micro-USB cable

 - connect the USB1 output from the front panel to **1**
 - the Micro-USB IN port of the electronic module **4**

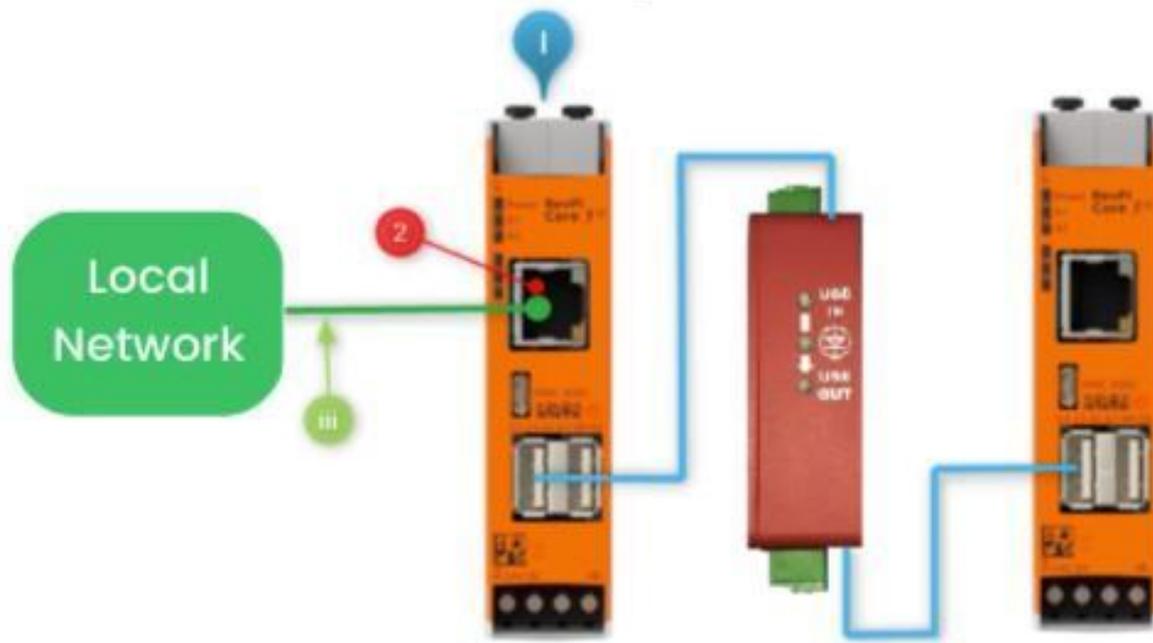
- ii** Using a USB / Micro-USB cable :

 - connect the Micro-USB OUT port of the electronic module to **5**
 - the USB-1 input on the front panel of the RevPi Core **6**

WARNING : For a USB connection, please ensure that the switch (encircled below) is on the USB side.



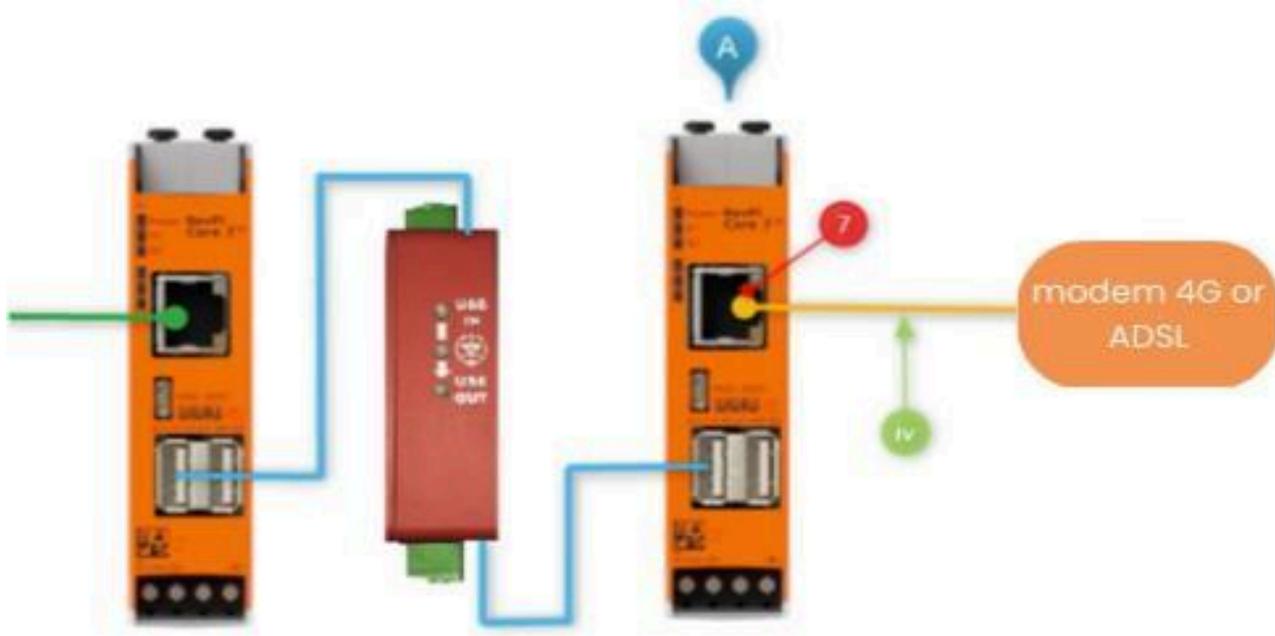
1.1.1.2 RevPi local network connection (protected side)



Using an RJ45,

- 2 connect the ethernet socket to the target industrial network

1.1.1.3 RevPi cloud connection (unsecured side)



Using an RJ45,

- 7 connect the RevPi's ethernet port to the WAN network (Internet or 4G/LTE router)

1.1.2 Powering the RevPi module

To connect the power supply to your RevPi Core, follow these steps :

Step 1 : Locate the X4 Connector (encircled below) : The X4 connector is specifically designed for powering the RevPi Core module and any connected devices.



Step 2 : Prepare the Power Supply :

Ensure you have a power supply unit that provides at least 11 W. You also need wiring with a cross-section between 0.35 mm² and 2.5 mm² (AWG22 to AWG14).

Step 3 : Make the Connections :

- Connect terminal 1 on the X4 connector to the positive pole (24 V) of your power supply.
- Connect terminal 2 to the negative pole (0 V or ground) of the power supply.

Step 4 : Optional Earth Connection : Terminal 4 is an optional functional earth. Connecting it can improve the system's electromagnetic compatibility (EMC), although it's not required.

Step 5 : Secure the Connections : Double-check that all connections are secure to ensure stable and reliable power delivery.

Connector	Function
1	24 V supply for powering the RevPi Core and connected modules
2	0 V supply (ground)
3	Not assigned
4	Functional earth (optional connector to improve EMC properties)

Technical Sheet

Box dimensions	
Length	80 mm
Height	96 mm
Width	105 mm
Weight	0,36 kg
Supply voltage	
Supply voltage type	12-24 V CC
Holdover time if loss of electricity	20 ms
Max power consumption	20W (2 x 10W)
Processor	
Broadcom	BCM2837B0
Interfaces	
USB Interface	4x USB 2.0
RJ45 Interface	2x RJ45
Protection class	
IP	IP 20 <input type="text"/>
Type of attachment	
Mounting	Symmetrical DIN rail, mural fixation, edge mounting
Configuration	Box PC, builtin appliance
Ambient conditions	
Operating temperature range	from -20° to +55°
Storage/transport ambient temperature	from -40° to +85°
Standards, Approvals, Certificates	
CE	Yes
RoHS	Yes
IEC 62443 4.1 4.2	Ongoing
ATEX	No
Communications	
Industrial protocols	ModbusTCP, EthIP, S7, OPCUA, ftp Evolving list
IHM	Chrome, Firefox, Opera, Brave, Edge
Internet Protocols	API (POST), MQTT
Authentication	Open ID (m2m)

2. Pre-required configuration after installation

2.1 Indabox Configuration

2.1.1 Configuration of the Indabox function

Connect the Indabox to the PC with an Ethernet cable, then start the [Indabox Configurator](#) application.

Indabox Configurator | v1.7.1.0

io-base | INDABOX
value-added data

Refresh Advanced mode

List of available equipment

HostName	Label	Function	Version	Cpu	Serial number	IP Address	Alternative IP Address	MAC Address
----------	-------	----------	---------	-----	---------------	------------	------------------------	-------------

Local PC network configuration

Interface	IP Address	Subnet	IP range
-----------	------------	--------	----------

After waiting a few seconds, click on the **Refresh** button.

Indabox : Web Configuration Interface



Note : If no line has appeared in the device list in the box, repeat the operation.

Once a line has appeared, it means that the computer has detected an Indabox.

Indabox Configurator | v1.7.1.0

io-base | INDABOX
value-added data

Refresh Modify IP address Advanced mode

List of available equipment

HostName	Label	Function	Version	Cpu	Serial number	IP Address	Alternative IP Address	MAC Address
RevPi	-	FLASH	1.7.1.0	CM3		192.168.1.107		b8:27:eb:c9:d2:4b
RevPi50761	-	CLOUD	1.7.1.0	CM3	50761	192.168.1.118		c8:3e:a7:01:cc:c5

Local PC network configuration

Interface	IP Address	Subnet	IP range
Realtek USB GbE Family Controller #2	192.168.0.67	255.255.255.0	192.168.0.0
Realtek USB GbE Family Controller #2	192.168.1.22	255.255.255.0	192.168.1.0

To configure it, select the line and click on the **Function setting** button.

Indabox : Web Configuration Interface

Indabox Configurator | v1.7.1.0

io-base | INDABOX
value-added data

Refresh Function setting Advanced mode

List of available equipment

HostName	Label	Function	Version	Cpu	Serial number	IP Address	Alternative IP Address	MAC Address
RevPi	-	FLASH	1.7.1.0	CM3		192.168.1.107		b8:27:eb:c9:d2:4b
RevPi50761	-	CLOUD	1.7.1.0	CM3	50761	192.168.1.118		c8:3e:a7:01:cc:c5

Local PC network configuration

Interface	IP Address	Subnet	IP range
Realtek USB GbE Family Controller #2	192.168.0.67	255.255.255.0	192.168.0.0
Realtek USB GbE Family Controller #2	192.168.1.22	255.255.255.0	192.168.1.0

The following screen appears :

Indabox : Web Configuration Interface

Indabox Configurator | v1.7.1.0

io-base | INDABOX
value-added data

Refresh Function setting

Advanced mode

List of available equipment

HostName	Label	Function	Version
RevPi	-	FLASH	1.7.1.0
RevPi50761	-	CLOUD	1.7.1.0

Local PC network configuration

Interface	IP Address
Realtek USB GbE Family Controller #2	192.168.0.0
Realtek USB GbE Family Controller #2	192.168.1.0

Function setting

Serial Number
59018

Mac Address
c83ea7022ac6

Selection of equipment function

CLOUD
 INDUS

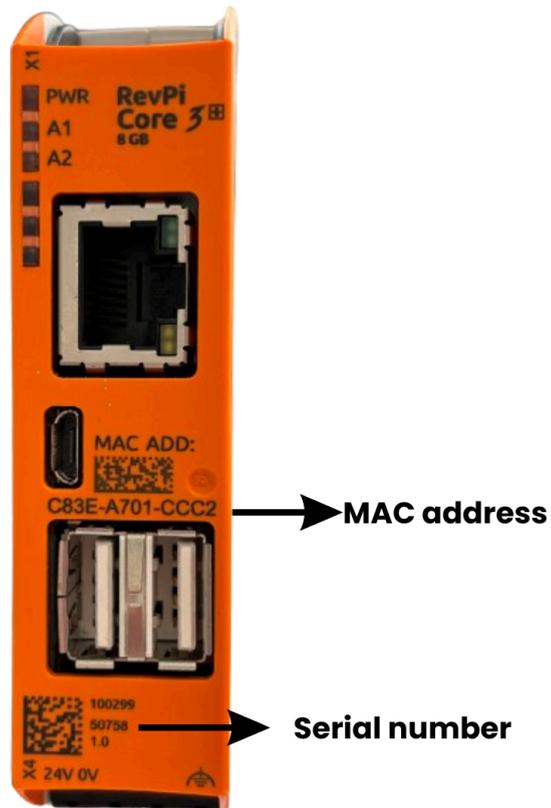
Ok Cancel

Native IP Address	MAC Address
	b8:27:eb:c9:d2:4b
	c8:3e:a7:01:cc:c5

IP range
192.168.0.0
192.168.1.0

You must now complete the following fields :

- The serial number : a 5-digit identifier indicated on the front of the Indabox
- The MAC address : a 12-digit identifier indicated on the front of the Indabox
- The function of the Indabox: choice between its INDUS, CLOUD or Box Lite use



Once the information has been entered, click "**OK**" to save the information.

Carry out this action on the two boxes :

- Indus - connected to the industrial network
- Cloud - connected to the internet

[2.1.2 Setting a temporary IP address](#)

The IP address must be in the same range as the configuration PC for you to be able to access the Indabox Web interface.

If necessary you can set a temporary IP address.

Click on "**Advanced mode**".

Indabox : Web Configuration Interface

Indabox Configurator | v1.7.1.0

io-base | INDABOX
value-added data

Refresh Open Web interface **Advanced mode**

List of available equipment

HostName	Label	Function	Version	Cpu	Serial number	IP Address	Alternative IP Address	MAC Address
RevPi59018	-	INDUS	1.7.1.0	CM3	59018	192.168.1.222		c8:3e:a7:02:2a:c6
RevPi50761	-	CLOUD	1.7.1.0	CM3	50761	192.168.1.118		c8:3e:a7:01:cc:c5

Then, "**Assign temporary IP**".

Indabox Configurator | v1.7.1.0

io-base | INDABOX
value-added data

Refresh Open Web interface **Assign temporary IP** Advanced mode

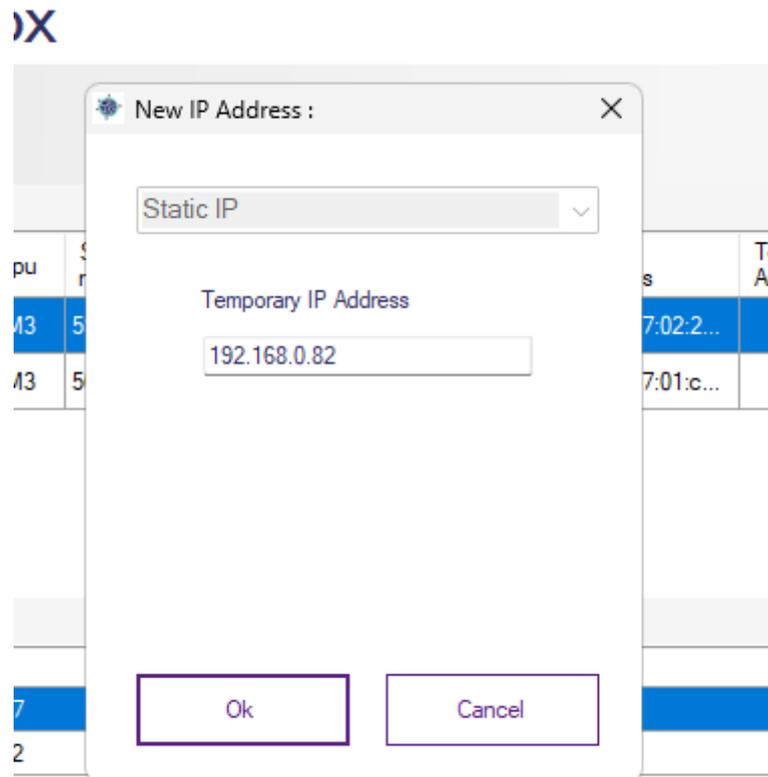
List of available equipment

HostName	Label	Function	Version	Cpu	Serial number	IP Address	Alternative IP Address	MAC Address	Temp IP Address	Vitesse	Maintenance Mode
RevPi59018	-	INDUS	1.7.1.0	CM3	59018	192.168.1.222		c8:3e:a7:02:2...		-	False
RevPi50761	-	CLOUD	1.7.1.0	CM3	50761	192.168.1.118		c8:3e:a7:01:c...		-	False

Local PC network configuration

Interface	IP Address	Subnet	IP range
Realtek USB GbE Family Controller #2	192.168.0.67	255.255.255.0	192.168.0.0
Realtek USB GbE Family Controller #2	192.168.1.22	255.255.255.0	192.168.1.0

Enter an IP address within the same range as the configuration PC, then click on "**Ok**".



[2.1.3 Editing a box label](#)

You have the possibility to change the label of your box.

Right-click the desired line and select the "**Edit label**" function.

