YoctoHub-Wireless-g

User's guide

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1. Introduction

The YoctoHub-Wireless-g is a 60x58mm electronic module enabling you to control other Yoctopuce modules through a wireless network connection. Seen from the outside, this module behaves exactly like a standard computer running a *VirtualHub*[1]: same interface, same functionalities.

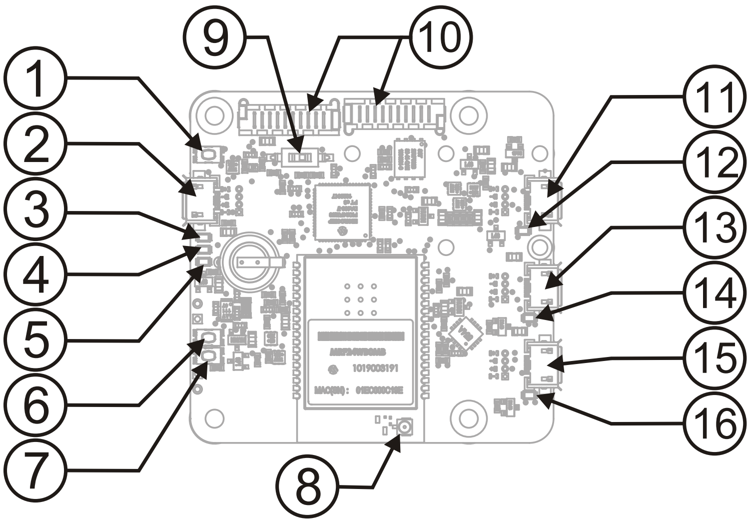
The YoctoHub-Wireless-g is designed to be easily deployed and to not require any specific maintenance. In the opposite to a mini-computer, it does not have a complex operating system. Some simple settings allow you to use it in many kinds of network environments. These settings can be modified manually or automatically through USB. Therefore, the YoctoHub-Wireless-g is much more suited to industrialization than a mini-computer. However, you cannot run additional software written by the user on the YoctoHub-Wireless-g.

The YoctoHub-Wireless-g is not a standard USB hub with network access. Although it uses USB cables, its down ports use a proprietary protocol, much simpler than USB. It is therefore not possible to control, or even to power, standard USB devices with a YoctoHub-Wireless-g.

Yoctopuce thanks you for buying this YoctoHub-Wireless-g and sincerely hopes that you will be satisfied with it. The Yoctopuce engineers have put a large amount of effort to ensure that your YoctoHub-Wireless-g is easy to install anywhere and easy to use in any circumstance. If you are nevertheless disappointed with this device, do not hesitate to contact Yoctopuce support[2].

[1] http://www.yoctopuce.com/EN/virtualhub.php
[2] support@yoctopuce.com

2. Presentation



1: Yocto-button	*9: Sleep neutralization*
2: Control and power USB port	*10: Back connection*
3: Yocto-led	*11: Down port 1*
4: Overload led	*12: Down port 1 led*
5: Network transfer led	*13: Down port 2*
6: Wake up button	*14: Down port 2 led*
7: Sleep button	*15: Down port 3*
8: Antenna connector	*16: Down port 3 led*

2.1. The YoctoHub-Wireless-g components

Serial number

Each Yocto-module has a unique serial number assigned to it at the factory. For YoctoHub-Wireless-g modules, this number starts with YHUBWLN3. The module can be software driven using this serial number. The serial number cannot be modified.

Logical name

The logical name is similar to the serial number: it is a supposedly unique character string which allows you to reference your module by software. However, in the opposite of the serial number, the logical name can be modified at will. The advantage is to enable you to build several copies of the same project without needing to modify the driving software. You only need to program the same logical name in each copy. Warning: the behavior of a project becomes unpredictable when it contains several modules with the same logical name and when the driving software tries to access one of these modules through its logical name. When leaving the factory, modules do not have an assigned logical name. It is yours to define.

Yocto-button

The Yocto-button has two functionalities. First, it can activate the Yocto-beacon mode (see below under Yocto-led). Second, if you plug in a Yocto-module while keeping this button pressed, you can then reprogram its firmware with a new version. Note that there is a simpler UI-based method to update the firmware, but this one works even if the firmware on the module is incomplete or corrupted.

Yocto-led

Normally, the Yocto-led is used to indicate that the module is working smoothly. The Yocto-led then emits a low blue light which varies slowly, mimicking breathing. The Yocto-led stops breathing when the module is not communicating any more, as for instance when powered by a USB hub which is disconnected from any active computer.

When you press the Yocto-button, the Yocto-led switches to Yocto-beacon mode. It starts flashing faster with a stronger light, in order to facilitate the localization of a module when you have several identical ones. It is indeed possible to trigger off the Yocto-beacon by software, as it is possible to detect by software that a Yocto-beacon is on.

The Yocto-led has a third functionality, which is less pleasant: when the internal software which controls the module encounters a fatal error, the Yocto-led starts emitting an SOS in morse [1]. If this happens, unplug and re-plug the module. If it happens again, check that the module contains the latest version of the firmware and, if it is the case, contact Yoctopuce support[2].

Power / Control port

This port allows you to power the YoctoHub-Wireless-g and the modules connected to it with a simple USB charger. This port also allows you to control the YoctoHub-Wireless-g by USB, exactly like you can do it with a classic Yoctopuce module. It is particularly useful when you want to configure the YoctoHub-Wireless-g without knowing its IP address.

Down ports

You can connect up to three Yoctopuce modules on these ports. They will then be available as if they were connected to a computer running a *VirtualHub*. Note that the protocol used between the YoctoHub-Wireless-g and the USB modules is not USB but a lighter proprietary protocol. Therefore, the YoctoHub-Wireless-g cannot manage devices other than Yoctopuce devices. A standard USB hub does not work either[3]. If you want to connect more than three Yoctopuce modules, just connect one or more YoctoHub-Shield[4] to the back ports.