Indabox : Web Configuration Interface

Indabox Configurator | v1.7.1.0



Actualiser

Ouvrir l'interface Web

Mode avancé

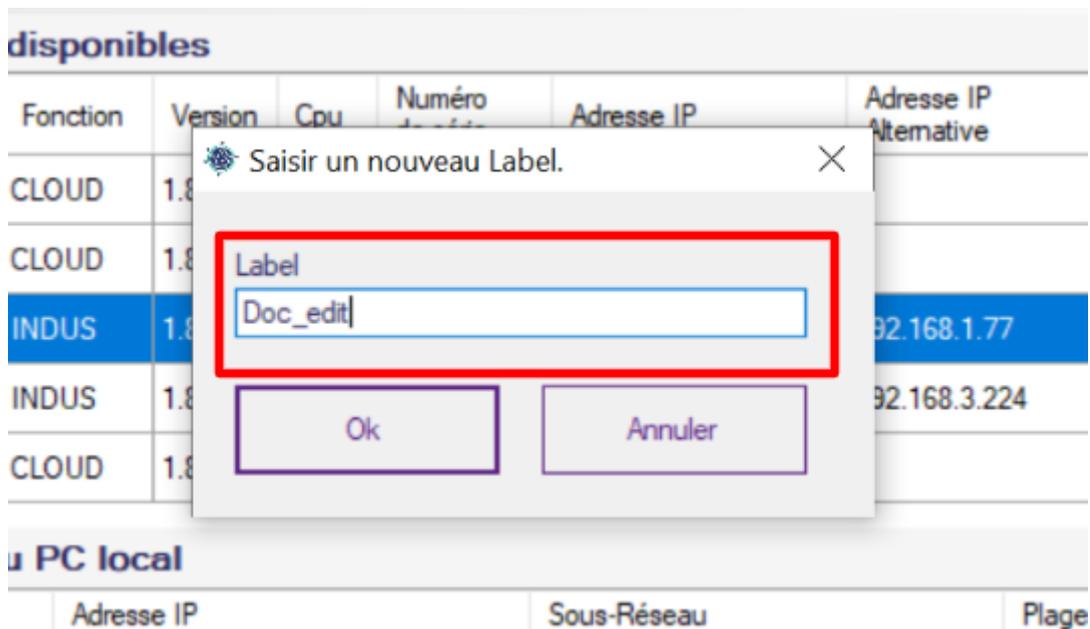
Liste des équipements disponibles

HostName	Label	Fonction	Version	Cpu	Numéro de série	Adresse IP	Adresse IP Alternative	Adresse MAC
RevPi50758		CLOUD	1.8.0.0	CM3	50758	192.168.0.177		c8:3e:a7:01:cc:c2
RevPi64900	INT-C	CLOUD	1.8.0.0	CM3	64900	192.168.0.176		c8:3e:a7:01:50:d0
RevPi30295	Doc	INDUS	1.8.0.0	CM3	30295	192.168.0.79	192.168.1.77	c8:3e:a7:01:50:e0
RevPi64900	DEV-I	INDUS	1.8.0.0	CM3	64900	192.168.0.224	192.168.3.224	c8:3e:a7:02:79:3f
RevPi64866	DEV-C	CLOUD	1.8.0.0	CM3	64866	192.168.0.201		c8:3e:a7:02:79:81

Configuration réseau du PC local

Interface	Adresse IP	Sous-Réseau	Plage IP
Intel(R) Ethernet Connection (3) I218...	192.168.0.127	255.255.255.0	192.168.0.0
Intel(R) Dual Band Wireless-AC 7265	172.20.10.4	255.255.255.240	172.20.10.0

Enter the new label, then click "OK".



A confirmation message appears. Your label has been changed.

8		CLOUD	1.8.0.0	CM3	50758	192.168.0.177		c8:3e:a7:01
0	INT-C	CLOUD	1					c8:3e:a7:01
5	Doc_edit	INDUS	1			168.1.77		c8:3e:a7:01
0	DEV-I	INDUS	1			168.3.224		c8:3e:a7:02
6	DEV-C	CLOUD	1					c8:3e:a7:02

	Adresse IP	Sous-Réseau	Plage IP
emet Connection (3) I218...	192.168.0.127	255.255.255.0	192.168.0.0
al Band Wireless-AC 7265	172.20.10.4	255.255.255.240	172.20.10.0

×

Le nouveau Label a été pris en compte.

[2.2 Log in to / Log out of the web application](#)

To access the web application, use the Indabox-Configurator application to find the IP address of the INDUS Box.

Indabox : Web Configuration Interface

HostName	Type	Numéro de série	Adresse IP	Adresse IP Alternative	Adresse MAC
RevPi50758	CLOUD	50758	169.254.173.244		c8:3e:a7:01:cc:c2
RevPi30295	INDUS	30295	192.168.1.222		c8:3e:a7:01:50:e0

Interface	Adresse IP	Sous-Réseau	Plage IP
Intel(R) Ethernet Connection (6) I219...	192.168.0.10	255.255.255.0	192.168.0.0
Intel(R) Ethernet Connection (6) I219...	192.168.1.1	255.255.255.0	192.168.1.0
Intel(R) Ethernet Connection (6) I219...	192.168.2.10	255.255.255.0	192.168.2.0
Intel(R) Ethernet Connection (6) I219...	169.254.1.201	255.255.255.0	169.254.1.0
Intel(R) Wireless-AC 9560 160MHz	192.168.1.4	255.255.255.0	192.168.1.0

2.2.1 Connection

Select the line containing the INDUS Box and click on the Open button of the Web interface button or manually enter the IP address in the address bar of the browser of your choice using port 5000.

You are redirected to the login page.

io-base value-added data INDABOX Help ▾ 

Log in

Username:

Password:

For the first login, the identifier and password to enter are as follows:

- Identifier: Admin
- Password: P@ssw0rd

There are two different user roles in the application: Administrator and User.

The administrator has access to the configuration pages of the devices and their variables. They also have access to the other configuration pages of the INDUS Boxes.

The user only has access to the home page. It is used to indicate the status of the devices.

[2.2.2 Language selection](#)

The web application can be displayed in English or French. The language can be changed at any time by clicking on the flag in the menu at the top of the page.

Indabox : Web Configuration Interface

The screenshot shows the 'Communication details' page in the Indabox web configuration interface. At the top left is the 'io-base' logo with the tagline 'value-added data INDABOX'. The navigation menu includes 'Home', 'Data source', 'Configuration', and 'Help'. On the top right, there is a user greeting 'Hello Admin!', a 'Logout' link, and a language dropdown menu currently set to 'Français'. The main content area features a purple button labeled 'Files waiting to be sent', a green 'Auto-refresh' button, and a refresh icon. Below this is a table with the following data:

Name	Date	Status	Variables in error	Variables
OpcUa	Wednesday, November 23, 2022 - 3:50:39 PM	Connection failure	353	353
Automate_1	Wednesday, November 23, 2022 - 3:50:39 PM	OK	0	123

2.2.3 Logout

Click the logout link in the menu at the top of the page to log out at any time.

This screenshot is identical to the one above, but with a red box highlighting the 'Logout' link in the top right navigation menu.

2.3 Date and time configuration

To access the upstream INDUS Box date and time configuration, click on the **Configuration** menu and then **Date and time configuration** :

Indabox : Web Configuration Interface



You will be directed to the configuration page. Fill in the form.

If the INDUS Box has already been configured, the form is pre-filled with the data already configured.

A first insert is available at the top of the page to inform you of the current date and time configuration, in particular whether an NTP server is present and if it is synchronised.

A second insert specifies whether the NTP server is active or not and whether it has error status.

You can also see the date and time configured on the INDUS Box at any time at the bottom of the page:

PlcReader v1.4.0.0 FileSender v1.4.0.0 eRevPi v1.4.0.0 **Date et heure système : 03 Janv. 2022 09:25** N° de série : 012370BCFF41A713

If an NTP server is available, the corresponding box must be selected and its IP address must be entered.

If you are not using an NTP server or if no NTP server is accessible, click the “Retrieve browser date and time” button that will initialise the date and time and the timezone.

The screenshot shows the 'Date and time settings' page in the Indabox web configuration interface. At the top, there is a navigation bar with the 'io-base' logo, 'INDABOX' text, and menu items: 'Home', 'Data source', 'Configuration', and 'Help'. On the right, it says 'Hello Admin!', 'Logout', and a language selector (UK flag).

Date and time settings

Actual RevPi date and time settings :

Local time: Wed 2022-11-23 16:29:06 CET
Universal time: Wed 2022-11-23 15:29:06 UTC
RTC time: Wed 2022-11-23 15:29:07
Time zone: Europe/Paris (CET, +0100)
System clock synchronized: no
NTP service: inactive
RTC in local TZ: no

NTP server

Current date and time :

Timezone :

If the values entered are saved, the changes are made and taken into account directly on the INDUS Box.

After initialising the date and time, restart the INDUS Box.

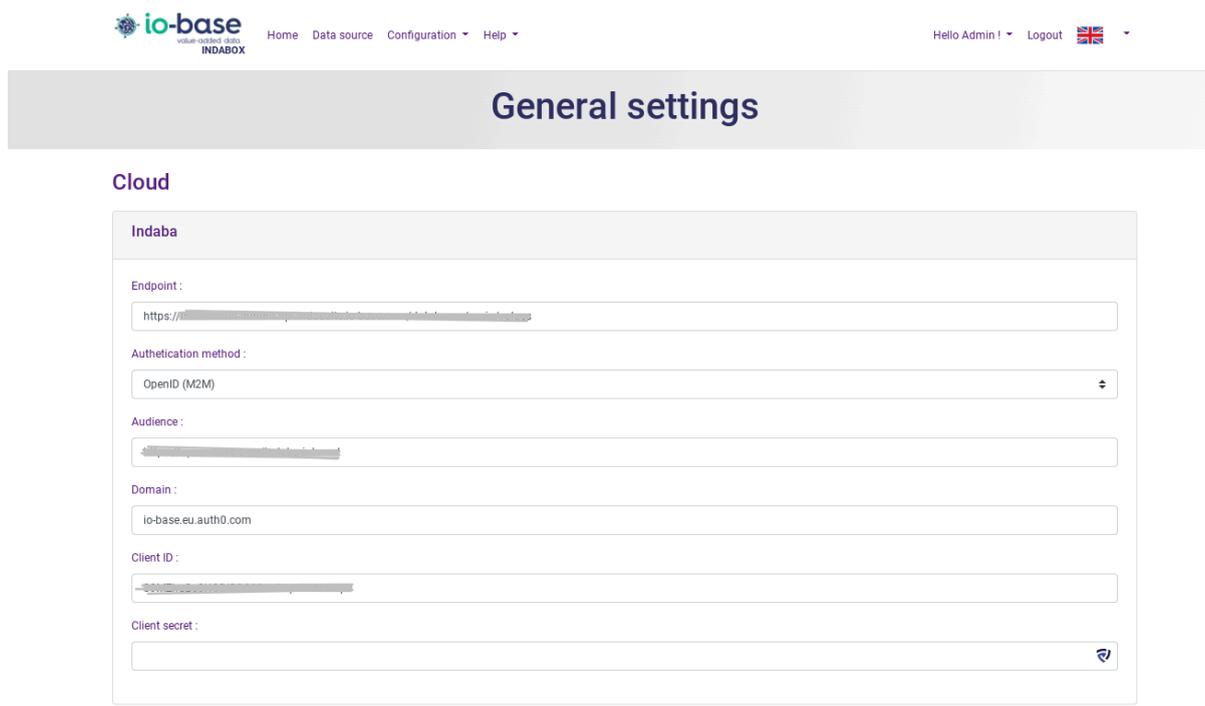
[2.4 Cloud configuration](#)

Access the **Configuration / General Configuration** menu :

Indabox : Web Configuration Interface



Scroll down the page, to reveal the Cloud section.



All fields must be filled in.

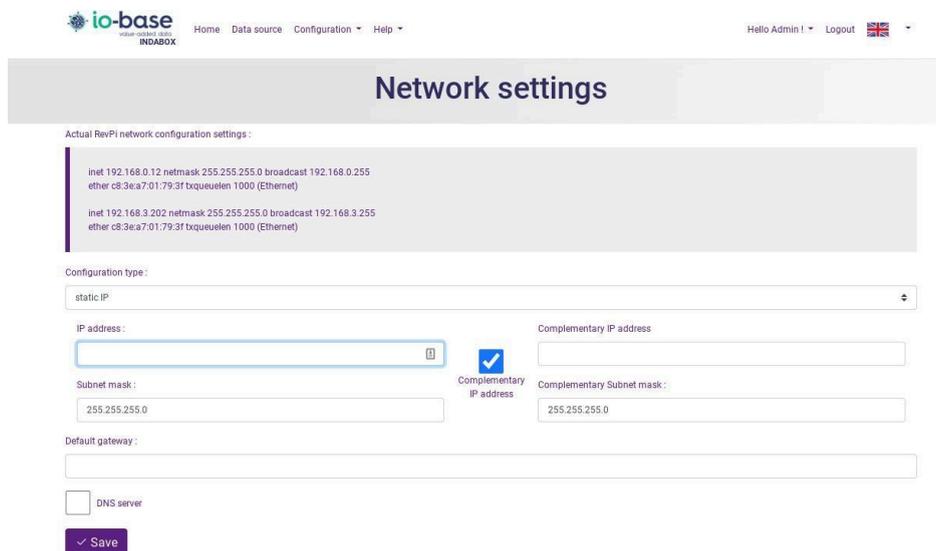
Once the form is saved, a json configuration file will be generated and automatically sent to the INDUS Cloud Box which will save the data received.

2.5 Network configuration

The first item to configure is the network. Access the INDUS Box network configuration by clicking on the **Configuration** menu and then **Network Configuration** :



Complete the following form :



The screenshot shows the 'Network settings' configuration form. At the top, it displays 'Actual RevPI network configuration settings:' followed by two lines of network configuration data: 'inet 192.168.0.12 netmask 255.255.255.0 broadcast 192.168.0.255 ether c8:3e:a7:01:79:3f txqueuelen 1000 (Ethernet)' and 'inet 192.168.3.202 netmask 255.255.255.0 broadcast 192.168.3.255 ether c8:3e:a7:01:79:3f txqueuelen 1000 (Ethernet)'. Below this, the 'Configuration type:' is set to 'static IP'. The 'IP address:' field is pre-filled with '192.168.0.12'. The 'Subnet mask:' is '255.255.255.0'. The 'Complementary IP address' and 'Complementary Subnet mask' fields are empty. A 'Default gateway:' field is also empty. There is a checkbox for 'DNS server' which is unchecked. A 'Save' button is at the bottom left.

If the INDUS Box has already been configured, the form is pre-filled with the data already present. An insert is available at the top of the page to inform you of the current network address configuration.

Indabox : Web Configuration Interface

You can change the network configuration type between static IP or DHCP. The form automatically adapts to the choice that is made.

When configuring Static IP, the IP address, the subnet mask, and the default gateway must be entered.

Assign an additional IP address as follows :

The screenshot displays the 'Network settings' page in the Indabox web interface. At the top, there is a navigation bar with the 'io-base' logo and menu items: Home, Data source, Configuration, and Help. On the right, it shows 'Hello Admin!', a 'Logout' button, and a language selector (UK flag). The main heading is 'Network settings'. Below this, a section titled 'Actual RevPi network configuration settings:' shows two network configurations:

```
inet 192.168.0.12 netmask 255.255.255.0 broadcast 192.168.0.255
ether c8:3e:a7:01:79:3f txqueuelen 1000 (Ethernet)

inet 192.168.3.202 netmask 255.255.255.0 broadcast 192.168.3.255
ether c8:3e:a7:01:79:3f txqueuelen 1000 (Ethernet)
```

The configuration type is set to 'static IP'. The form includes the following fields:

- IP address:** A text input field.
- Subnet mask:** A text input field containing '255.255.255.0'.
- Default gateway:** A text input field.
- DNS server:** A checkbox that is currently unchecked.
- Complementary IP address:** A text input field.
- Complementary Subnet mask:** A text input field containing '255.255.255.0'.

A 'Save' button is located at the bottom left of the form.

If a DNS server is present on the Ethernet LAN, select the corresponding check box to fill in the Ethernet LAN values.

Save the values entered. Changes are made and taken into account directly on the INDUS Box.

3. Introduction to the Web Configuration Interface

The Indabox is a highly secure industrial device allowing data to be collected directly from your PLCs. The IndaBox transmits the data into the Cloud in a single direction.

3.1 Home page

Once logged in to the web application, the home page allows you to view the status of your devices.

The screenshot shows the 'Communication details' page of the Indabox web interface. At the top left is the 'io-base' logo with the tagline 'value industrial data' and 'INDABOX'. Navigation links include 'Home', 'Data source', 'Configuration', and 'Help'. On the top right, it says 'Hello Admin!', 'Logout', and a flag icon. The main title is 'Communication details'. Below the title, there is a purple button 'Files waiting to be sent' and a green 'Auto-refresh' button with a refresh icon. The main content is a table with the following columns: Name, Date, Status, Variables in error, and Variables. The table contains 9 rows of device data, alternating between red (error) and green (OK) background colors.

Name	Date	Status	Variables in error	Variables
OpcUa	Wednesday, November 23, 2022 - 3:51:31 PM	Connection failure	353	353
Automate_1	Wednesday, November 23, 2022 - 3:51:35 PM	OK	0	123
OpcUaSeb	Wednesday, November 23, 2022 - 3:51:35 PM	Connection failure	9	9
RockwellPlateau	Wednesday, November 23, 2022 - 3:51:33 PM	OK	0	130
ClientBox	Wednesday, November 23, 2022 - 3:51:35 PM	OK	0	44
opc_prosys	Wednesday, November 23, 2022 - 3:51:35 PM	Connection failure	0	0
Automate_2	Wednesday, November 23, 2022 - 3:51:34 PM	OK	0	211
Automate_3	Wednesday, November 23, 2022 - 3:51:35 PM	OK	0	4

Devices can appear in 3 different statuses:

- In green, the device is reachable and all its variables have been retrieved correctly;
- In yellow, the device is reachable but not all its variables have been

Indabox : Web Configuration Interface

retrieved correctly. You can click on the button indicating the number of variables to view the values of the retrieved variables.

- In red, the device is not reachable or the device is reachable but none of its variables have been retrieved correctly.

This page refreshes every 20 seconds to update the status of the devices, but it can be triggered manually via the refresh icon above the table.



[3.2 Help with the meaning of the LEDs](#)

The color and the way in which the LEDs are lit give indications on the status of the box.



From the Help / Meaning of the LEDs menu, you will find a table explaining these meanings.

LEDs meaning

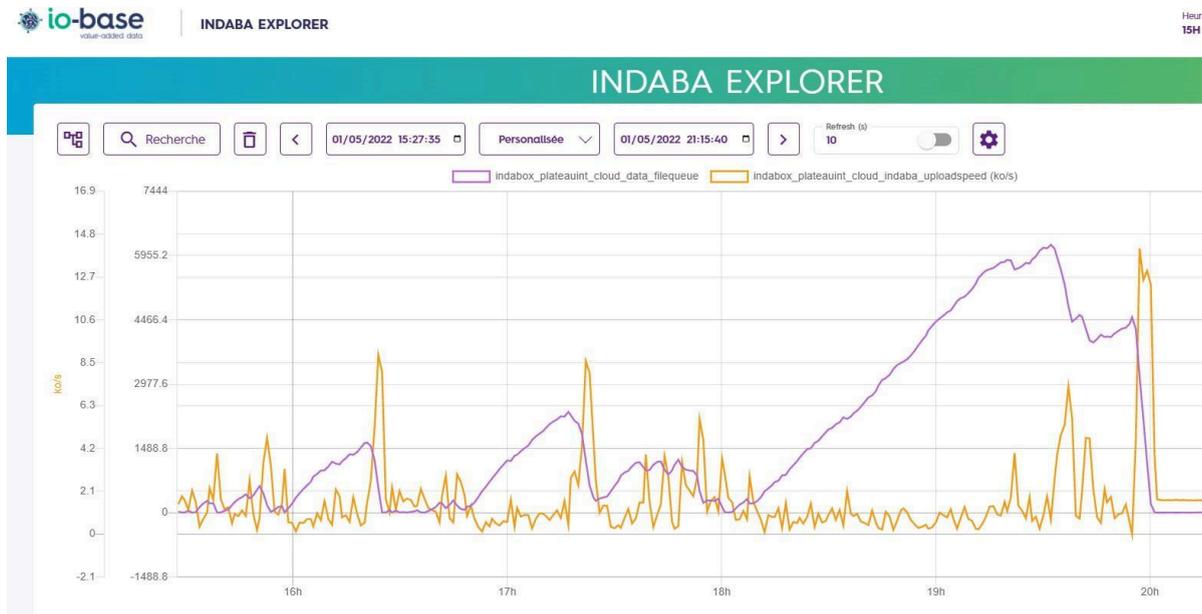
Industrial box				Cloud box			
LED	Monitors	Status	Meaning	LED	Monitors	Status	Meaning
A1	Communication with devices		No device configured.	A1	Cloud communication		Cloud not configured.
			Communication working.				Cloud configured but no file to send.
			At least one communication is in error.				File successfully sent.
			No working communication.				A concerning number of file to send are stacking, but communication works.
A2	Sending data to cloud box		No file to send.	A2	Receiving files from Industrial box		Communication error.
			At least one file is about to be sent.				No file received for a long time.
			File successfully sent.				Some files have been received.
			A concerning number of file to send are stacking, but communication works.				An error occured while receiving a file.
			Communication error.				Communication error.

3.3 Indabox Status

To facilitate the analysis of the Indabox operation, some tags are automatically uploaded into Indaba. Thus, it is possible to display these tags directly in Indaba Explorer, as curves.

Example, with the display :

- of the number of files awaiting transfer in the Cloud box
- of the speed of downloading files from the Cloud box



Note : the values of these status metrics are generated once per minute.

3.3.1 Available metrics details

The prefix associated with the Indabox status tags is of type "Indabox_[site]_[type]".

- [site] : site name entered in general config (spaces ' ' replaced by underscore '_' and special characters deleted @[0-9a-zA-Z_]+")
- [type] : indus or cloud (depending on the module running the data)

3.3.1.1 Metrics from the Indus module

- file stack size (ftp / data) :
 - ftp_filequeue
 - data_filequeue

- export folder size and ftproot (mega) :
 - data_foldersize
 - ftp_foldersize
- communication status (one per device)
 - [device]_com_status ([device] : name of the device entered in the data sources
- services status :
 - erevpi_status
 - filesender_status
 - ftp_status
 - webinterface_status

3.3.1.2 Metrics from the cloud module

- file stack size (ftp / data) :
 - ftp_filequeue
 - data_filequeue
- export folder size and ftproot(en mega)
 - data_foldersize
 - ftp_foldersize
- services status :
 - erevpi_status
 - filereceiver_status
 - ssm_status
 - clientbox_status
- indaba upload speed :
 - indaba_uploadspeed

4. Devices

4.1 Add a device

To add a device, click the add button at the top of the Data source page :

The screenshot shows the 'Data source' page in the Indabox interface. At the top, there is a navigation bar with the 'io-base' logo, 'INDABOX' text, and links for 'Home', 'Data source', 'Configuration', and 'Help'. On the right, it says 'Hello Admin!', 'Logout', and a language selector (UK flag). Below the navigation bar, the main heading is 'Data source'. There are four buttons: 'Import file', 'Manage OpcUA certificates', 'Add device' (highlighted with a red box), and 'Download all source files'. Below these buttons is a table with the following columns: Name, Description, IP address, Protocol, Tag Prefix, and Number of variables. Each row in the table has a menu icon and three action icons (edit, download, delete).

Name	Description	IP address	Protocol	Tag Prefix	Number of variables	
Automate_2		192.168.0.1	S7	test_dev_	211	[edit] [download] [delete]
Automate_3	tests bits in word	192.168.0.100	ModbusTCP	testbitword_dev_	4	[edit] [download] [delete]
opc_prosys		192.168.0.40:53530/OPCUA/SimulationServer	OpcUA	opc_prosys_dev_	0	[edit] [download] [delete]
ClientBox	Test ClientBox	192.168.0.100	ModbusTCP	clientbox_dev_	44	[edit] [download] [delete]
OpcUa	Test OpcUa	192.168.0.100:49320	OpcUA	opcua_dev_	353	[edit] [download] [delete]
OpcUaSeb	Test OpcUa	192.168.0.40:49320	OpcUA	opcua_seb_dev_	9	[edit] [download] [delete]
Automate_1		192.168.0.100	ModbusTCP	modbus_dev_	123	[edit] [download] [delete]
RockwellPlateau		192.168.3.100	EtherNetIP	cip_dev_	130	[edit] [download] [delete]

Depending on the protocol chosen (EtherNetIP (CIP) or ModbusTCP), the form adapts.

The screenshot shows the 'Add device' form in the Indabox web configuration interface. The form is titled 'Add device' and is located in a grey header bar. Below the header, the 'io-base' logo is visible on the left, and the user 'Hello Admin' is logged in on the right. The form contains the following fields and options:

- Protocol :** A dropdown menu with 'ModbusTCP' selected. A red box highlights the dropdown arrow.
- Name :** A text input field.
- Description :** A text input field.
- IP address :** A text input field with '127.0.0.1' entered.
- Tag Prefix :** A text input field.
- Model :** A text input field.
- Pooling time (s) :** A text input field with '10' entered.
- Are bytes reversed
- Are words reversed

The device name must contain only lowercase or uppercase letters and digits.
All the information is mandatory.

Note : For a device using the ModbusTCP protocol, the check boxes on the form can be selected to specify :

- *If the bytes are reversed;*
- *If the words are reversed;*
- *If there is an addressing offset of the variables of the device.*

The screenshot shows the 'Add device' form in the io-base web configuration interface. The form includes the following fields and options:

- IP address :** Text input field containing '127.0.0.1'.
- Tag Prefix :** Text input field.
- Model :** Text input field.
- Pooling time (s) :** Text input field containing '10'.
- Options (highlighted in a red box):**
 - Are bytes reversed
 - Are words reversed
 - Address offset
- Slave number :** Text input field containing '1'.
- Inter frame delay (ms) :** Text input field containing '10'.
- Buttons:** 'Save' (green) and 'Cancel' (red).

When you save the form, you will be taken back to the **Data source** page where you can see that your new device will have been added.

[4.2 Device configuration](#)

Only an administrator can configure the devices.
To access it, click the **Data source** link in the banner.

The screenshot shows the io-base web configuration interface with the 'Data source' link in the navigation menu highlighted with a red box. The page title is 'Communication details'.

On the device configuration page, the following actions can be performed :

- Add a device;
- Export all the devices in xlsx format in a zip;
- Import a device in xlsx format;
- Edit a device;
- Export a device in xlsx format;
- Delete a device;
- Access the variables of a device.

Devices are sorted by default alphabetically on the device name.

4.3 Edit a device

To edit an existing device, click the edit button of the device of your choice in the table on the Data source page :



The screenshot shows the 'Data source' page in the Indabox web interface. At the top, there is a navigation bar with the 'io-base' logo and 'INDABOX' text, and a user menu for 'Hello Admin!' with 'Logout' and a language selector. Below the navigation bar, the page title 'Data source' is centered. A toolbar contains four buttons: 'Import file', 'Manage OpcUA certificates', 'Add device', and 'Download all source files'. Below the toolbar is a table with columns: Name, Description, IP address, Protocol, Tag Prefix, and Number of variables. The first row in the table is for a device named 'Automate_2' with IP address '192.168.0.1', Protocol 'S7', and Tag Prefix 'test_dev_'. The 'Number of variables' column shows '211'. To the right of the table, there are three icons: a pencil (edit), a download arrow, and a trash can. The pencil icon is highlighted with a red square.

Name	Description	IP address	Protocol	Tag Prefix	Number of variables	
Automate_2		192.168.0.1	S7	test_dev_	211	  

The edit page is identical to the add page except that it is pre-filled with the data recorded for this device.

It is not possible to change the device's protocol in edit mode.

The device name can be changed. It must contain only lowercase or uppercase letters and digits.

All the information is mandatory.

When you confirm the changes, you are redirected to the Data source page.

4.4 Delete a device

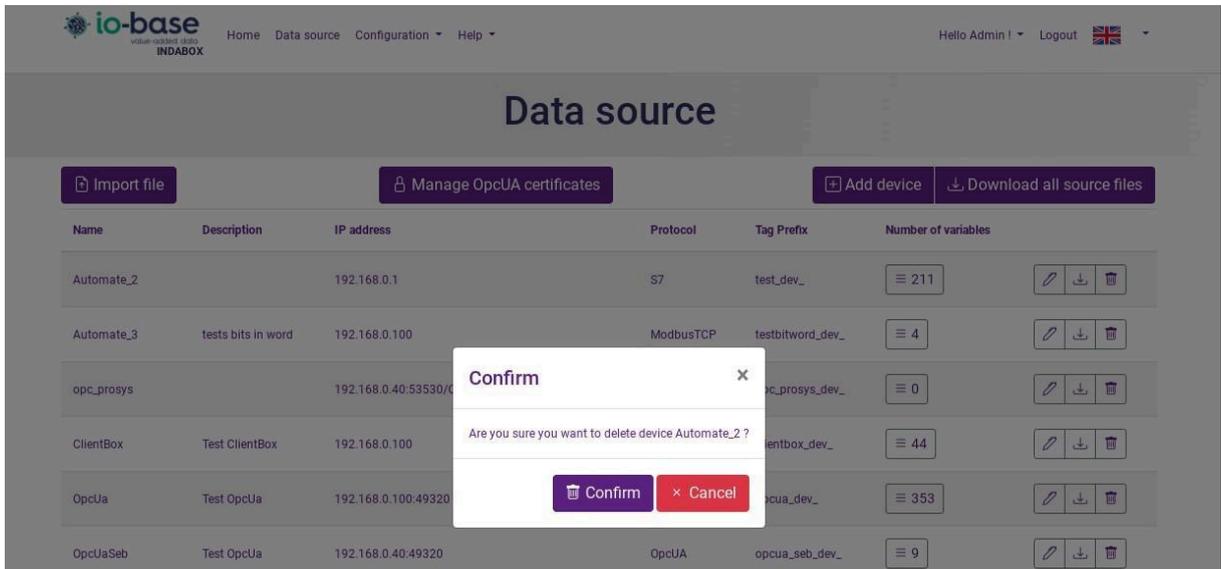
To delete an existing device, click the delete button of the device of your choice in the table on the Data source page :

The screenshot shows the 'Data source' page in the Indabox web interface. At the top, there is a navigation bar with the 'io-base' logo, 'INDABOX' text, and menu items: Home, Data source, Configuration, and Help. On the right, it says 'Hello Admin!', 'Logout', and a flag icon. Below the navigation bar is a large grey header with the title 'Data source'. Underneath the header are four buttons: 'Import file', 'Manage OpcUA certificates', 'Add device', and 'Download all source files'. The main content is a table with the following columns: Name, Description, IP address, Protocol, Tag Prefix, and Number of variables. The table contains three rows of data. The first row, 'Automate_2', has a 'Delete' button (trash icon) highlighted with a red box. The second row, 'Automate_3', has a description of 'tests bits in word'. The third row, 'opc prosvs', has an IP address of '192.168.0.40:53530/OPCUA/SimulationServer' and a tag prefix of 'opc prosvs dev'.

Name	Description	IP address	Protocol	Tag Prefix	Number of variables
Automate_2		192.168.0.1	S7	test_dev_	211
Automate_3	tests bits in word	192.168.0.100	ModbusTCP	testbitword_dev_	4
opc prosvs		192.168.0.40:53530/OPCUA/SimulationServer	OpcUA	opc prosvs dev	0

A confirmation window appears. Click the **Confirm** button to permanently delete the device or Cancel to do nothing.

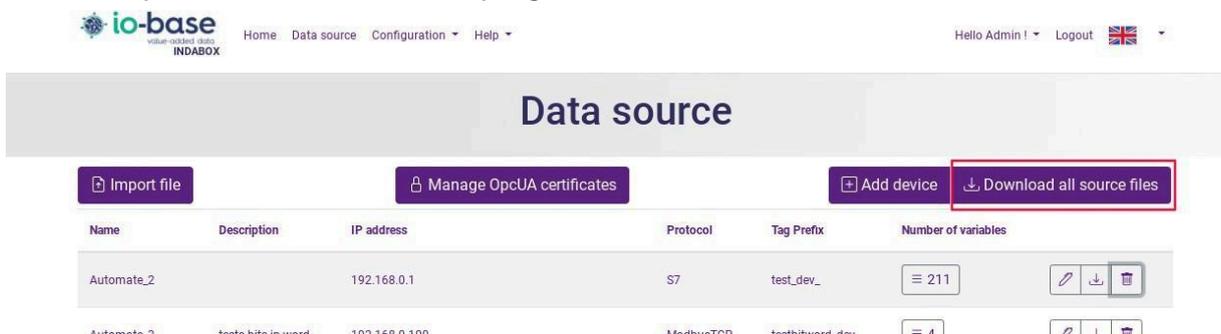
Indabox : Web Configuration Interface



Upon confirmation, you are redirected to the Data source page where the deleted device no longer appears. Its status is also no longer viewable from the home page.

4.5 Export all devices

To export all the devices configured on the upstream INDUS Box, click the export button at the top of the **Data source** page :



The ZIP file is downloaded from your browser.

This zip then includes all the devices with their properties and variables in Excel format files.

4.6 Export a device

To export an existing device, click the export button of the device of your choice in the table on the Data source page :

The screenshot shows the 'Data source' page in the Indabox interface. At the top, there is a navigation bar with 'Home', 'Data source', 'Configuration', and 'Help'. The main title is 'Data source'. Below the title, there are four buttons: 'Import file', 'Manage OpcUA certificates', 'Add device', and 'Download all source files'. A table lists the following data:

Name	Description	IP address	Protocol	Tag Prefix	Number of variables	
Automate_2		192.168.0.1	S7	test_dev_	211	[Edit] [Download] [Delete]
Automate_3	tests bits in word	192.168.0.100	ModbusTCP	testbitword_dev_	4	[Edit] [Download] [Delete]

Download of the Excel file is launched from your browser.

The Excel file consists of two tabs. The first contains all the information entered when the device was created.

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Nom	Descriptio	Protocole	Adresse IP	Modèle	Préfixe de	Inversion	Inversion	Décalage	N° esclave	Temps de	Délais inter trame	
2	Automate_1		ModbusT	192.168.0.100		modbus_	FAUX	FAUX	VRAI	1	1	100	
3													
4													
5													
6													
7													
8													
9													
10													

The second allows you to view all the variables of the device.