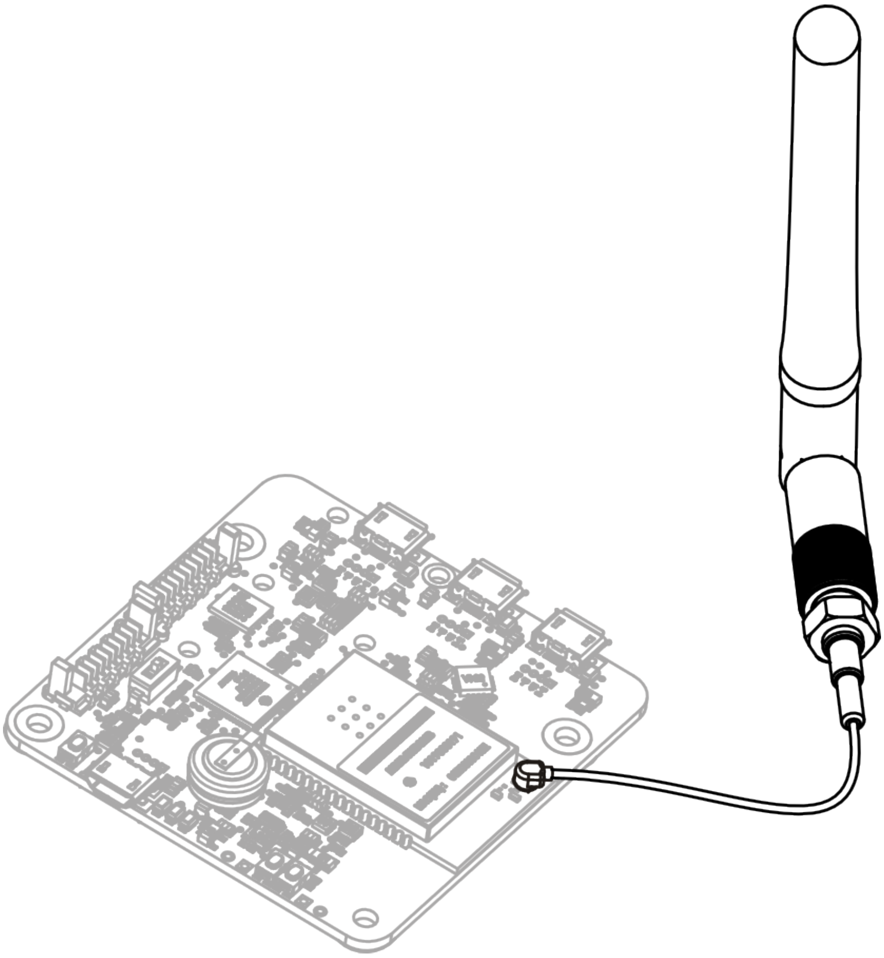
Warning: the USB connectors are simply soldered in surface and can be pulled out if the USB plug acts as a lever. In this case, if the tracks stayed in position, the connector can be soldered back with a good iron and flux to avoid bridges. Alternatively, you can solder a USB cable directly in the 1.27mm-spaced holes near the connector.

Antenna connector

The YoctoHub-Wireless-g includes an ultra miniature coaxial antenna connector (UFL). Take care of the UFL connector. It is fragile and is not designed to support many connection/deconnection cycles. The YoctoHub-Wireless-g is sold with a small UFL cable to RP-SMA socket (reverse polarity SMA: threaded on the outside with a plug in the center) and a corresponding RP-SMA plug antenna

[1] short-short-short long-long-long short-short-short
[2] support@yoctopuce.com
[3] The Yoctopuce Micro-USB-Hub is a standard USB hub and does not work either.
[4] www.yoctopuce.com/FR/products/yoctohub-shield

(threaded on the inside, jack in the center). You can use another antenna of your choice, as long as it is designed for the 2.4 GHz frequency range and it has the correct connector. Beware of the different variants of SMA connectors: there are antennas for each of the four combinations SMA/RP-SMA and plug/socket. Only an RP-SMA plug antenna can be used with the provided antenna cable. Beware also that using a high-gain antenna may drive you to emit a signal stronger than the authorized norm in your country.



Antenna connection

Overload led

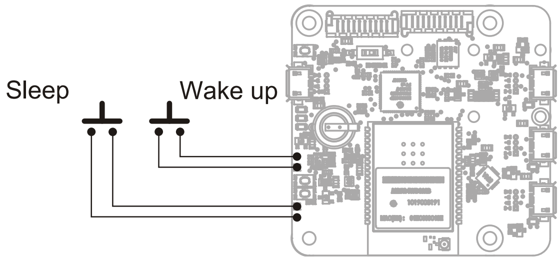
The YoctoHub-Wireless-g continuously monitors its power consumption. If it detects a global consumption of more that 2A, following an overload on one of the down ports for example, it automatically disables all the down ports and lights the overload led. To isolate the source of the issue, you can reactivate the ports one by one, monitoring the power consumption increase. Alternatively, if you know the source of the overload issue and know to have solved it, you can restart the YoctoHub-Wireless-g to enable all its ports at once.

Note that the overload led is a protection measure which can prevent overheating, but it is not a protection guarantee against shorts.

Sleep

Usually, the YoctoHub-Wireless-g consumes about 0.5 Watt, to which you must add the connected module consumption. But it is able to get into sleep to reduce its power consumption to a strict minimum, and to wake up at a precise time (or when an outside contact is closed). This functionality is very useful to build measuring installations working on a battery. When the YoctoHub-Wireless-g is in sleep mode, most of the electronics of the module as well as the connected Yoctopuce modules are switched off. This reduces the total consumption to 75 µW (15 µA).

Switching to sleep and waking up can be programmed based on a schedule, controlled by software, or controlled manually with two push buttons located on the YoctoHub-Wireless-g circuit. You can find there two pairs of contacts which enable you to shunt these two buttons.



Sleep and wake up buttons deviation.

The YoctoHub-Wireless-g includes a switch with which you can disable the sleep mode at the hardware level. This functionality is particularly useful when developing and debugging your project, as well as when updating the firmware.

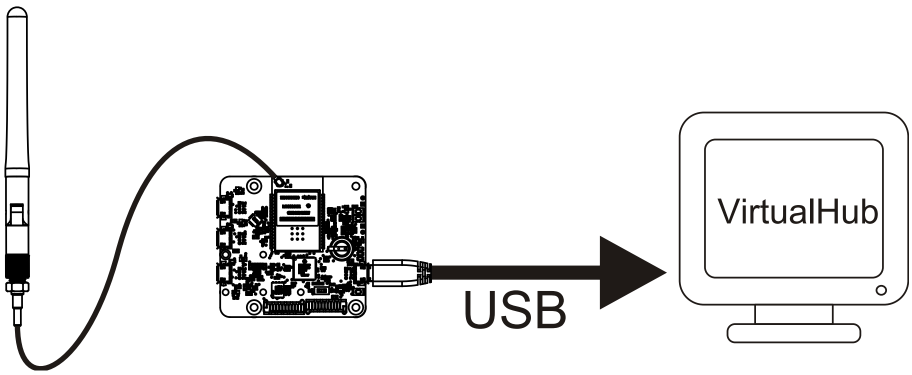
3. First steps

The aim of this chapter is to help you connect and configure your YoctoHub-Wireless-g for the first time.

3.1. Manual configuration

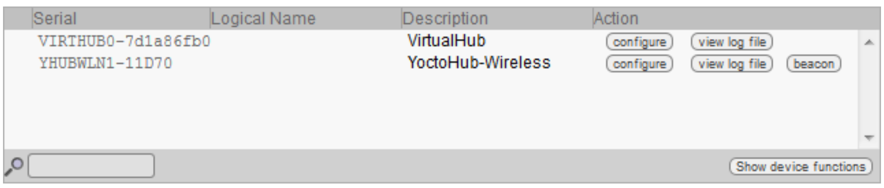
You can configure your YoctoHub-Wireless-g through its USB control port, by using the *VirtualHub*[1].

Run the *VirtualHub* on your preferred computer and connect it to the *power / control port* of the YoctoHub-Wireless-g. You need a USB A-MicroB cable.