	A	B	C	D	E	F	G	H	I	J	K
1	Tag	Descriptio	Adresse	Rang du b	Type de d	Type de fc	Adresse	ClientBox			
2	1		550	0	FLOAT	4 - Input registers					
3	BAPPEL	Bit d'appe	100	0	BOOL	2 - Input status					
4	AL_X420_I	Defaut de	101	0	BOOL	2 - Input status					
5	AL_ECV_DD?	faut cor	102	0	BOOL	2 - Input status					
6	DEF_CONFID?	faut car	103	0	BOOL	2 - Input status					
7	TS01	SZL014 - D	110	0	BOOL	2 - Input status					
8	TS02	SZL017 - D	111	0	BOOL	2 - Input status					
9	TS03	SZL024 - D	112	0	BOOL	2 - Input status					
10	TS06	XAD002 -	115	0	BOOL	2 - Input status					
11	TS07	XAD001 -	116	0	BOOL	2 - Input status					
12	TS08	BYPASS - E	117	0	BOOL	2 - Input status					
13	TM01_AL_	Invalidit?	126	0	BOOL	2 - Input status					
14	TM01_AL_	Alarme Ba	127	0	BOOL	2 - Input status					

4.7 Import a device

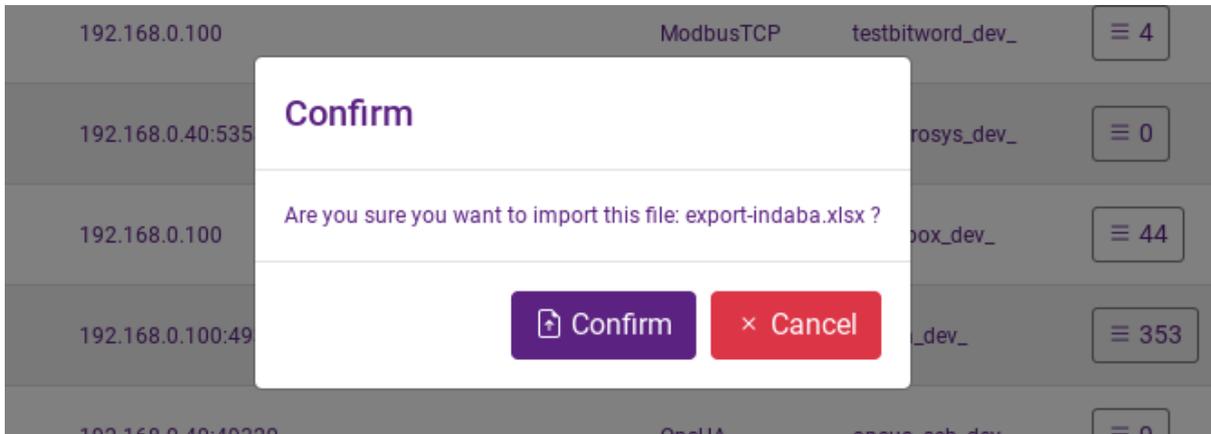
To import a device already preconfigured on the upstream INDUS Box, click the browse files button at the top of the Data source page :

The screenshot shows the 'Data source' page in the io-base web interface. At the top, there are navigation links: Home, Data source, Configuration, and Help. The user is logged in as 'Hello Admin!'. The main content area features three buttons: 'Import file' (highlighted with a red box), 'Manage OpcUA certificates', and 'Add device'. Below these buttons is a table with the following data:

Name	Description	IP address	Protocol	Tag Prefix	Number of variables
Automate_2		192.168.0.1	S7	test_dev_	211
Automate_3	tests bits in word	192.168.0.100	ModbusTCP	testbitword_dev_	4

The Excel file must be in the expected format. An example is available in the [Export a device](#) section.

Select an Excel file matching the device you want to import, then click the Confirm button :



If the PLC already exists, a message prompts you to replace it. Once imported, the new device appears in the device list.

5. Variables

5.1 Add a variable

Go to the Data source page.



To add a variable to the device, click the button allowing you to view the list of its variables :

io-base
value-added data
INDABOX

Home Data source Configuration Help

Hello Admin! Logout

Data source

Import file Manage OpcUA certificates Add device Download all source files

Name	Description	IP address	Protocol	Tag Prefix	Number of variables	
Automate_2		192.168.0.1	S7	test_dev_	211	
Automate_3	tests bits in word	192.168.0.100	ModbusTCP	testbitword_dev_	4	

Click the Add a variable button.

io-base
value-added data
INDABOX

Home Data source Configuration Help

Hello Admin! Logout

Variables of the device Automate_2

← Back to devices Add a variable

Tag	Description	DB	Address	Data type	
float_10	FLOAT_inc	1	0	FLOAT	
int 10	INT_inc	1	4	INT	

The form adapts according to the protocol of the chosen equipment.

Add variable

Tag name :

Description :

Data type :

DB :

Address :

This field must contain a valid S7 address like n.n for boolean or n for other types

The tag name must contain only lowercase or uppercase letters and digits. All the information is mandatory.

The following format types are available:

- Boolean (BOOL);
- 16-bit integer (INT);
- 32-bit integer (DINT);
- Unsigned 16-bit word (WORD);
- Unsigned 32-bit word (DWORD);
- Floating point number (FLOAT).

For a device using the ModbusTCP protocol, specify the variable function type from among the following choices:

- Coil status;
- Input status;
- Holding registers;
- Input registers

Indabox : Web Configuration Interface

When the form is saved, go back to the Variables list page and the new variable will have been added.

5.2 Edit a variable

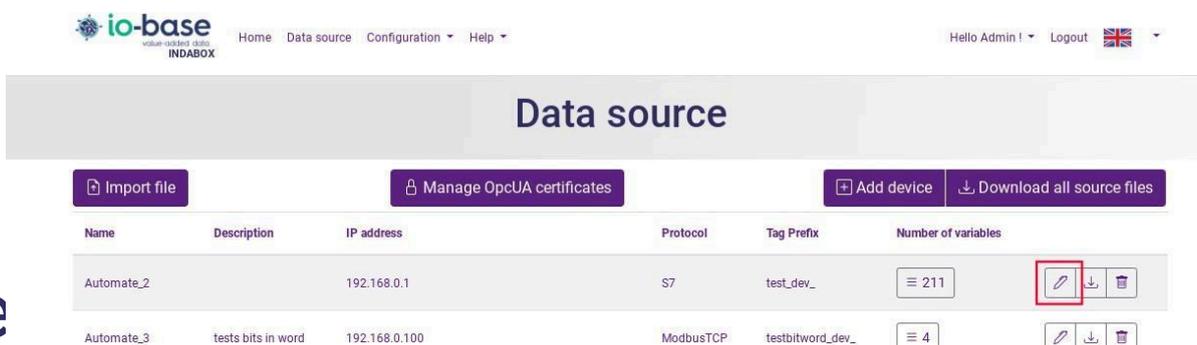
Go to the **Data source** page.



Click on the button to display the list of device variables.



To edit an existing variable, click the edit button of the variable of your choice :



Indabox : Web Configuration Interface

The edit page is identical to the add page except that it is pre-filled with the data recorded for this variable.

io-base
visualisation engine
INDABOX

Home Data source Configuration Help

Hello Admin! Logout

Variables of the device Automate_2

← Back to devices + Add a variable

Tag	Description	DB	Address	Data type	
float_10	FLOAT_inc	1	0	FLOAT	 
int_10	INT_inc	1	4	INT	 

The metric name can be changed. It must contain only lowercase or uppercase letters and digits.

All the information is mandatory.

When you confirm the changes, you are redirected to the Variables list page.

5.3 Filter variables

Go to the Data source page.

io-base
visualisation engine
INDABOX

Home Data source Configuration Help

Hello Admin! Logout

Communication details

Files waiting to be sent Auto-refresh

Name	Date	Status	Variables in error	Variables
------	------	--------	--------------------	-----------

Indabox : Web Configuration Interface

Access the list of variables of the device in question.

The screenshot shows the 'Data source' page in the Indabox web interface. At the top, there is a navigation bar with the 'io-base' logo and menu items: Home, Data source, Configuration, and Help. On the right, it says 'Hello Admin!' with a 'Logout' button and a flag icon. Below the navigation bar is a header for 'Data source'. Underneath are four buttons: 'Import file', 'Manage OpcUA certificates', 'Add device', and 'Download all source files'. A table lists data sources with columns: Name, Description, IP address, Protocol, Tag Prefix, and Number of variables. The first row is 'Automate_2' with IP address '192.168.0.1', Protocol 'S7', Tag Prefix 'test_dev_', and '211' variables. The '211' is circled in red. There are also edit, download, and delete icons for each row.

You can filter the variables of a device to find those you want to process.

The screenshot shows the 'Variables of the device Automate_2' page. At the top, there is a navigation bar with the 'io-base' logo and menu items: Home, Data source, Configuration, and Help. On the right, it says 'Hello Admin!' with a 'Logout' button and a flag icon. Below the navigation bar is a header for 'Variables of the device Automate_2'. Underneath are two buttons: 'Back to devices' and 'Add a variable'. A filter section is highlighted with a red box, containing five fields: 'Tag', 'Description', 'DB', 'Address', and 'Data type'. Each field has a search icon. Below the filter section is a table of variables with columns: Name, Description, DB, Address, and Data type. The first row is 'float 10' with Description 'FLOAT inc', DB '1', Address '0', and Data type 'FLOAT'. There are also edit and delete icons for each row.

You can filter on:

- Tag;
- Name;
- Address;
- Function type (only for a ModbusTCP device);
- Data type.

To apply one or more filters, fill in the values you want to filter on and click the search button next to one of the fields

Indabox : Web Configuration Interface

io-base
value-added data
INDABOX

Home Data source Configuration Help

Hello Admin! Logout

Variables of the device Automate_2

← Back to devices Add a variable

Tag Description DB Address Data type

5.4 Delete a variable

Go to the Data source page.

io-base
value-added data
INDABOX

Home Data source Configuration Help

Hello Admin! Logout

Communication details

Files waiting to be sent Auto-refresh

Name	Date	Status	Variables in error	Variables
------	------	--------	--------------------	-----------

Access the list of variables of the device in question.

io-base
value-added data
INDABOX

Home Data source Configuration Help

Hello Admin! Logout

Data source

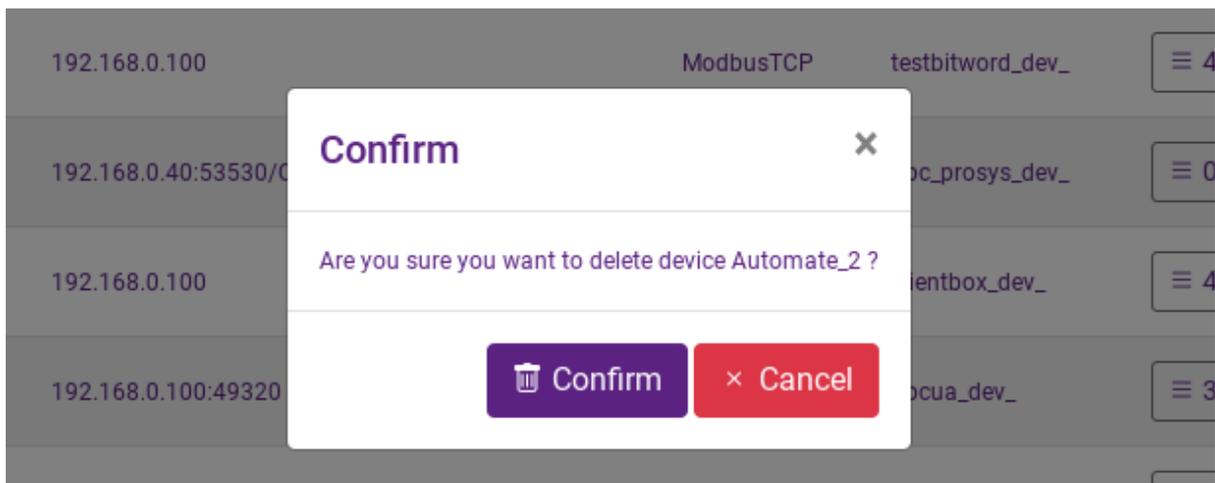
Import file Manage OpcUA certificates Add device Download all source files

Name	Description	IP address	Protocol	Tag Prefix	Number of variables
Automate_2		192.168.0.1	S7	test_dev_	211

To delete an existing variable, click the delete button of the variable in question.



A confirmation window appears. Click the Confirm button to permanently delete the variable of this device or Cancel to do nothing.



Upon confirmation, you are redirected to the Variables list page where the deleted variable no longer appears.

[5.5 Access the variables of a device](#)

Go to the Data source page.

Indabox : Web Configuration Interface

io-base
INDABOX

Home Data source Configuration Help

Hello Admin! Logout

Communication details

Files waiting to be sent Auto-refresh

Name	Date	Status	Variables in error	Variables
------	------	--------	--------------------	-----------

To access the variables of a device, click the button indicating the number of variables of the corresponding device in the table.

io-base
INDABOX

Home Data source Configuration Help

Hello Admin! Logout

Data source

Import file Manage OpcUA certificates Add device Download all source files

Name	Description	IP address	Protocol	Tag Prefix	Number of variables
Automate_2		192.168.0.1	S7	test_dev_	211

You are then redirected to the equipment variables page where you can perform the following actions:

- Add a variable;
- Edit a variable;
- Delete a variable;
- Apply filters on the list of variables to find the variable wanted;
- Browse the list of variables;
- Return to the device list.

Variables are sorted by default alphabetically on the tag names.

Indabox : Web Configuration Interface

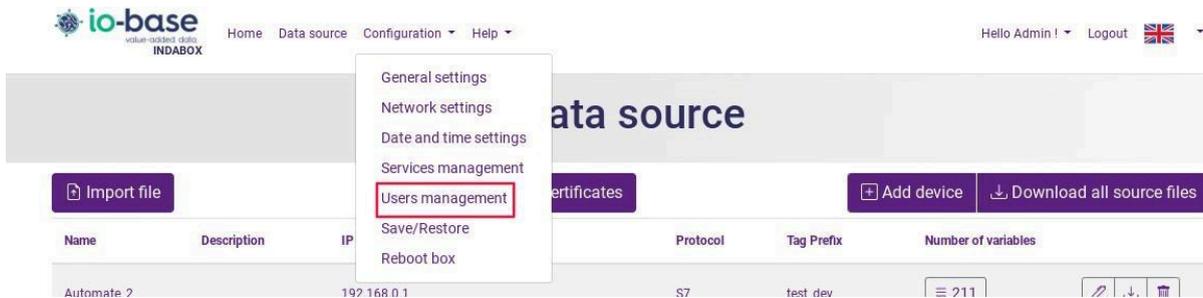


6. Users

6.1 Add a user

To add a user, you must be an administrator.

From the Configuration menu, click User Management.



To add a user, click Add a User.

Users management

Interface users

[+ Add user](#)

Username	Role	Reset user password
Admin	Administrator	

FTP users

Username
comptage 

Enter the role and name of the new user.

The user name must contain only lowercase or uppercase letters, digits, spaces, or hyphens.

All the information is mandatory.

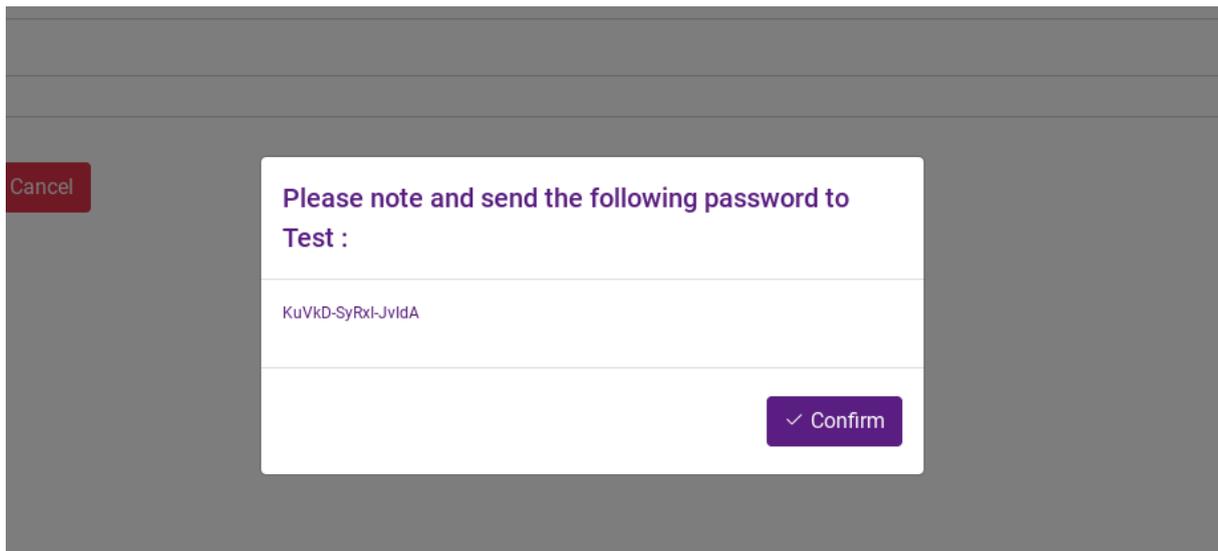
Add user

Role :

Username :

[✓ Save](#) [× Cancel](#)

When you save the form, a modal window containing the user's password appears. This password must be sent to the user so that they can log in to the application. The first time the user logs in, the new user will be prompted to create their password.



When the form is saved, go back to the **User Management** page and the new user will have been created.

[6.2 Delete a user](#)

Access the User Management page, from the Configuration / User Management menu.