Configuration: connecting your YoctoHub-Wireless-g by USB to a computer

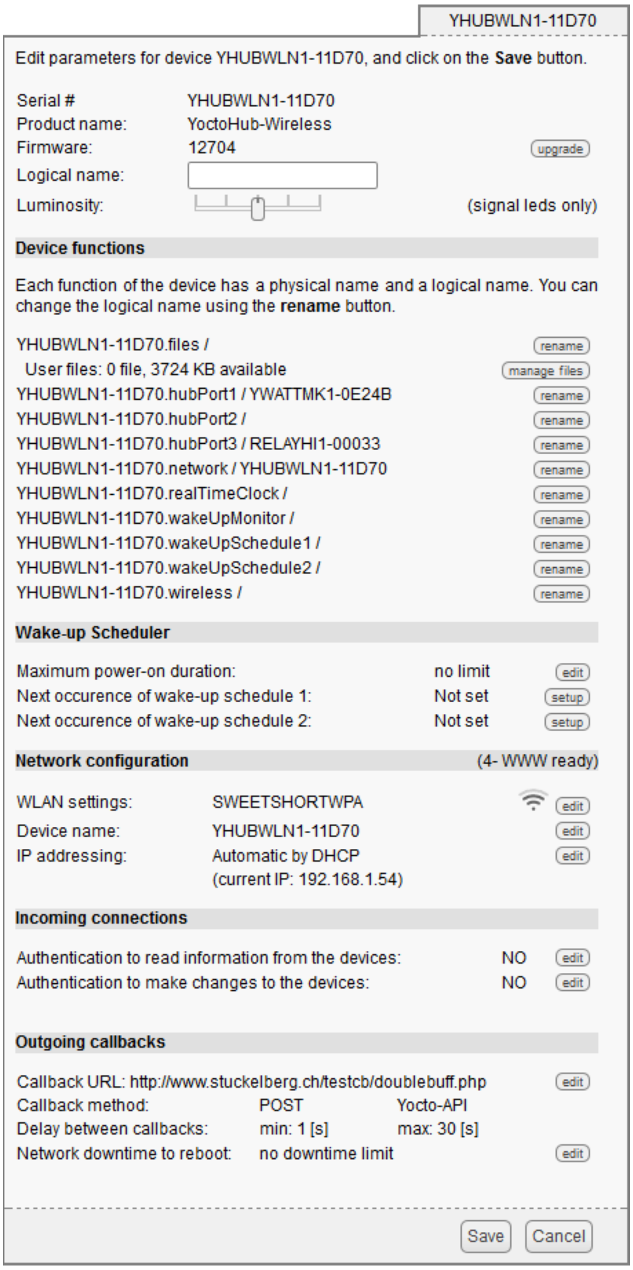
Launch your preferred browser on the URL of your *VirtualHub*. It usually is *http://127.0.0.1:4444*. You obtain the list of Yoctopuce modules connected by USB, among which your YoctoHub-Wireless-g.



List of Yoctopuce modules connected by USB to your computer, among which your YoctoHub-Wireless-g

Click on the **configure** button corresponding to your YoctoHub-Wireless-g. You obtain the module configuration window. This window contains a **Network configuration** section.

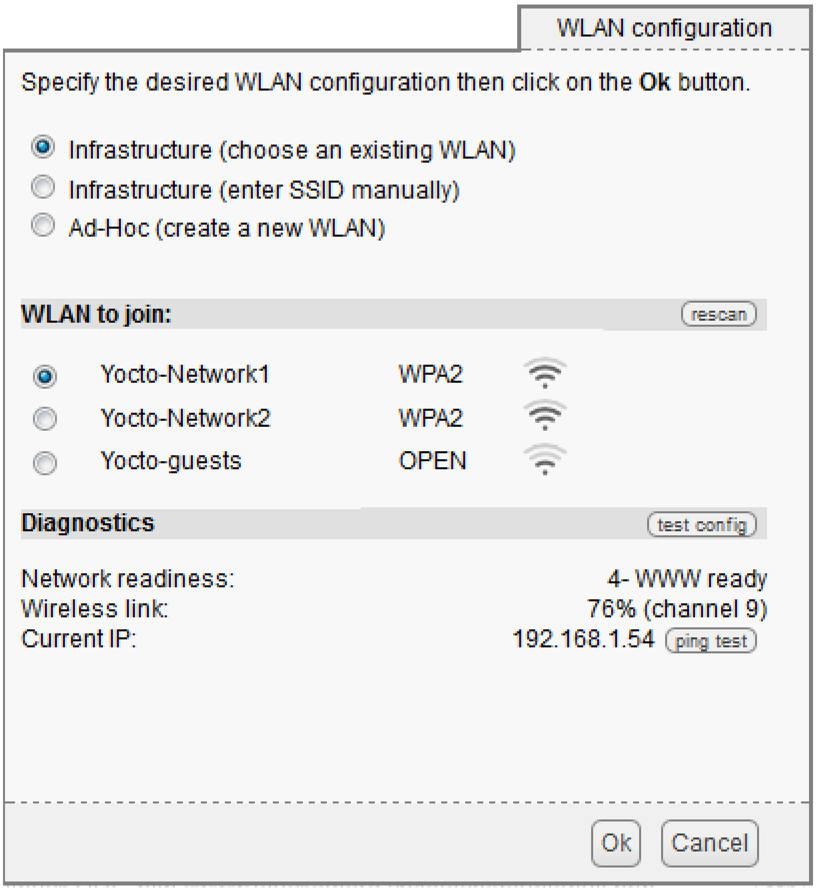
1 http://www.yoctopuce.com/EN/virtualhub.php



YoctoHub-Wireless-g module configuration window

Connection to the wireless network

You must first configure your YoctoHub-Wireless-g to enable it to connect itself to your wifi network. To do so, click on the **edit** button corresponding to **WLAN settings** in the **Network configuration** section. The configuration window of the wireless network shows up:



Wireless network configuration window.

You can then decide if you wish to connect your YoctoHub-Wireless-g to an existing network, or if you would rather manually enter the SSID of network you wish to use.

You can also configure the YoctoHub-Wireless-g for it to generate its own wireless network in *Software enabled Access Point* (SoftAP) mode. You can then connect a mobile device directly on the YoctoHub-Wireless-g without having to go through an infrastructure server (access point). However, be aware that the *SoftAP* mode has limitations compared to a real wifi network. In particular, in *SoftAP* mode, you cannot have more than four clients connected to the network at the same time.

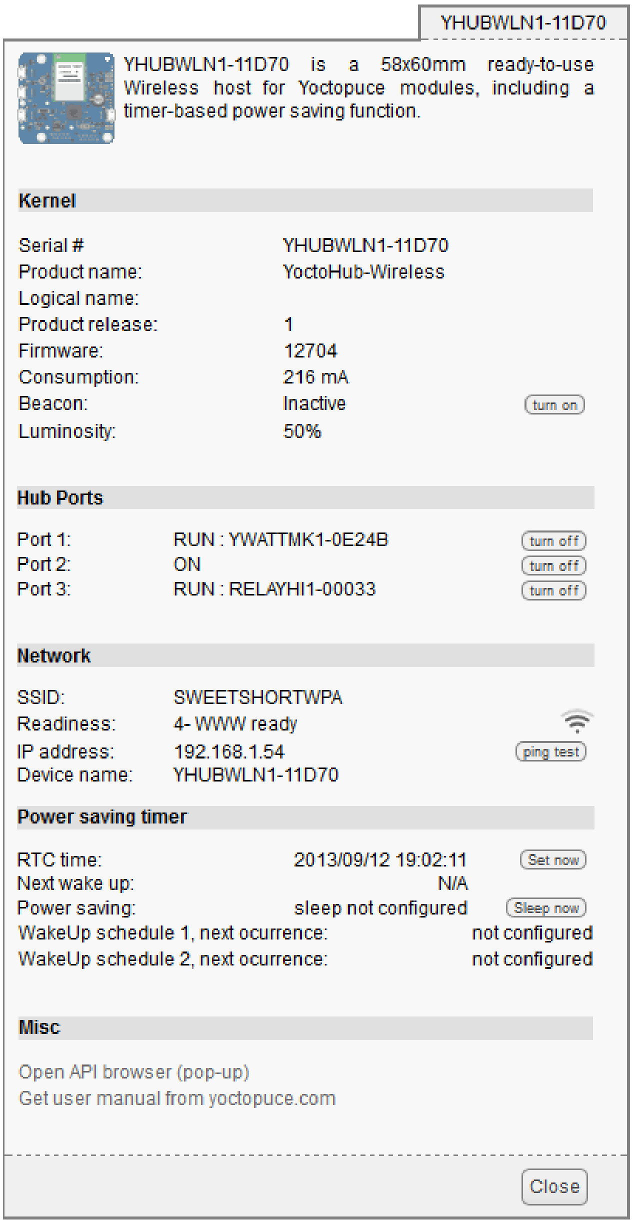
When you have set the wireless network parameters, and possibly tested them, you can click on the **OK** button to close this configuration window and go back to the main configuration window.

If needed, you can also configure which IP address must be assigned to the YoctoHub-Wireless-g. To do so, click on the **edit** button opposite to the **IP addressing** line in the main window.

You can then choose between a DHCP assigned IP address or a fixed IP address for your YoctoHub-Wireless-g module. The DHCP address is recommended in so much as this functionality is supported by most ADSL routers (its the default configuration). If you do not know what a DHCP server is but are used to connect machines on your network and to see them work without any problem, do not touch anything.

You can also choose the network name of your YoctoHub-Wireless-g. You can then access your YoctoHub-Wireless-g by using this name rather than its IP address. When the network part is configured, click on the *Save* button to save your changes and close the configuration window. These modifications are saved in the persistent memory of the YoctoHub-Wireless-g, they are kept even after the module has been powered off.

Click on the serial number corresponding to your YoctoHub-Wireless-g. This opens your module property window:



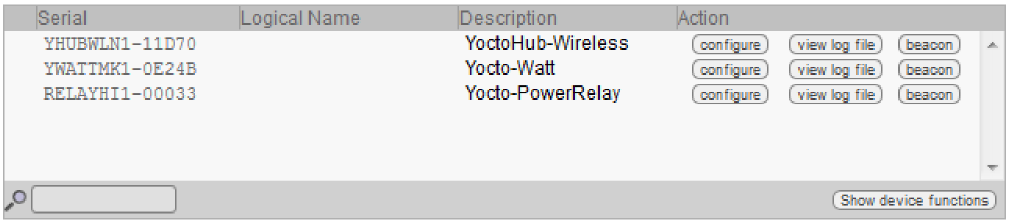
The YoctoHub-Wireless-g properties

This window contains a section indicating the state of the YoctoHub-Wireless-g network part. You can find there its MAC address, current IP address, and network name. This section also provides the state of the network connection. Possible states are:

- 0- search for link: The module is searching for a connection with the network. If this state persists, the sought wifi network is most likely not in the neighborhood.
- 1- network exists: The sought wifi network was detected.
- 2- network linked: The YoctoHub-Wireless-g did connect to the network.
- 3- LAN ready: The local network is working (IP address obtained).
- 4- WWW ready: The module has checked Internet connectivity by connecting itself to a time server (NTP).

When you have checked that your module does indeed have a valid IP address, you can close the property window, stop your *VirtualHub*, and disconnect your USB cable. They are not needed anymore.

From now on, you can access your YoctoHub-Wireless-g by typing its IP address directly in the address field of your preferred browser. The module answers to the standard HTTP port, but also to the 4444 port used by the *VirtualHub*. If your module IP address is *192.168.0.10*, you can therefore access it with the *http://192.168.0.10* URL.



The YoctoHub-Wireless-g interface is identical to that of a VirtualHub.

If you have assigned a name to your YoctoHub-Wireless-g, you can also use this name on the local network. For example, if your have used the *yoctohub* network name, you can contact the module with the *http://yoctohub* URL under Windows and the *http://yoctohub.local* URL under Mac OS X and Linux. Note that this technique is limited to the subnet of the YoctoHub-Wireless-g. If you want to contact the module by name from another network, you must use a classic DNS infrastructure.

3.2. Automated configuration

You can industrialize the YoctoHub-Wireless-g network configuration. You can find in the following chapters of this documentation the description of the programming functions enabling you to read the Ethernet address (MAC address) of a module, and to configure all of its network parameters.

The network configuration functions are also available as command lines, using the `YNetwork` utility software available in the command line programming library [2].

After having set some parameters by software, make sure to call the `saveToFlash()` function to ensure that the new settings are saved permanently in the module flash memory.

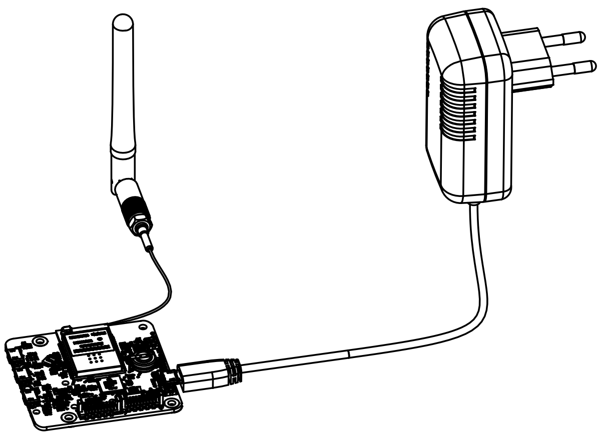
3.3. Connections

Power supply

The YoctoHub-Wireless-g must be powered by the USB control socket.

USB

Simply connect a USB charger in the *power / control port* port, but make sure that the charger provides enough electric power. The YoctoHub-Wireless-g consumes about 160mA, to which you must add the power consumption of each submodule. The YoctoHub-Wireless-g is designed to manage a maximum of 2A. Therefore, we recommend a USB charger able to deliver at least 2A. Moreover, you must make sure that the total power consumption of the set "hub + submodules" does not go above this limit.