Indabox : Web Configuration Interface

The screenshot shows the Indabox Web Configuration Interface. The top navigation bar includes the logo, 'Home', 'Data source', 'Configuration', and 'Help'. A user is logged in as 'Hello Admin!'. A dropdown menu is open under 'Configuration', with 'Users management' highlighted. Below the menu, there is a notification for 'Files waiting to be sent' and an 'Auto-refresh' button. The main content area displays a table titled 'Communication details' with the following data:

Name	Date	Status	Variables in error	Variables
OpcUa	Wednesday, November 23, 2022 - 4:11:29 PM	Connection failure	353	353
Automate_1	Wednesday, November 23, 2022 - 4:11:30 PM	OK	0	123

To delete an existing user, click the delete button on the line of the user in question :

The screenshot shows the 'Users management' page in the Indabox interface. It is divided into two sections: 'Interface users' and 'FTP users'. The 'Interface users' section has an 'Add user' button and a table with the following data:

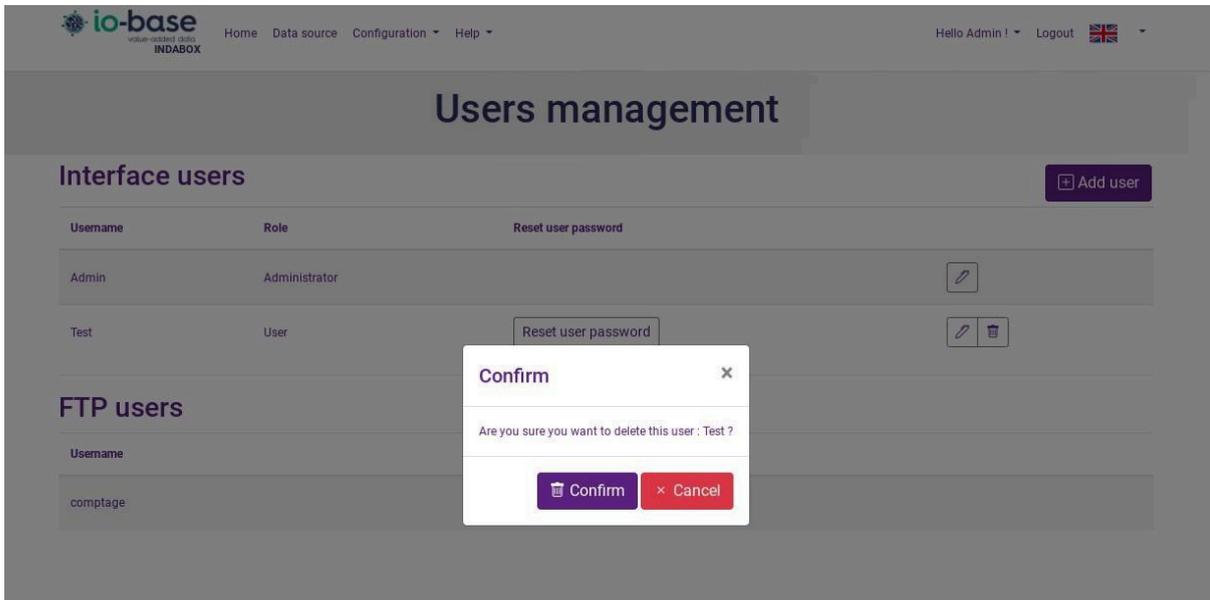
Username	Role	Reset user password	
Admin	Administrator		
Test	User	<input type="button" value="Reset user password"/>	

The 'FTP users' section has a table with the following data:

Username	
comptage	

A confirmation window appears. Click the **Confirm** button to permanently delete the user or Cancel to do nothing.

Indabox : Web Configuration Interface



Upon confirmation, you are redirected to the User Management page where the deleted user no longer appears. You cannot delete yourself.

6.3 Edit a user

Access the users page, from the Configuration / User Management menu.



To edit an existing user, click the edit button of the user in question.

Users management

Interface users

[+ Add user](#)

Username	Role	Reset user password	
Admin	Administrator		
Test	User	Reset user password	 

The edit page is identical to the add page except that it is pre-filled with the data recorded for this user.

The user name can be changed. It must contain only lowercase or uppercase letters, digits, spaces, or hyphens.

All the information is mandatory.

Edit user

Role :

User

Username :

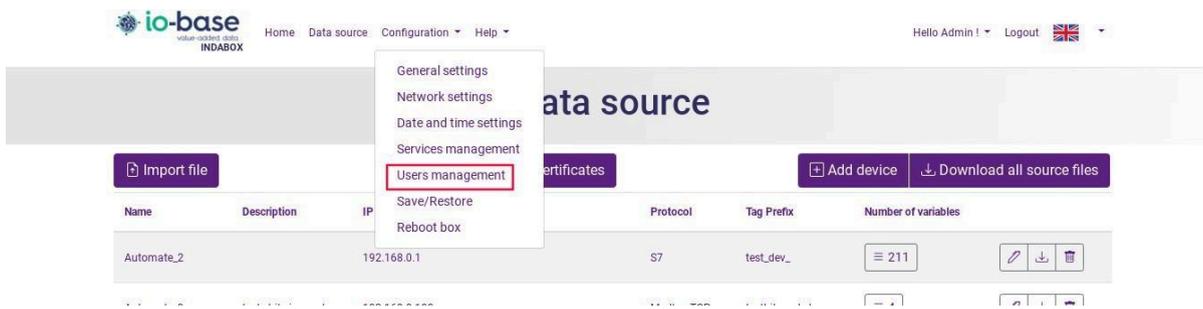
Test

[Update](#) [Cancel](#)

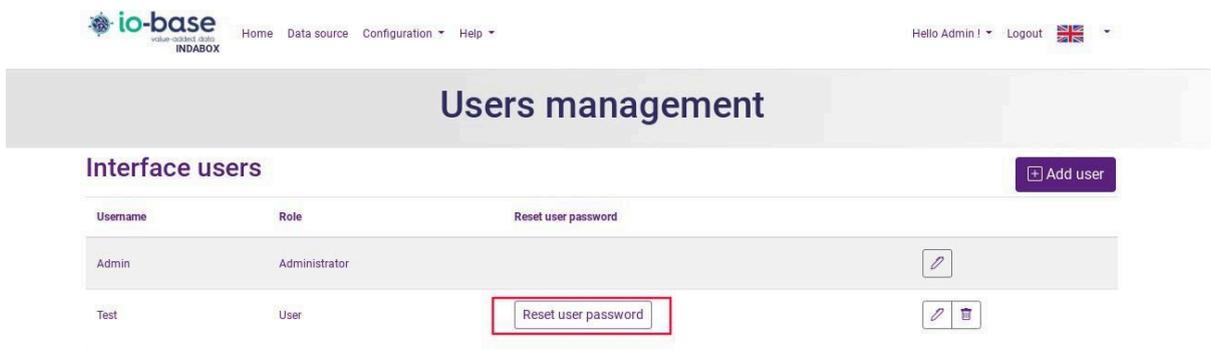
When you confirm the changes, you are redirected to the User Management page.

6.4 Reset a user's password

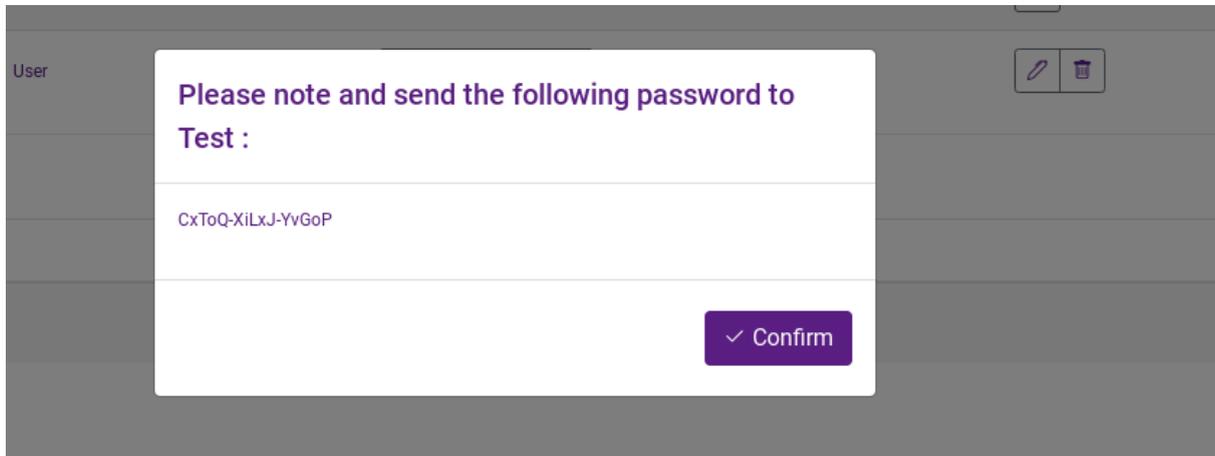
Access the User Management page by clicking on Configuration / User Management.



To reset the password of an existing user, click the reset password button of the user in question.



A window containing the new password appears. This password must be sent to the user so that they can log in to the application.

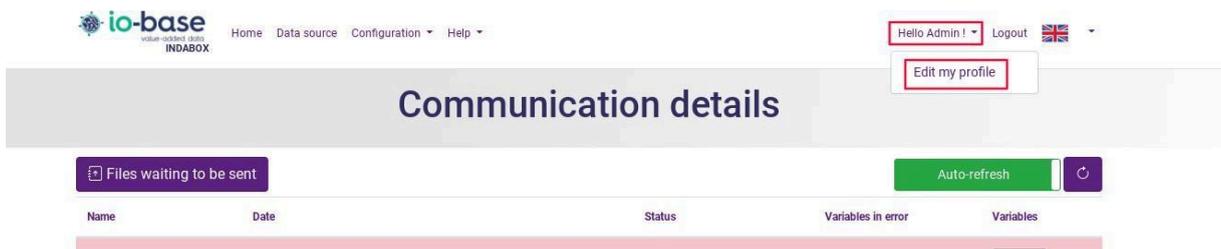


When you confirm, you are redirected to the User Management page.

Note : You cannot change your own password via this page. You need to go through [edit your profile](#).

6.5 Edit the user profile

To access your profile page, click on Hello / Edit my profile.



You can change your name and password from this page.

Edit profile

Username :



Current password :

New password :

Confirm new password :

The user name must contain only lowercase or uppercase letters, digits, spaces, or hyphens.

To change the password, enter the current password as well as the new password and confirmation of the new password. It must contain between 8 and 30 characters with lowercase letters, at least one uppercase letter, at least one number and at least one special character.

The password entered is hidden. Click the eye button to check the entry :



Only the username can be changed.

When you confirm the changes, you are redirected to the Home page.

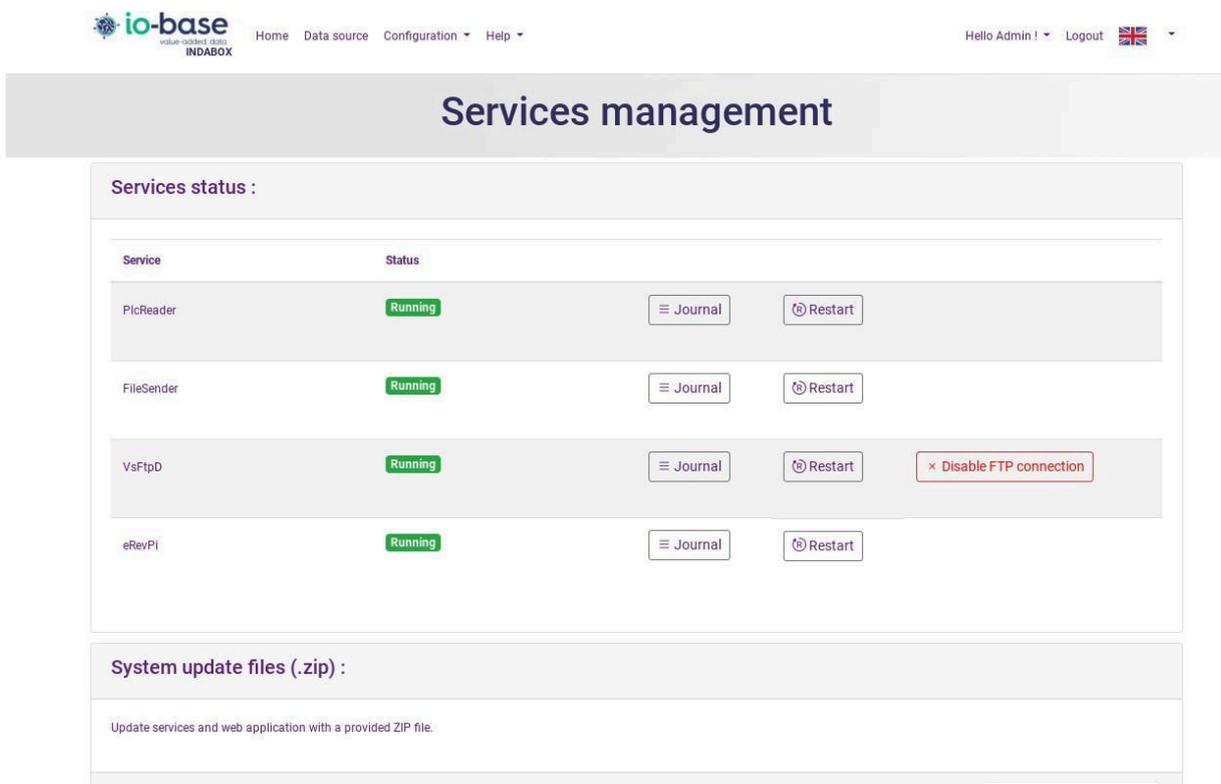
7. Complementary services

7.1 Service management

To access the INDUS Box Service Management page, click on the **Configuration** menu and then click on Services management :



The page allows you to view the status of the following services :

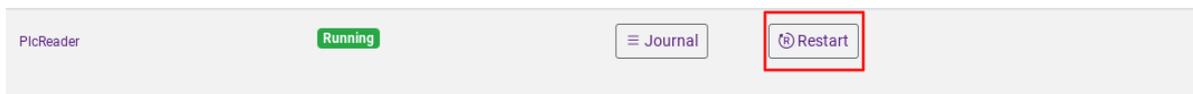


To configure the FTP service, click “**Enable FTP Connection**” in the VsFtpD section. Then enter the username and password for authentication to the FTP server.

The other services in service management are as follows:

- PlcReader, which retrieves the variables from the PLCs and generates reports,
- FileSender which sends configuration files, data and FTP to the CLOUD Box,
- VsFtpD FTP server of the Box, the files thus retrieved will be sent in an S3 service,
- eRevPi, which manages IP addresses, control of the Boxes and their detection.

Each service can be restarted individually using the buttons in each insert.



The service logs can also be viewed using the Log buttons and downloaded via the Download the log button available at the bottom of the log view.

Service: PlcReader Status: Running

Journal Restart

• PlcReader.service - Communication with devices
Loaded: loaded (/etc/systemd/system/PlcReader.service; enabled; vendor preset: enabled)
Active: active (running) since Tue 2022-11-22 16:50:31 CET; 23h ago
Main PID: 4031 (PlcReader)
Tasks: 29 (limit: 2059)
CGroup: /system.slice/PlcReader.service
└─4031 /home/iobase/apps/PlcReader

```
Nov 23 16:33:02 RevPi64900 PlcReader[4031]: [16:33:02 INF] Connecting to... opc.tcp://192.168.0.40:53530/OPCUA/SimulationServer
Nov 23 16:33:03 RevPi64900 PlcReader[4031]: [16:33:03 INF] Connecting to... opc.tcp://192.168.0.100:49320/
Nov 23 16:33:03 RevPi64900 PlcReader[4031]: [16:33:03 ERR] BadCertificateUntrusted 'Certificate is not trusted!'
Nov 23 16:33:03 RevPi64900 PlcReader[4031]: [16:33:03 WRN] Untrusted Certificate rejected. Subject = CN=eWON - Tags server, O=eWON SA (HMS), L=Nivelles, S=BW, C=BE
Nov 23 16:33:03 RevPi64900 PlcReader[4031]: [16:33:03 ERR] Create Session Error : Certificate is not trusted.
Nov 23 16:33:06 RevPi64900 PlcReader[4031]: [16:33:06 ERR] Create Session Error : Error establishing a connection: BadNotConnected
Nov 23 16:33:08 RevPi64900 PlcReader[4031]: [16:33:08 INF] Connecting to... opc.tcp://192.168.0.100:49320/
Nov 23 16:33:09 RevPi64900 PlcReader[4031]: [16:33:09 ERR] BadCertificateUntrusted 'Certificate is not trusted!'
Nov 23 16:33:09 RevPi64900 PlcReader[4031]: [16:33:09 WRN] Untrusted Certificate rejected. Subject = CN=eWON - Tags server, O=eWON SA (HMS), L=Nivelles, S=BW, C=BE
Nov 23 16:33:09 RevPi64900 PlcReader[4031]: [16:33:09 ERR] Create Session Error : Certificate is not trusted.
```

Download journal

You can view the versions of the services installed on the INDUS Box at any time at the bottom of the page :

PlcReader v1.4.0.0 FileSender v1.4.0.0 eRevPi v1.4.0.0 Date et heure système : 03 Janv. 2022 11:15 N° de série : 012370BCFF41A713

An update of all the services can also be performed on this page.