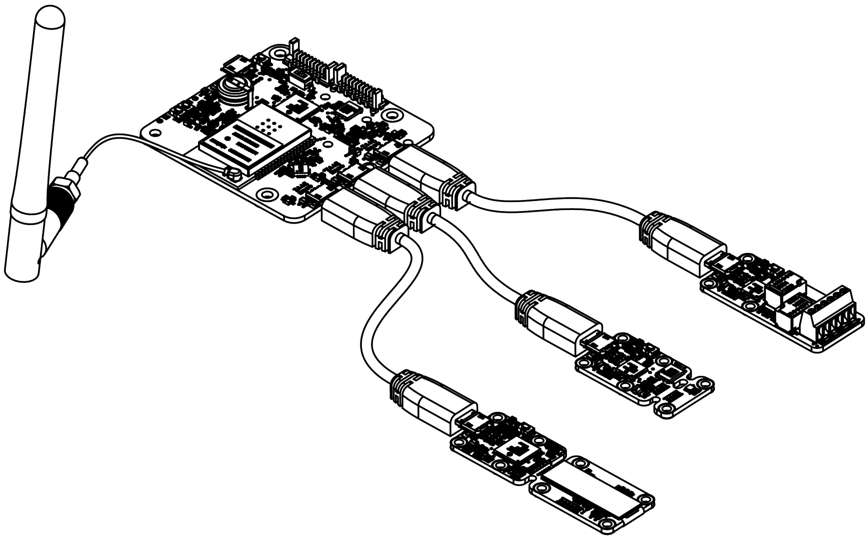


The YoctoHub-Wireless-g can be powered by a regular USB charger

[2] http://www.yoctopuce.com/EN/libraries.php

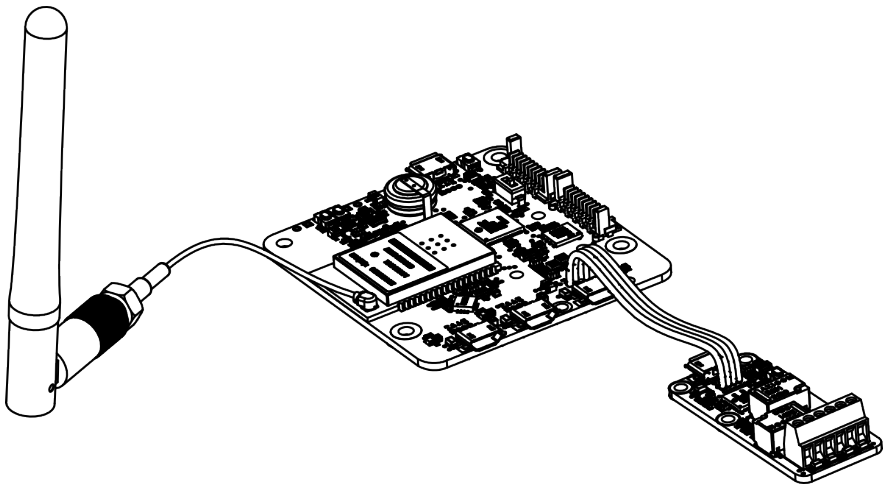
Sub-modules

The YoctoHub-Wireless-g is able to drive all the Yoctopuce modules of the *Yocto* range. These modules can be directly connected to the down ports. They are automatically detected. For this, you need Micro-B Micro-B USB cables. Whether you use OTG cables or not does not matter.



Connecting sub-modules with USB cables

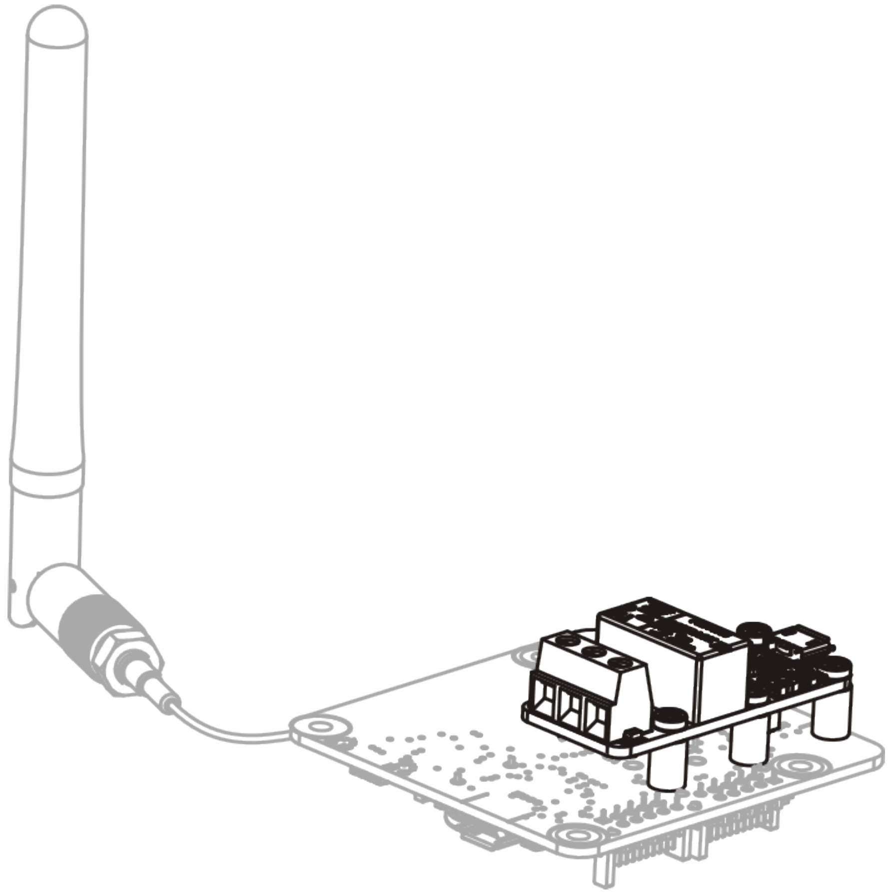
Alternatively, you can connect your modules by directly soldering electric cables between the YoctoHub-Wireless-g and its sub-modules. Indeed, all the Yoctopuce modules have contacts designed for direct cabling. We recommend you to use solid coper ribbon cables, with a 1.27mm pitch. Solid copper ribbon cable is less supple than threaded cable but easier to solder. Pay particular attention to polarity: the YoctoHub-Wireless-g, like all modules in the Yoctopuce range, is not protected against polarity inversion. Such an inversion would likely destroy your devices. Make sure the positions of the square contacts on both sides of the cable correspond.



Sub-module connection with ribbon cable

The YoctoHub-Wireless-g is designed so that you can fix a single width module directly on top of it. To do so, you need screws, spacers[3], and a 1.27mm pitch connector[4]. You can thus transform your USB Yoctopuce module into a network module while keeping a very compact format.

[3] http://www.yoctopuce.com/EN/products/accessories-and-connectors/fix-2-5mm
[4] http://www.yoctopuce.com/EN/products/accessories-and-connectors/board2board-127



Fixing a module directly on the hub

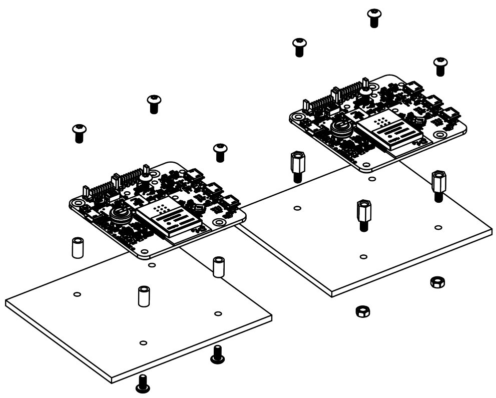
Beware, the YoctoHub-Wireless-g is designed to drive only Yoctopuce modules. Indeed, the protocol used between the YoctoHub-Wireless-g and the sub-modules is not USB but a much lighter proprietary protocol. If, by chance, you connect a device other than a Yoctopuce module on one of the YoctoHub-Wireless-g down ports, this port is automatically disabled to prevent damages to the device.

4. Assembly

This chapter provides important information regarding the use of the YoctoHub-Wireless-g module in real-world situations. Make sure to read it carefully before going too far into your project if you want to avoid pitfalls.

4.1. Fixing

While developing your project, you can simply let the hub hang at the end of its cable. Check only that it does not come in contact with any conducting material (such as your tools). When your project is almost at an end, you need to find a way for your modules to stop moving around.



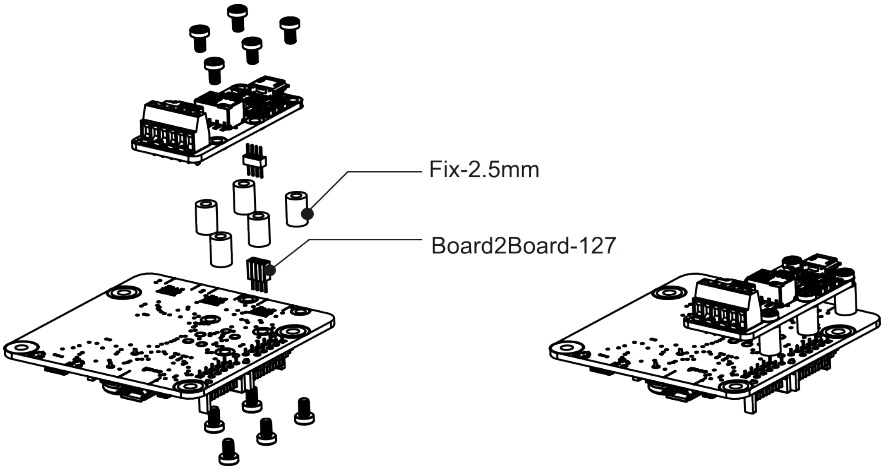
Examples of assembly on supports

The YoctoHub-Wireless-g module contains 3mm assembly holes. You can use these holes for screws. The screw head diameter must not be larger than 8mm or the heads will damage the module circuits.

Make sure that the lower surface of the module is not in contact with the support. We recommend using spacers. You can fix the module in any position that suits you: however be aware that the YoctoHub-Wireless-g electronic components, in particular the network part, generate heat. You must not let this heat accumulate.

4.2. Fixing a sub-module

The YoctoHub-Wireless-g is designed so that you can screw a single width module directly on top of it. By single width, we mean modules with a 20mm width. All the single width modules have their 5 assembly holes and the USB socket in the same position. The sub-module can be assembled with screws and spacers. At the back of the YoctoHub-Wireless-g and sub-module USB connectors, there are a set of 4 contacts enabling you to easily perform an electrical connection between the hub and the sub-module. If you do not feel sufficiently at ease with a soldering iron, you can also use a simple Micro-B Micro-B USB cable, OTG or not.



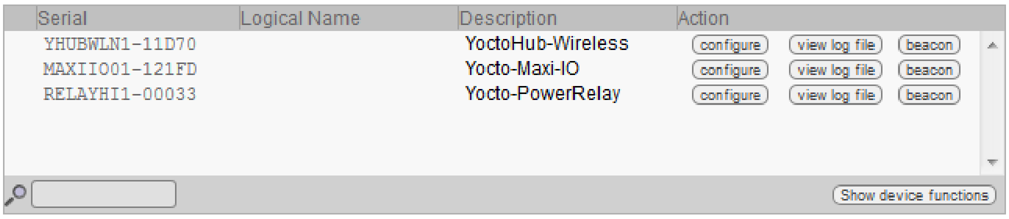
Fixing a module directly on the hub

Make sure to mount your module on the designed side, as illustrated above. The module 5 holes must correspond to the YoctoHub-Wireless-g 5 holes, and the square contact on the module must be connected to the square contact on the YoctoHub-Wireless-g down port. If you assemble a module on the other side or in another way, the connector polarity will be inverted and you risk to permanently damage your equipment.

All the accessories necessary to fix a module on your YoctoHub-Wireless-g are relatively usual. You can find them on the Yoctopuce web site, as on most web sites selling electronic equipment. However, beware: the head of the screws used to assemble the sub-module must have a maximum head diameter of 4.5mm, otherwise they could damage the electronic components.

5. Using the YoctoHub-Wireless-g

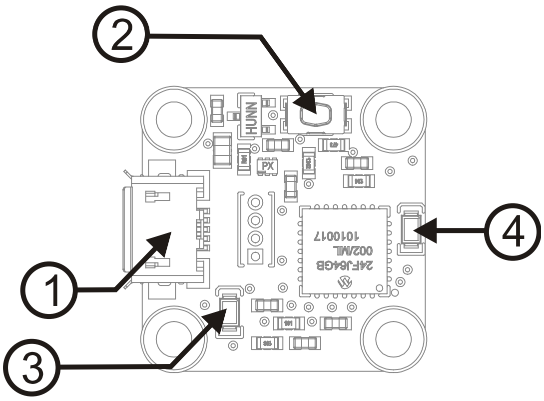
Apart from providing network access to the Yoctopuce devices, the YoctoHub-Wireless-g enables you to test and configure your Yoctopuce modules. To do so, connect yourself to your YoctoHub-Wireless-g with your favorite web browser[1]. Use the IP address of the YoctoHub-Wireless-g or its network name, for example `http://192.168.0.10`. The list of the connected modules should appear.



YoctoHub-Wireless-g web interface

5.1. Locating the modules

The main interface displays a line per connected module; if you have several modules of the same model, you can locate a specific module by clicking on the corresponding **beacon** button: it makes the blue led of the module start blinking and displays a blue disk at the beginning of the corresponding line in the interface. Pressing the Yocto-button of a connected module has the same effect.

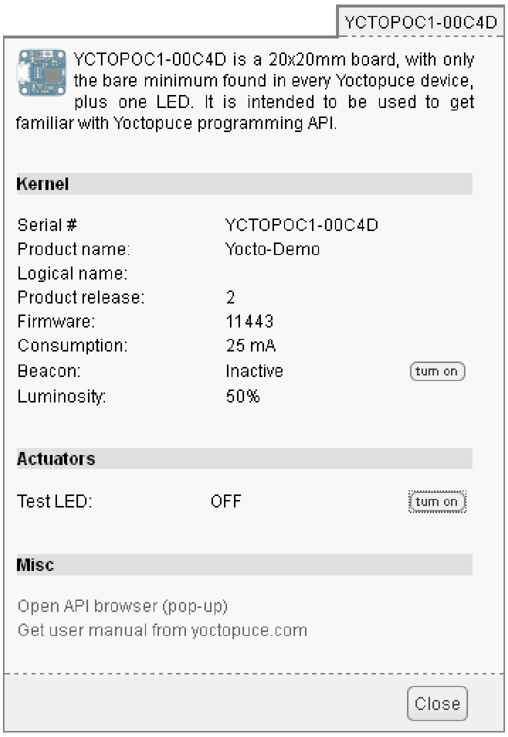


Yocto-button (1) and localization led (2) of the Yocto-Demo module. These two elements are usually placed in the same location, whatever the module.

[1] The YoctoHub-Wireless-g interface is regularly tested with Internet Explorer 6+, Firefox 3.5+, Chrome, and Safari. It does not work with Opera.

5.2. Testing the modules

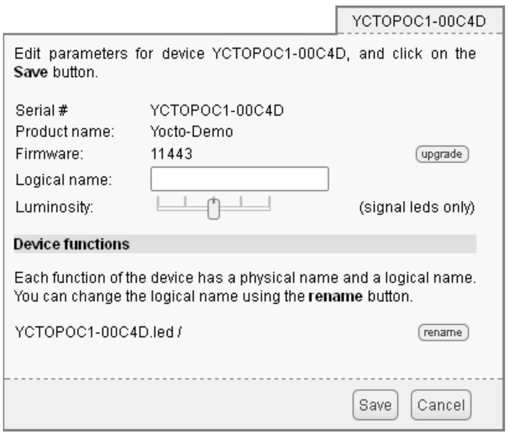
To test a module, simply click on the serial number of a module in the interface, a window specific to the module opens. This window generally allows you to activate the main functions of the module. Refer to the User's guide of the corresponding module for more details [2].