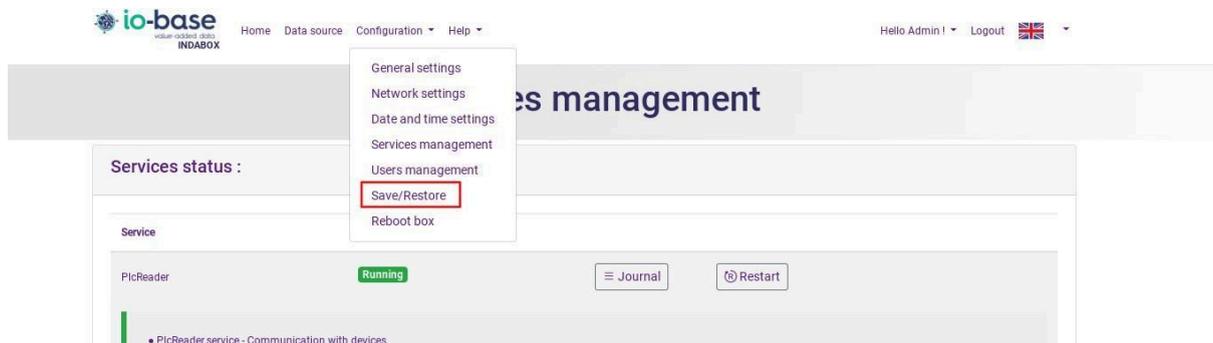
Download the zip file containing the versions of the desired services from the Google cloud directory.

Upload it by clicking the Choose File button and then Send at the bottom of the page. Once the zip is sent, the application may be temporarily unavailable while the applications are updating.

7.2 Save / Restore the configuration

Access the Configuration / Save Restore menu.

Indabox : Web Configuration Interface



The page consists of two parts. The first part allows you to save the current configuration of the Box to a file.

The second part allows you to restore a configuration from a file.

[7.2.1 Save the configuration](#)

You can save the application configuration to a backup file to restore it subsequently. The following information will be saved:

- User information
- The network configuration
- The cloud configuration without the API key and bucket secret key
- The data source information
- The date and time information

To do this, click the **Save application configuration** button.

Save/Restore

Save application configuration

You can save application configuration to a dump file to restore it later. All the following informations will be saved :

- User informations
- Network settings
- Cloud settings without secret API key and secret bucket key
- Data sources informations
- Date and time settings

Save application configuration

Restore application configuration

You can restore application configuration from a dump file you previously got from this page. All the following informations will be overwritten :

- User informations
- Network settings
- Cloud settings without secret API key and secret bucket key. You will have to provide secret API key and secret bucket key in cloud configuration settings page.
- Data sources informations
- Date and time settings

The whole configuration of this application will be overwritten with the informations in the dump file.

Restore

7.2.2 Restore a configuration

You can restore the application configuration from a backup file that you have obtained from this page. The following information will be overwritten:

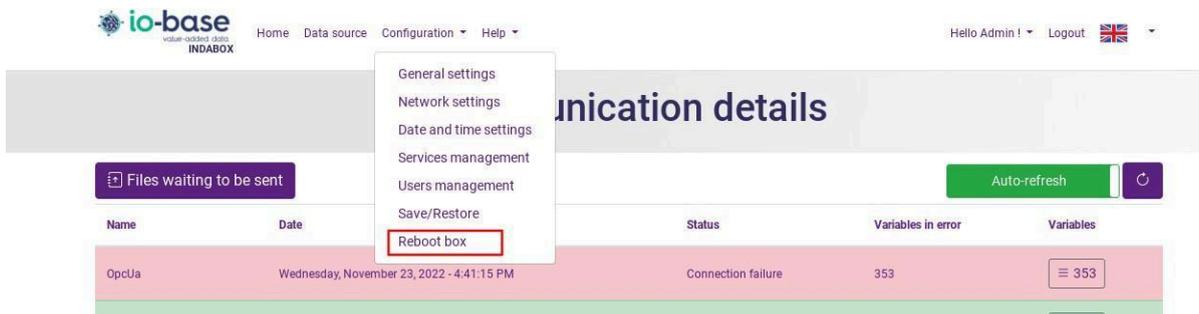
- User information
- The network configuration
- The cloud configuration without the API key and bucket secret key. You will need to provide an API secret key and a secret key for the bucket on the cloud configuration page.
- The data source information
- The date and time information

Note : The entire configuration of this application will be overwritten with the information of the backup file.

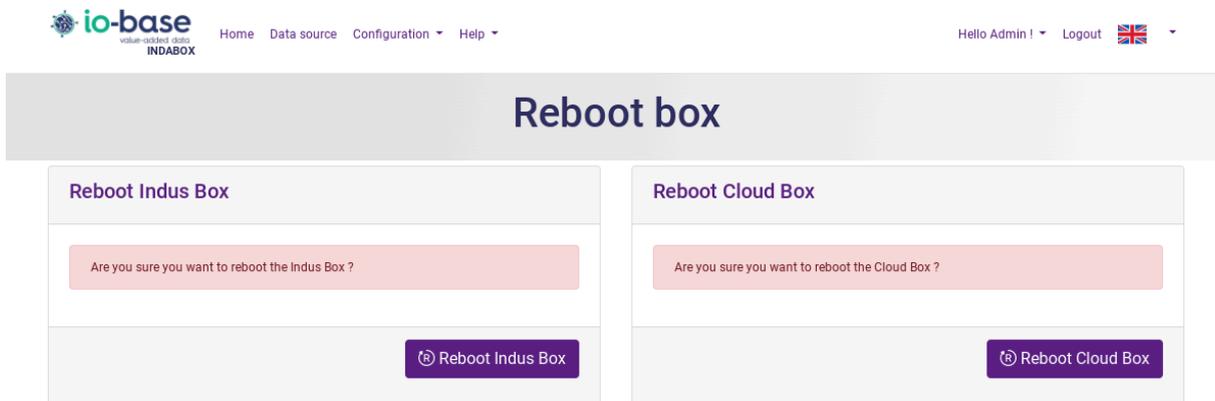
To do this, click Restore application configuration, and select a file.

7.3 Restart the box

Access the Configuration / Restart the box menu.



To confirm the restart, click Confirm. Otherwise, click Cancel.



8. Specific features

8.1 MQTTBox

From release 1.6.0.0 the MqttBox feature is available.

It provides a Mqtt client who publishes the data collected on a Mqtt broker.

8.1.1 Setting the MqttBox functionality

8.1.1.1 Client configuration access

Go to the General Configuration page of the upstream box and select the MqttBot or Indabox & MqttBox operating mode to display the configuration options.

Local

Site :

indabox

Mode de fonctionnement :

MqttBox

Indabox
ClientBox
Indabox & ClientBox
MqttBox
Indabox & MqttBox

8.1.1.2 Client configuration

MqttBox

Paramètres broker MQTT
Client Id : <input type="text" value="mqttbox-client"/>
URL : <input type="text"/>
Port : <input type="text" value="8883"/>
Mode de publication : <input type="text" value="Tag publishing"/>
Mode d'authentification
Mode de connexion : <input type="text" value="PEM Certificates"/>
Certificat client : <input type="button" value="Choisir un fichier"/> Aucun fichier choisi
Clé privée client : <input type="button" value="Choisir un fichier"/> Aucun fichier choisi

8.1.1.3 Mqtt broker settings

Client Id

Client identification mqtt

Url

Web address of the broker mqtt

Port

Broker port mqtt, example: 8883

Publication methods

Mode de publication :



A dropdown menu with a blue border and a blue highlight on the selected item. The selected item is "File publishing". The other visible item is "Tag publishing".

2 publication modes are available :

- **Publishing by tag** : each configured metric will have its own topic. Example for a tag named "temperature" associated with the site "site1" on the equipment "device1": its value will be published by default in the topic "site1/device1/temperature"
- **Publication by file** : as part of a large number of metrics to be published (10,000 and more) it may be more relevant to choose a publication by file that will be more efficient, in this case several tags are published in a single topic that can be configured in a json file.

8.1.1.4 Authentication mode

Connection Mode

Mode de connexion :



A dropdown menu with a blue border and a blue highlight on the selected item. The selected item is "PEM Certificates". The other visible items are "Login/Password" and "PEM Certificates".

2 connection modes are available :

- Login/Password: authentication by username and password

Utilisateur :

Mot de passe :

- PEM Certificates: authentication by certificates in PEM format

Certificat client :

Aucun fichier choisi

Clé privée client :

Aucun fichier choisi

These files are provided by the broker.

[8.1.2 Configuration of the data to be published](#)

[8.1.2.1 From the interface](#)

- **Publication by file**

The publication topic is configured from the general configuration when the “File Publishing” option is enabled.

Mode de publication :

File publishing

Topic :

exemple/topic

- **Metric post**

The selected publishing mode must be “Tag Publishing” to access this option.

Mode de publication :

Tag publishing

The topic setting is done at the level of each metric of each equipment : go to the “Data source” page, then display the list of variables of an equipment and edit a variable.

Nom du tag :

Description :

Topic MqttBox :

Générer Site/DeviceName/TagName

Type de données :

Adresse : Rang du bit :

Type de fonction :

Mettre à jour **Annuler**

The “Generate” button suggests a topic for the variable consisting of [site name]/[equipment name]/[metric name].

8.1.2.2 By exporting/importing

In the context of publishing by metric, when exporting data from the data source view, a column is made available in the variables tab of the Excel file to fill in the topic of a variable.

If the topic is empty the variable will not be published.

Indabox : Web Configuration Interface

	A	B	C	D	E	F	G	H
1	Tag	Description	Adresse	Rang du bit	Type de d	Type de fonction	Adresse ClientBox	Topic MqttBox
2	int0		1	0	INT	3 - Holding registers		indabox-test-home/Automate_3/testbitwordint0
3	int0bit0		1	0	BITWORD	3 - Holding registers		
4	int1		19	0	INT	3 - Holding registers		indabox-test-home/Automate_3/testbitwordint1
5	int1bit1		19	2	BITWORD	3 - Holding registers		
6								
7								

Équipement Variables

8.1.3 Notes

- If a change in publication mode is made, the data from the previous mode is ignored, for example: if a publication by tag is enabled and topics are configured, in case of switching to file publishing mode these topics will be ignored and the topic of the general configuration will be taken into account.
- Documentation on converting various certificate formats to PEM
Certificate conversions

8.2 ClientBox configuration

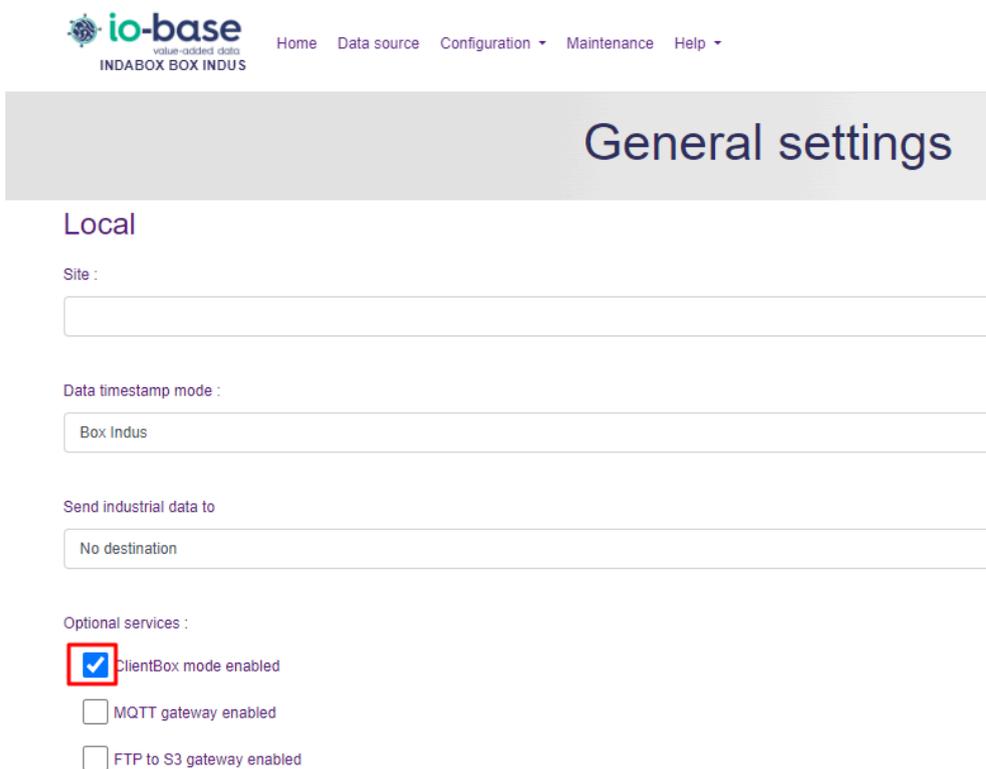
The **ClientBox** functionality allows data collected by the **Indus Box** to be accessed locally on the **Cloud Box**.

To access this data, the Cloud Box provides a Modbus RTU server that can be used with a USB/serial converter. It also supports Modbus TC TCP for local network-based communication.

8.2.1. Configuring the ClientBox feature

8.2.1.1 Activating the feature

Access the General Configuration page of the Indus box, then tick the "**ClientBox mode enabled**" box, in the **Optional services** section :



The screenshot shows the 'io-base' logo with the tagline 'value-added data' and 'INDABOX BOX INDUS'. The navigation menu includes 'Home', 'Data source', 'Configuration', 'Maintenance', and 'Help'. The main heading is 'General settings'. Under the 'Local' section, there are three input fields: 'Site', 'Data timestamp mode' (set to 'Box Indus'), and 'Send industrial data to' (set to 'No destination'). The 'Optional services' section contains three checkboxes: 'ClientBox mode enabled' (checked and highlighted with a red box), 'MQTT gateway enabled', and 'FTP to S3 gateway enabled'.

The ClientBox settings section appears.

ClientBox

Parameters	
ClientBox modbus mode :	<input type="text" value="ModbusRTU"/>
Baudrate :	<input type="text" value="57600"/>
Data bits :	<input type="text" value="8"/>
Parity :	<input type="text" value="None"/>
Stop bits :	<input type="text" value="One"/>

Communication settings :

You can choose between two communication modes :

- modbusRTU
- modbusTCP

8.2.1.2 Modbus RTU mode

Once the modbus RTU mode has been selected, it is then possible to set the parameters for the serial port accessible via a USB/Serial converter.

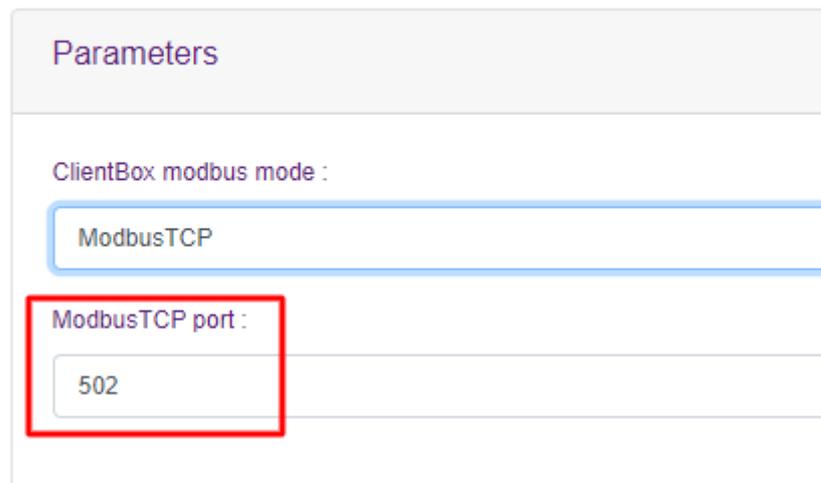
ClientBox

Serial port	
Baudrate :	<input type="text" value="9600"/>
Data bits :	<input type="text" value="8"/>
Parity :	<input type="text" value="None"/>
Stop bits :	<input type="text" value="One"/>

8.2.1.3 Modbus TCP mode

Once the modbusTCP mode is selected, specify the Ethernet port number to use :

ClientBox



The screenshot shows a configuration window titled "ClientBox" with a "Parameters" section. Under "ClientBox modbus mode :", a dropdown menu is set to "ModbusTCP". Below it, the "ModbusTCP port :" field is set to "502". A red rectangular box highlights the port number "502".

8.2.2 Setting the parameters of the data to be exposed

To configure the data exposed by the Modbus server, you need to use the equipment's Excel file.

This process involves exporting the current configuration and then importing the updated variable settings.

To do so, follow the procedure below.