Property window of the Yocto-Demo module, obtained from the YoctoHub-Wireless-g interface

5.3. Configuring modules

You can configure a module by clicking on the corresponding **configure** button in the main interface. A window, specific to the module, then opens. This window allows you minimally to assign a logical name to the module and to update its firmware. Refer to the User's guide of the corresponding module for more details.



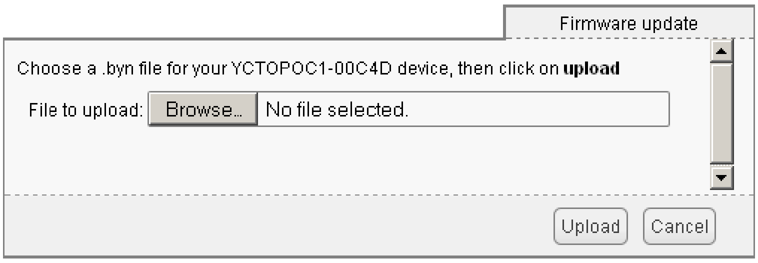
"Configuration" window of the Yocto-Demo module

[2] The YoctoHub-Wireless-g does not need to be more recent than the module you want to test and configure: all the elements specific to the module interfaces are kept in the module ROM, and not in the YoctoHub-Wireless-g.

5.4. Upgrading firmware

The Yoctopuce modules are in fact real computers, they even contain a small web server. And, as all computers, it is possible to update their control software (firmware). New firmware for each module are regularly published, they generally allow you to add new functionalities to the module, and/or to correct a hypothetical bug[3].

To update a module firmware, you must first get the new firmware. It can be downloaded from the module product page on the Yoctopuce web site[4]. The interface offers also a direct link if it detects that the firmware is not up-to-date [5]. Firmware is available as `.byn` files of a few tens of kilobytes. Save the one you are interested in on your local disk.



Firmware update window

When the firmware file is locally available, open the module **configuration** window and click on the **upgrade** button. The interface asks you to select the firmware file you wish to use. Enter the file name and click on **Upload**. From then on, everything is automatically performed: the YoctoHub-Wireless-g restarts the module in "update" mode, updates the firmware, then restarts the module in normal mode. The module configuration settings are kept. Do not disconnect the module during the update process.

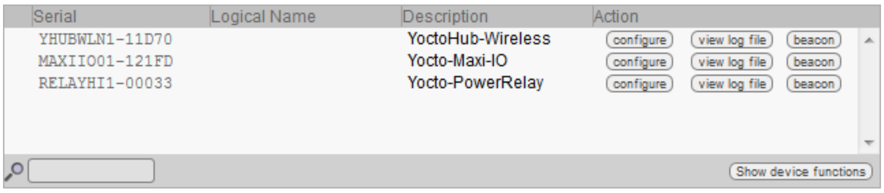
The YoctoHub-Wireless-g firmware can be updated in the same manner.

If control is lost during a firmware update (power failure or unwanted disconnection), it is always possible to manually force a firmware reload, even if the sub-module does not even appear in the YoctoHub-Wireless-g window. In this case, disconnect the module, and reconnect it while keeping the Yocto-button pressed. This starts the module in "update" mode. You can restart the firmware update process.

[3] Never trust people telling you that their software does not have bugs :-)
[4] www.yoctopuce.com
[5] On the condition that the interface could access the Yoctopuce web site.

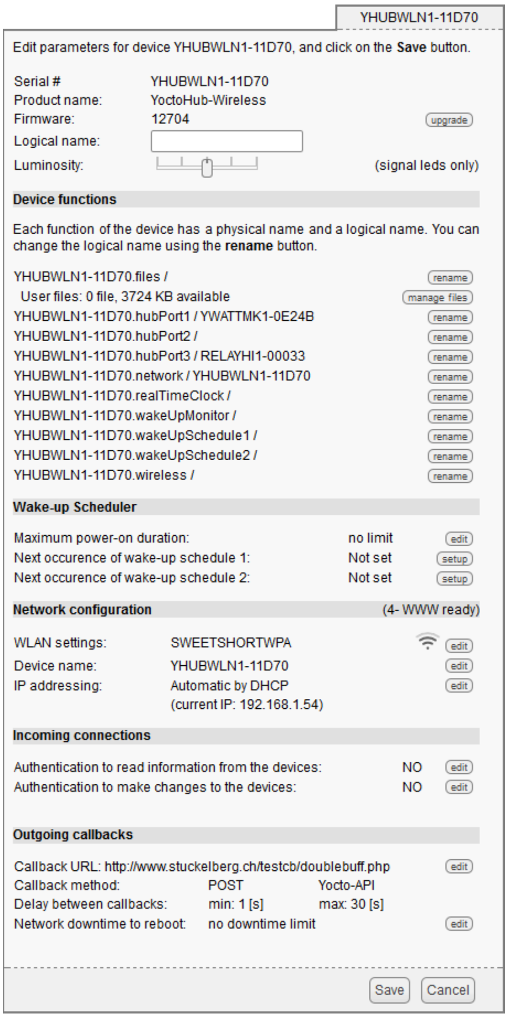
6. Access control

The YoctoHub-Wireless-g is able to perform access control to protect your Yoctopuce devices. Click on the **configure** button on the line matching the YoctoHub-Wireless-g in the user interface.



Click on the "configure" button on the first line

Then the configuration window for the YoctoHub-Wireless-g shows up.



The YoctoHub-Wireless-g configuration window.

Access control can be configured from the **Incoming connections** section. There are two levels of access control.

6.1. Protected "admin" access

The *admin* password locks write access on the modules. When the admin password is set, only users using the admin login are allowed read and write access to the modules. The users using the *admin* login can configure the modules seen by this YoctoHub-Wireless-g as they wish.

6.2. Protected "user" access

The *user* password locks read access to the Yoctopuce modules. When set, any use without password becomes impossible. The *user* access type allows only read-only access to the modules, that is only to consult the states of the modules. If you simultaneously create "admin" and "user" access controls, users with a "user" login cannot modify the configuration of modules seen by this YoctoHub-Wireless-g.

If you configure an *admin* access, without configuring a *user* access, users are still able to read your device values without any password.

To set up YoctoHub-Wireless-g access, click the **edit** button on the line **Authentication to read the information from the devices** or **Authentication to write information to the devices**

6.3. Access control and API

Warning, the access control has an impact on Yoctopuce API behavior when trying to connect to this YoctoHub-Wireless-g. With Yoctopuce API, access control is handled at `RegisterHub()` function call level. You need to provide the YoctoHub-Wireless-g address as follow: *login:password@address:port*, here is an exemple:

```
yRegisterHub("admin:mypass@192.168.0.10:4444",errmsg);
```

6.4. Deleting passwords

If you forget your YoctoHub-Wireless-g password, the only way to regain control is to reset all the settings to the default value. To do so, find a USB cable for the YoctoHub-Wireless-g and connect it to a computer running the *VirtualHub*[1] while keeping the Yocto-button pressed. This forces the YoctoHub-Wireless-g to start in firmware update mode. It then appears in the *VirtualHub* below the module list. Click on its serial number and select a firmware file to load on the module. When the firmware is reloaded with this method, the module is reset to the factory settings, without access control.