8.2.2.1 Exporting a device

To export an existing device, click on the export button for the device of your choice in the table on the Data Source page of the Upstream box :

Indabox : Web Configuration Interface



Home Data source Configuration Maintenance Help

Hello Admin! Logout

Data source

Import file

Add device

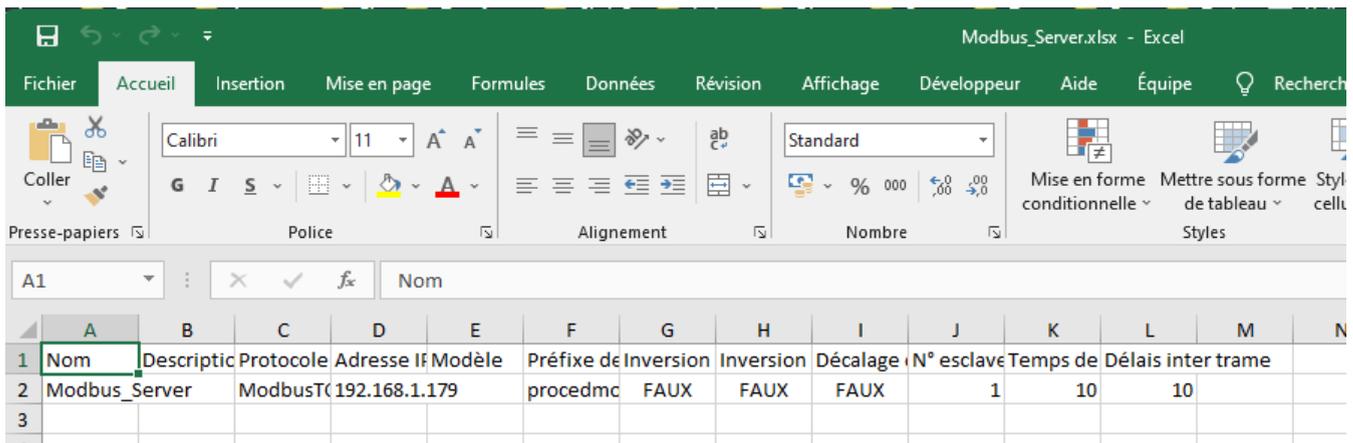
Download all source files

Name	Description	IP address	Protocol	Tag Prefix	Number of variables	
Modbus_eWon		192.168.0.100	ModbusTCP	modbus_test_matos_	9	

The Excel file is downloaded from your browser.

Note : If you are using multiple devices, ensure that you assign different addresses to each device to avoid address conflicts.

To do so, in the exported Excel file, go to the equipment tab :



And make sure that each of your devices has a different IP address and a different slave number.

8.2.2.2 Configuring the variables to be exposed

The Excel file has two tabs. The second allows you to view all the equipment variables.

	A	B	C	D	E	F	G	H
1	Tag	Descriptio	Adresse	Rang du b	Type de d	Type de fonction	Adresse ClientBox	Topic MqttBox
2	bit0		5000	0	BOOL	1 - Coil status		
3	bitword0		2000	0	BITWORD	3 - Holding registers		
4	bitword1		2000	5	BITWORD	3 - Holding registers		
5	word0		2002	0	WORD	3 - Holding registers		
6	int0		2004	0	INT	3 - Holding registers		
7	dword0		2006	0	DWORD	3 - Holding registers		
8	dint0		2008	0	DINT	3 - Holding registers		
9	float0		2010	0	FLOAT	3 - Holding registers		
10	watchdog		2012	0	DWORD	3 - Holding registers		
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								

In order to expose the clientBox variables, their addresses must be set in the **ClientBox Address** column :

Note : BOOL data types can be read on the Modbus RTU server using function 2 - Inputs status.

All other data types can be read on the Modbus RTU server using function 4 - Inputs registers.

WARNING ! In the equipment's Excel file, the "**Function Type**" column only applies to the device's read request.

	A	B	C	D	E	F	G	H
1	Tag	Descriptio	Adresse	Rang du b	Type de d	Type de fonction	Adresse ClientBox	Topic MqttBox
2	bit0		5000	0	BOOL	1 - Coil status		
3	bitword0		2000	0	BITWORD	3 - Holding registers		
4	bitword1		2000	5	BITWORD	3 - Holding registers		
5	word0		2002	0	WORD	3 - Holding registers		
6	int0		2004	0	INT	3 - Holding registers		
7	dword0		2006	0	DWORD	3 - Holding registers		
8	dint0		2008	0	DINT	3 - Holding registers		
9	float0		2010	0	FLOAT	3 - Holding registers		
10	watchdog		2012	0	DWORD	3 - Holding registers		
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								

Navigation: ← → | Équipement | Variables (+)

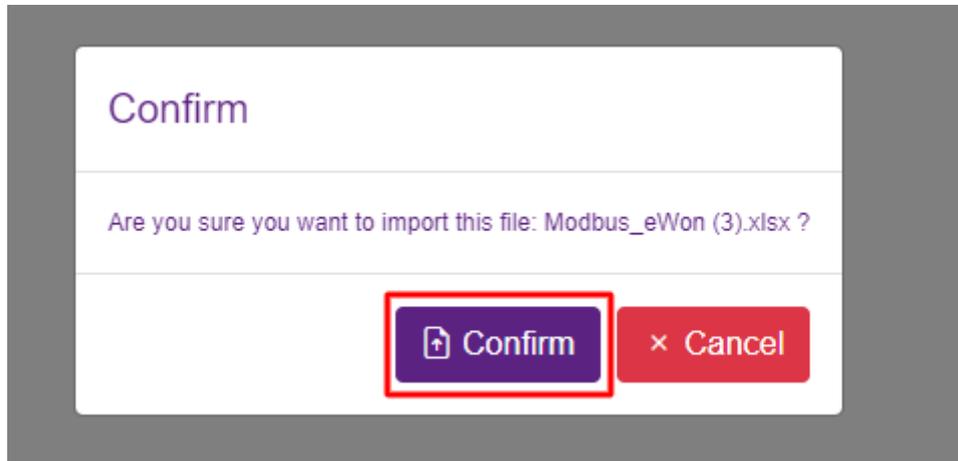
8.2.2.3 Importing equipment

Once the necessary changes have been made, you can import the equipment again.

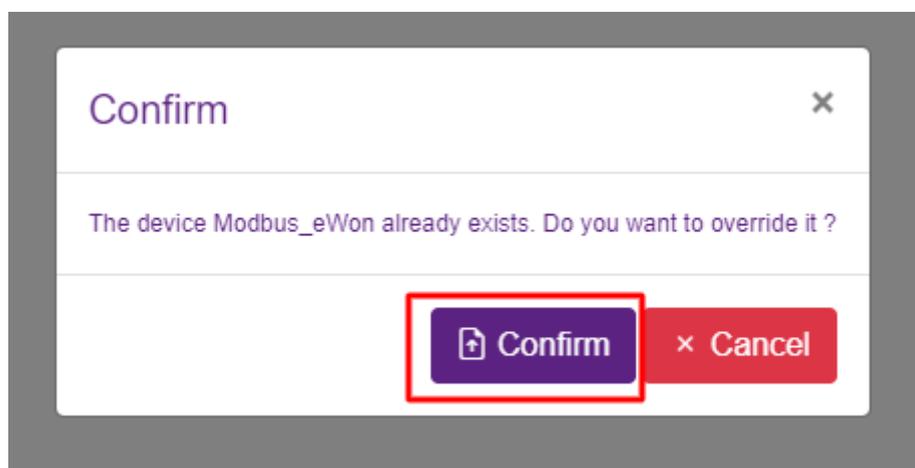
To do so, click on the **"Import file"** button at the top of the Data Source page :

The screenshot shows the io-base web interface. At the top, there is a navigation bar with the logo 'io-base value-added data INDABOX BOX INDUS' and menu items: Home, Data source, Configuration, Maintenance, Help. On the right, it says 'Hello Admin !' with a 'Logout' button and a flag icon. The main heading is 'Data source'. Below this, there are two buttons: 'Import file' (highlighted with a red box) and 'Add device'. To the right of 'Add device' is a button 'Download all source files'. Below the buttons is a table with the following columns: Name, Description, IP address, Protocol, Tag Prefix, and Number of variables. The table contains one entry: 'Modbus_eWon' with IP address '192.168.0.100' and Protocol 'ModbusTCP'. To the right of the table entry are icons for edit, download, and delete.

Select the updated Excel file and click the **Confirm** button :



Since the equipment already exists, a message suggests replacing it. Click on **confirm**.



[8.2.3 Accessing the data](#)

[8.2.3.1 Modbus RTU](#)

To access the data, connect to Modbus RTU on the second port of the Cloud Box using a USB/RS converter, following the parameters previously defined in the General Configuration.



The data can be read at the addresses set in the Excel file.

8.2.3.2 Modbus TCP

To access the data via Modbus TCP, simply connect an Ethernet cable on the Cloud Box and ensure that the network settings are configured as defined in the General Configuration (refer to Chapter 1.2.2).

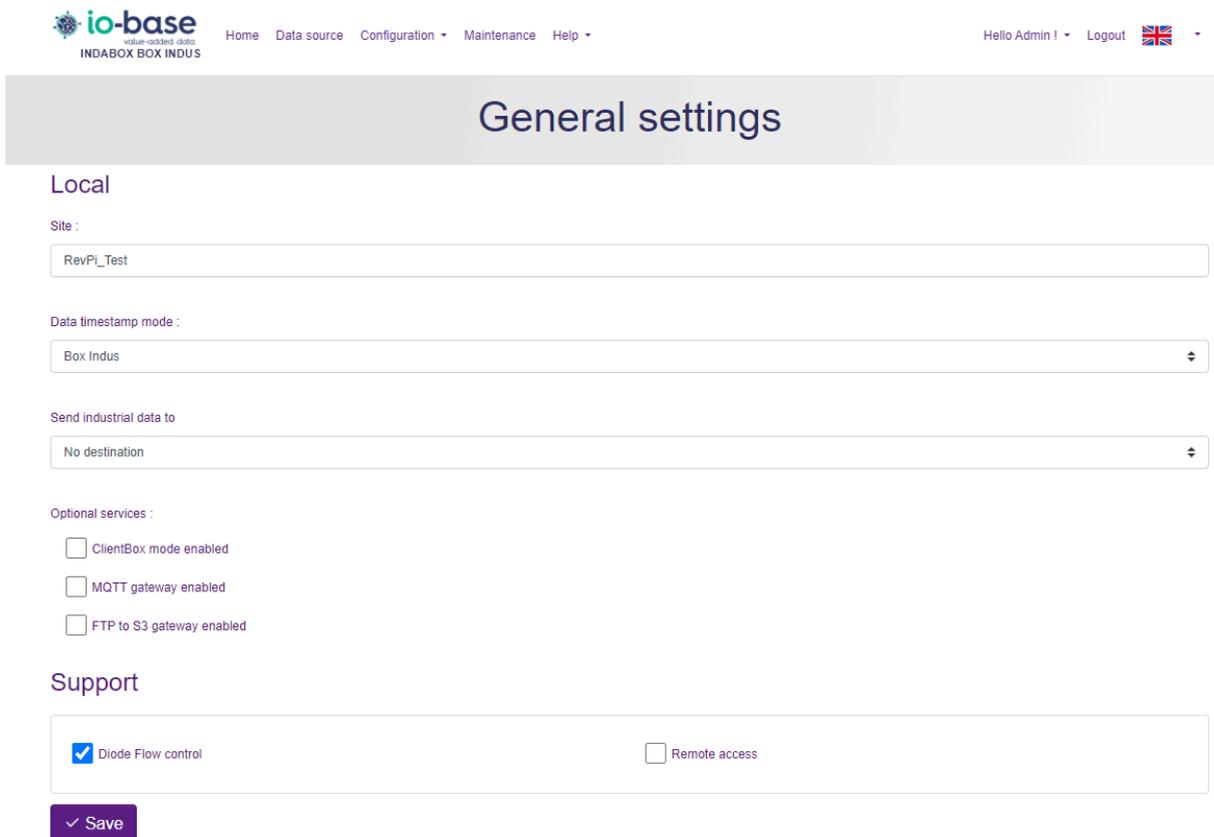
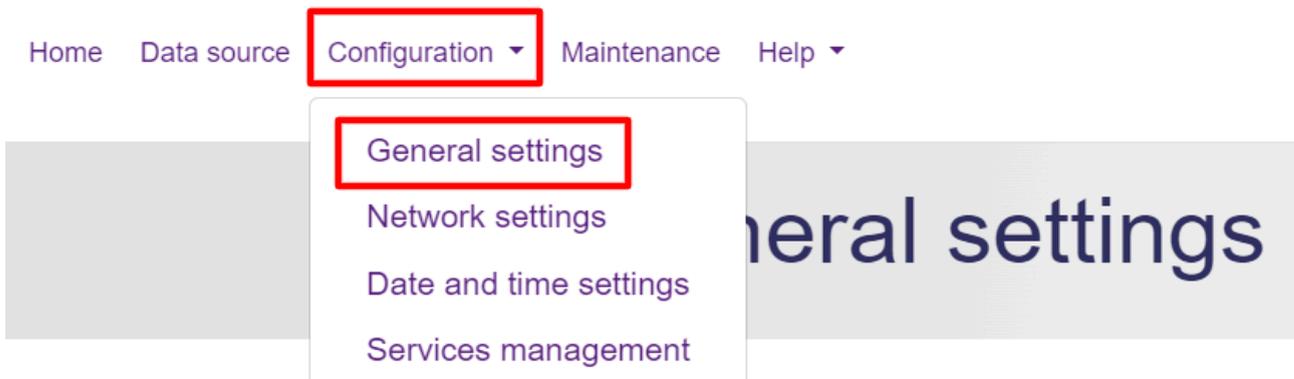
WARNING ! If the Cloud Box is not connected to a DHCP-enabled network, the timestamp must be set manually to ensure the data is read correctly.

This process is similar to [setting the timestamp on the Indus Box](#).

8.3 InfluxDb configuration

You can send industrial data collected by the Indabox to InfluxDB.

Click on **Configuration/General configuration**.



In the "**Send industrial data to**" section, select **InfluxDB** :

Local

Site :

Data timestamp mode :

Send industrial data to

Optional services :

ClientBox mode enabled

MQTT gateway enabled

FTP to S3 gateway enabled

The following **InfluxDb** configuration fields appear :

Cloud

InfluxDb

Base URL :

Organisation :

Bucket :

Token :

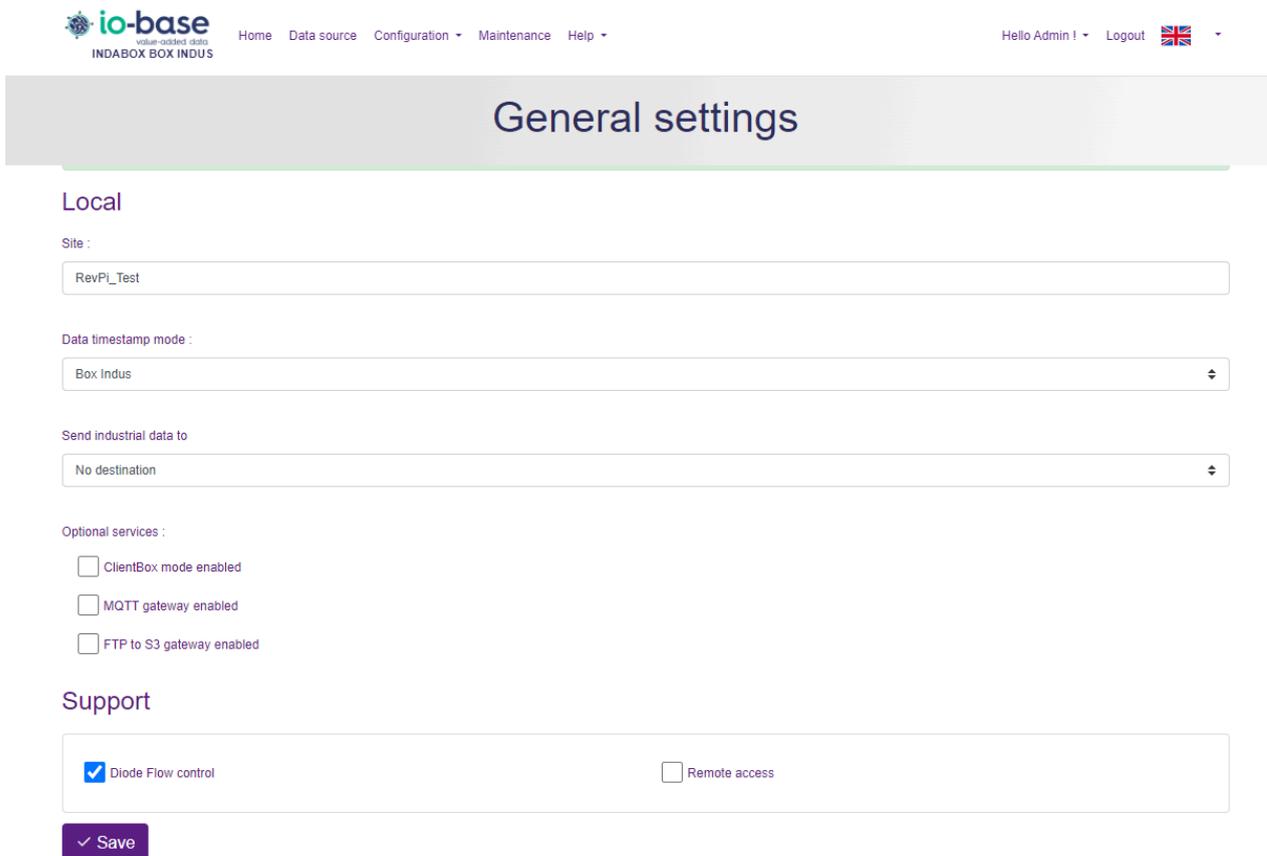
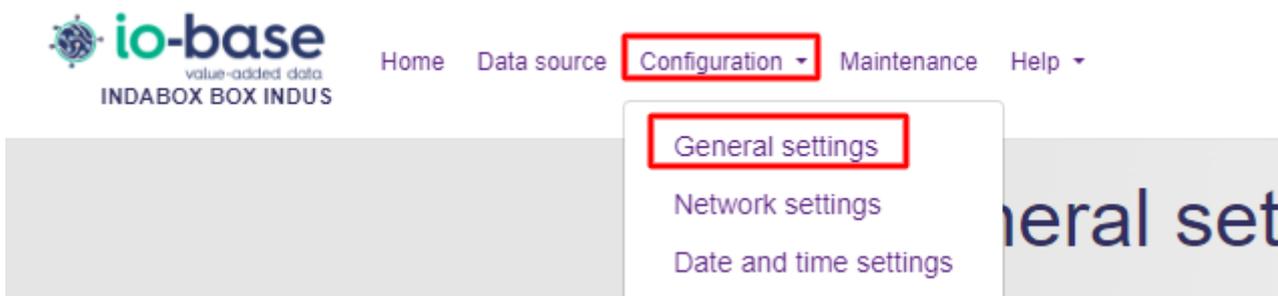
Fill in the following fields with your InfluxDB information.

8.4 FTP configuration

FTP configuration is available.

It provides a FTP connection that allows you to transfer files to a distant server (S3).

Click on **Configuration**, then **General settings**.



In the **optional services** section, check "**FTP to S3 gateway enabled**".

Optional services :

- ClientBox mode enabled
- MQTT gateway enabled
- FTP to S3 gateway enabled

The "**AWS S3 Bucket**" configuration appears.

Cloud

AWS S3 Bucket (FTP Gateway)

S3 bucket name :

Root Path (S3 Prefix) :

Access key identifier :

Access key secret :

Complete the fields with your AWS information.

Then, click on **Save**.

Next, you need to configure the box's **Ftp** server.

To do this, go to **Configuration**, then **Services management**.

- General settings
- Network settings
- Date and time settings
- Services management**
- Users management
- Save/Restore

- MQTT gateway enabled
- FTP to S3 gateway enabled

General settings

Cloud

Services management

Services status :

Service	Status		
PlcReader	Running	Journal	Restart
FileSender	Running	Journal	Restart
VsFtpD	Inactive	Journal	Activate FTP connexion
eRevPi	Running	Journal	Restart

Then click on "**Activate FTP connexion**".

✓ Activate FTP connexion

The following page opens :



Add FTP User

Username :

Password :

✓ Save

× Cancel

Enter a user name and password :

Username :

test

Password :

....

✓ Save

× Cancel

The box's FTP service is activated.

Services management

FTP service enabled

Services status :

You can now configure your FTP client.

[8.5 OPC UA protocol](#)

When configuring your devices, the OPC UA communication protocol is available.

[8.5.1 Add an OPC UA Device](#)

[8.5.1.1 Add a Device](#)

Access the box configuration web application, then go to the **Data source** menu :

Details of current communications

Files to send

Auto-refresh



Then, click on **Add Device**.

Data source

 Import file

 Add device

Name	Description	IP address	Protocol	Tag Prefix	Number of variables
------	-------------	------------	----------	------------	---------------------



Add device

Protocol :

ModbusTCP

Name :

Description :

IP address :

127.0.0.1

Tag Prefix :

Model :

Pooling time (s) :

10

Are bytes reversed

Are words reversed

Address offset

Select the "**OpcUA**" protocol.

Add device

Protocol :

OpcUA

Name :

Description :

OPC UA specificities for the server address :

- The protocol used is `opc.tcp`
- The address consists of the server's IP address or hostname, its port, and optionally a path
- So you must enter in the field : `serveropc:53530/OPCUA/SimulationServer`

The various security modes are managed automatically.

8.5.1.2 Configuration example

Add device

Protocol :

OpcUA

Name :

OpcUa_eWon

Description :

OpcUa doc

Server address :

192.168.0.100:49320

Server Address with hostname or address IP : port like 127.0.0.1:49320

Tag Prefix :

Indabatagsprefix_

Model :

Pooling time (s) :

10

User authentication mode :

Anonymous

✓ Save

✗ Cancel

≡ NameSpace

8.5.1.3 User Authentication Modes

Anonymous

Anonymous connection is allowed on the OPC UA server.
No additional configuration is required.

UserName

The username and password configured on the OPC UA server are required for the connection.

User authentication mode :

UserName

Username :

Password :

✓ Save × Cancel

≡ NameSpace

8.5.2 Certificate management

In the OPC UA certificate management window, you will find the various server certificates as well as the client application certificate integrated into the Indabox.

To do so, go to the **Data Source** menu, then click on **Manage OpcUA Certificates**.

The screenshot shows the Indabox web configuration interface. At the top left is the logo for 'io-base' with the tagline 'value-added data' and 'INDABOX BOX INDUS'. The navigation menu includes 'Home', 'Data source' (highlighted with a red box), 'Configuration', 'Maintenance', and 'Help'. On the right, there is a user greeting 'Hello Admin !', a 'Logout' button, and a language selector (UK flag). The main content area is titled 'Data source' and contains three buttons: 'Import file', 'Manage OpcUA certificates' (highlighted with a red box), and 'Add device'. Below these buttons is a table with columns: Name, Description, IP address, Protocol, Tag Prefix, and Number of variables. The table contains one entry: 'OpcUa_eWon' with description 'OpcUa doc', IP address '192.168.0.100:49320', Protocol 'OpcUA', and Tag Prefix 'indabatagsprefix_'. To the right of the table entry are icons for edit, download, and delete, and a menu icon with '0' items.

The following information is visible :

- Certificate status :
 - own : client application certificate

- rejected : rejected server certificate
- trusted : authorized server certificate
- Certificate name
- Certificate details
- Certificate validity start date
- Certificate validity end date

Manage OpcUA certificates

[← Back to devices](#)

8.5.2.1 Server certificate

The server certificate can have two statuses : **Rejected** and **Trusted**.

Trust a server Certificate

The certificate with a rejected status appears with a red background color and a Rejected status.

To trust the certificate, click on the framed button below :

[← Back to devices](#)

Status	Name	Details	Start	End	
Rejected	eWON - Tags server [1EDEC7B05A64CF29F479C868640F0A124C2EBE47]	CN=eWON - Tags server, O=eWON SA (HMS), L=Nivelles, S=BW, C=BE	8/2/2023	7/31/2028	 

Reject a server Certificate

The certificate with a **"trusted"** status appears with a green background color and a **Trusted** status.

To reject the certificate, click on the button framed below :

Manage OpcUA certificates

[← Back to devices](#)

Status	Name	Details	Start	End	
Trusted	eWON - Tags server [1EDEC7B05A64CF29F479C868640F0A124C2EBE47]	CN=eWON - Tags server, O=eWON SA (HMS), L=Nivelles, S=BW, C=BE	8/2/2023	7/31/2028	 

8.5.2.2 Delete a certificate

Click on the trash can icon of the server certificate to delete it.

Deleting the client application certificate (**own** status) allows the application to renew it.

Manage OpcUA certificates

[← Back to devices](#)

Status	Name	Details	Start	End	
Trusted	eWON - Tags server [1EDEC7B05A64CF29F479C868640F0A124C2EBE47]	CN=eWON - Tags server, O=eWON SA (HMS), L=Nivelles, S=BW, C=BE	8/2/2023	7/31/2028	 
Own	Indabox OpcUA Client	CN=Indabox OpcUA Client, C=FR, S=Pyrénées Atlantiques, O=Terega Solutions, DC=revpi30295	6/10/2024	6/10/2124	

8.5.3 OPC UA Server Namespace

When you first connect to the OPC UA server, the namespace file is generated.

It represents the data structure of the server.

Through this namespace, we can select multiple variables, export a complete equipment file for reimportation to configure a set of variables, add or edit a variable.

To access it, open the equipment editing page by clicking on **Data Source** then **Edit device** :

io-base
value-added data
INDABOX BOX INDUS

Home **Data source** Configuration Maintenance Help

Hello Admin! Logout

Data source

[Import file](#) [Manage OpcUA certificates](#) [Add device](#) [Download all source files](#)

Name	Description	IP address	Protocol	Tag Prefix	Number of variables	
OpcUa_eWon		192.168.0.100:49320	OpcUA	indabatagsprefix_	7	Edit device Download Delete

Next, click on the **NameSpace** button at the bottom right of the screen :

Edit device

Name :

Description :

Server address :

Server Address with hostname or address IP : port like 127.0.0.1:49320

Tag Prefix :

Model :

Pooling time (s) :

User authentication mode :

The namespace appears as follows (example) :

io-base
value-added data
INDABOX BOX INDUS

Home Data source Configuration Maintenance Help

Hello Admin! Logout

NameSpace OPC UA Server OpcUa_eWon

[← Back to devices](#) [Refresh NameSpace](#) [Export device](#)

Search for a variable

- Server
- DeviceSet
- NetworkSet
- DeviceTopology
- ConfigCRC
- EwonTags
 - bit0
 - bitword0
 - word0
 - int0
 - dword0
 - dint0
 - float0
 - watchdog
 - demo
 - bitword1
- KPITags
- NodeVersion

Name	Data Type	Address	Description
watchdog	UInt32	ns=4;s=watchdog	-
float0	Float	ns=4;s=float0	-
dint0	Int32	ns=4;s=dint0	-
dword0	UInt32	ns=4;s=dword0	-
int0	Int32	ns=4;s=int0	-
word0	Int32	ns=4;s=word0	-
bit0	Boolean	ns=4;s=bit0	-

Showing 1 to 7 of 7 rows rows per page

When variables are already configured in the selected equipment, they are checked in the tree view and visible in the table.

When hovering over a variable, a tooltip indicates its address, data type, and description if this information exists.

8.5.3.1 Server certificate

It is possible to perform a search by entering a word in the dedicated area :



NameSpace OPC UA S

← Back to devices

Refresh Na



Name	Data Type
watchdog	UInt32
float0	Float

8.5.3.2 Refresh the Namespace

If the server structure has changed, it is possible to refresh the namespace in RevPi by clicking the **Refresh Namespace** button.

NameSpace OPC UA Server OpcUa_eWon

Back to devices

Refresh NameSpace

Export device

Name	Data Type	Address	Description
watchdog	UInt32	ns=4;s=watchdog	-
float0	Float	ns=4;s=float0	-

8.5.4 Variable Selection with the Namespace

8.5.4.1 Selecting a set of variables

Access the namespace screen as indicated previously (**3. OPC UA Server Namespace**).

Select one or more variables.

It is possible to select an entire node. To do this, expand the node by clicking on the small arrow :

NameSpace OP

← Back to devices

Search for a variable

- Server
- DeviceSet
- NetworkSet
- DeviceTopology
- ConfigCRC
- EwonTags
- KPITags
- NodeVersion

Name	Di
watchdog	UI
float0	FI
dint0	In
dword0	UI
int0	In

Then click on the checkbox of the node.

All the visible variables within the node will be automatically selected.

Indabox : Web Configuration Interface

The screenshot shows the Indabox Web Configuration Interface. On the left, a tree view displays the configuration structure. The 'EwonTags' folder is selected and highlighted with a red box. Below it, several variables are listed, each with a green checkmark indicating it is selected:

- bit0
- bitword0
- word0
- int0
- dword0
- dint0
- float0
- watchdog
- demo
- bitword1

On the right, a table displays the selected variables and their data types:

float0
dint0
dword0
int0
word0
bit0

At the bottom right, a pagination control shows 'Showing 1 to 7 of 7 rows' and a dropdown menu set to '10' rows.

All selected variables are visible in the table :

INDABOX BOX INDUS

NameSpace OPC UA Server OpcUa_eWon

← Back to devices

↻ Refresh NameSpace

↓ Export device

Search for a variable

- Server
- DeviceSet
- NetworkSet
- DeviceTopology
- ConfigCRC
- EwonTags
 - bit0
 - bitword0
 - word0
 - int0
 - dword0
 - dint0
 - float0
 - watchdog
 - demo
 - bitword1
- KPITags
- NodeVersion

Name	Data Type	Address	Description
watchdog	UInt32	ns=4;s=watchdog	-
float0	Float	ns=4;s=float0	-
dint0	Int32	ns=4;s=dint0	-
dword0	UInt32	ns=4;s=dword0	-
int0	Int32	ns=4;s=int0	-
word0	Int32	ns=4;s=word0	-
bit0	Boolean	ns=4;s=bit0	-

Showing 1 to 7 of 7 rows 10 rows per page

The last selected variable is on the first line of the table.

Click the **Export device** button.

OPC UA Server OpcUa_eWon

↻ Refresh NameSpace

↓ Export device

Data Type	Address	Description
UInt32	ns=4;s=watchdog	-
Float	ns=4;s=float0	-
Int32	ns=4;s=dint0	-

The Excel file is exported. It is then possible to modify all the parameters, including variable names, before importation. The variable names are exported with their full path :

	A	B	C	D	E	F	G
1	Tag	Description	Address	Data type	ClientBox	MqttBox topic	
2	EwonTags.watchdog		ns=4;s=watchdog	DWORD			
3	EwonTags.float0		ns=4;s=float0	FLOAT			
4	EwonTags.dint0		ns=4;s=dint0	DINT			
5	EwonTags.dword0		ns=4;s=dword0	DWORD			
6	EwonTags.int0		ns=4;s=int0	DINT			
7	EwonTags.word0		ns=4;s=word0	DINT			
8	EwonTags.bit0		ns=4;s=bit0	BOOL			
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							

Note : To configure the device with the selected variables, return to the data source menu, then import the downloaded file.

Data source

Import file

Manage OpcUA certificates



Name	Description	IP address	Protocol	Tag Prefix	Number of variables
OpcUa_eWon		192.168.0.100:49320	OpcUA	indabatagsprefix_	7

8.5.4.2 Adding / Editing a variable

Go to the device list (data source) and click on the button framed below to access the variable list.

Data source

Import file

Manage OpcUA certificates

Add device

Download all source files

Name	Description	IP address	Protocol	Tag Prefix	Number of variables	
OpcUa_eWon		192.168.0.100:49320	OpcUA	indabatagsprefix_	7	  

Add a Variable

Click the **Add a Variable** button.

Variables of the device OpcUa_eWon

[← Back to devices](#)

[+ Add a variable](#)

Tag	Description	Address	Data type	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
EwonTags.bit0		ns=4;s=bit0	BOOL	 
EwonTags.dint0		ns=4;s=dint0	DINT	 
EwonTags.dword0		ns=4;s=dword0	DWORD	 
EwonTags.float0		ns=4;s=float0	FLOAT	 

Click on the **Select a Variable** button.

Add variable

[≡ Select a variable](#)

ame :

ription :

type :

COL

Select a variable in the tree view by clicking on it. The variable is then visible in the table.

To validate, click on the **Validate Variable** button.

The screenshot shows the 'Validate Variable' button highlighted with a red box. The interface includes a navigation menu with 'Home', 'Data source', 'Configuration', 'Maintenance', and 'Help'. The user is logged in as 'Hello Admin'. The main heading is 'NameSpace OPC UA Server OpcUa_eWon'. Below the heading are buttons for 'Back to devices', 'Refresh NameSpace', and 'Validate variable' (highlighted). A table displays the variable details:

Name	Data Type	Address	Description
bit0	Boolean	ns=4;s=bit0	-

Below the table, it indicates 'Showing 1 to 1 of 1 rows' and '10 rows per page'. A sidebar on the left shows a tree view of variables including 'Server', 'DeviceSet', 'NetworkSet', 'DeviceTopology', 'ConfigCRC', 'EwonTags', and sub-items like 'bit0', 'bitword0', 'word0', and 'int0'.

The different fields are pre-filled. It is possible to modify them before validation.

The screenshot shows the 'Add variable' form. The form fields are pre-filled with the following values:

- Tag name : EwonTags.bit0
- Description : (empty)
- Data type : BOOL
- Address : ns=4;s=bit0

At the bottom of the form, there are buttons for 'Save' and 'Cancel'. A 'Select a variable' button is located at the top right of the form area.

By clicking on the **Validate** button, the variable is added to the equipment configuration.

Variables of the device OpcUa_eWon

Variable EwonTags.bit0doc successfully added

← Back to devices

+ Add a variable

Tag	Description	Address	Data type	
EwonTags.bit0		ns=4;s=bit0	BOOL	 
EwonTags.bit0doc	doc	ns=4;s=bit0	BOOL	 
EwonTags.dint0		ns=4;s=dint0	DINT	 
EwonTags.dword0		ns=4;s=dword0	DWORD	 

Edit a Variable

Click on the edit button of the variable :

← Back to devices

+ Add a variable

Tag	Description	Address	Data type	
EwonTags.bit0		ns=4;s=bit0	BOOL	 
EwonTags.dint0		ns=4;s=dint0	DINT	 
EwonTags.dword0		ns=4;s=dword0	DWORD	 
EwonTags.float0		ns=4;s=float0	FLOAT	 

The variable settings will be manually editable.

Note : By clicking on the **Select a Variable** button, and selecting a variable in the server's namespace, you can automatically update the data type and address of a variable.

Click on the **Update** button to validate the changes.

Tag name :

Description :

Data type :

Address :

[8.5.5 Error messages](#)

Error establishing a connection: BadNotConnected

Incorrect server address.

Endpoint does not support the user identity type provided

Incorrect user configuration.

Certificate is not trusted

Server certificate rejected. It needs to be authorized: see 2.1.1. Authorize a Server Certificate.

Error establishing a connection: Error received from remote host: An error occurred verifying security

The Indabox certificate has not been approved on the OPC UA server. It must be authorized.

BadUserAccessDenied

Incorrect user authentication information.