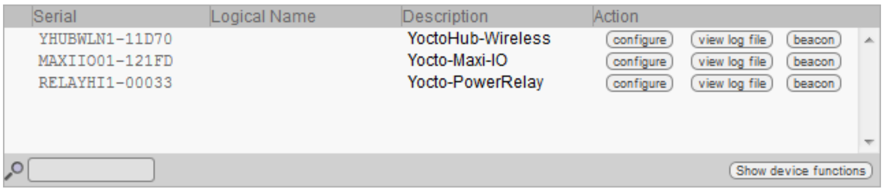
[1] http://www.yoctopuce.com/EN/virtualhub.php

7. Interaction with external services

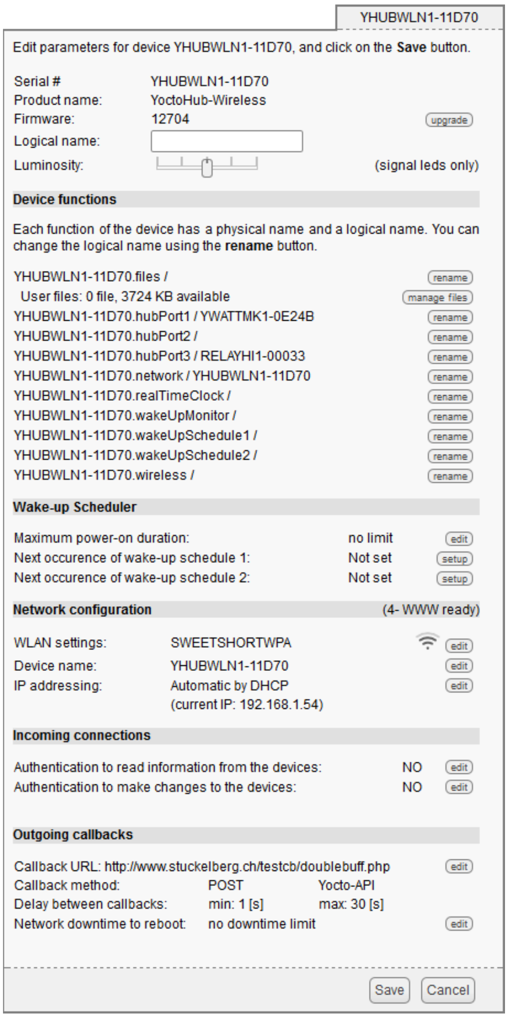
The YoctoHub-Wireless-g can publish the state of connected devices on any web server. The values are posted on a regular basis and each time one of them changes significantly. This feature, named HTTP Callback, enables you to interface your Yoctopuce devices with many web services.

7.1. Configuration

To use this feature, just click on the **configure** button located on the line matching the YoctoHub-Wireless-g on the main user interface. Then look for the **Outgoing calbacks** section and click on the **edit** button.



Just click on the "Configure" button on the first line.



Then edit the "Outgoing callbacks" section.

The callback configuration window shows up. This window enables you to define how your YoctoHub-Wireless-g interacts with an external web server. Several interaction types are at your disposal. For each type, a specific wizard will help you enter appropriate parameters

7.2. Emoncms

Emoncms.org is an open-source cloud service where you can register to upload your sensor data. It will let you view your measures in real-time over the Internet, and draw historical graphs, without writing a single line of code. You just have to enter in the configuration window your own API key, as provided by Emoncms, and allocate an arbitrary node number to YoctoHub-Wireless-g.

It is also possible to install Emoncms on your own server, to keep control on your data. You will find more explanations about this on Yoctopuce blog[1].

Yoctopuce is not affiliated with Emoncms.org.

7.3. Valarm.net

Valarm is a professional cloud service where you can register to upload your sensor data, with some advanced features like remote configuration of Yoctopuce devices and measure geolocation.

Valarm is a reseller for Yoctopuce products, but Yoctopuce is not otherwise affiliated with Valarm.

[1] http://www.yoctopuce.com/EN/article/using-emoncms-on-a-private-server

7.4. ThinkSpeak

ThingSpeak[2] is another free cloud service. It enables you not only to trace graphs with data coming from your Yoctopuce sensors, but also to trigger some actions based on conditions set on incoming measures. The UI is not as friendly as Emoncms, but you can find on the Yoctopuce blog [3] how to configure your YoctoHub-Wireless-g to post data directly on ThinkSpeak.

Yoctopuce is not affiliated to ThingSpeak.

7.5. Microsoft Azure

Azure is Microsoft cloud computing platform, including a collection of integrated services - database, computing, etc. For more details, see azure.microsoft.com. You can upload sensor data directly to an Azure Mobile Service, using the standard NoSQL Rest API.

Yoctopuce is not affiliated with Microsoft.

7.6. Xively (previously Cosm)

Xively is a commercial cloud service where you might be able to register to upload your sensor data. Note that since end of 2014, Xively is focusing on enterprise and OEM customers, and might therefore not be available to everyone. For more details, see xively.com.

Yoctopuce is not affiliated with Xively.

7.7. InfluxDB

InfluxDB is an open-source database for time series, metrics and events. It is very efficient to retrieve measure series for a given time range, even when averaging on-the-fly. You can easily install it on your own computer to record and graph your sensor data. There is a step-by-step guide on how to configure InfluxDB and Grafana to graph Yoctopuce sensors on the Yoctopuce blog [4].

Yoctopuce is not affiliated to InfluxData nor to Grafana.

7.8. Yocto-API callback

With some programming environments, the full Yoctopuce API can be used to drive devices in *HTTP callback* mode. This way, a web server script can take control of Yoctopuce devices installed behind a NAT filter without having to open any port. Typically, this allows you to control Yoctopuce devices running on a LAN behind a private DSL router from a public web site. The YoctoHub-Wireless-g then acts as a gateway. All you have to do is to define the HTTP server script URL and, if applicable, the credentials needed to access it. On the server script, you would initialize the library using the following call:

```
RegisterHub("http://callback");
```

There are two possibilities to use the Yoctopuce API in callback mode. The first one, available in PHP, Java and Node.JS is using pure HTTP callbacks. The YoctoHub-Wireless-g posts its complete state to the server, and receives commands in return from the server script. There are however some limitations with this mode: complex interactions, such as retrieving data from the datalogger, are not possible.

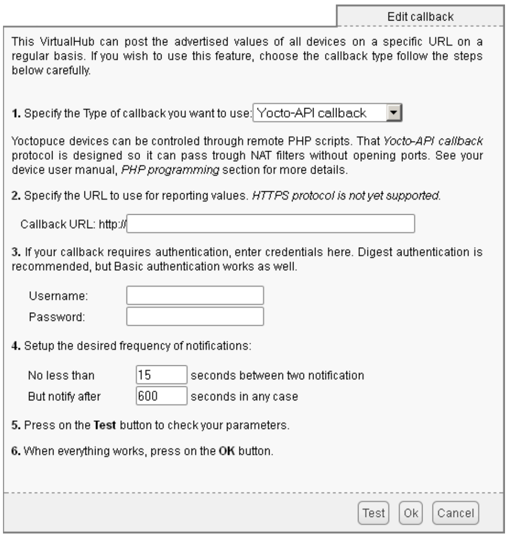
The second mode API callback mode is using WebSocket callbacks. It is currently only available in Java and Node.JS. WebSockets are a standard extension of HTTP, providing a full bidirectional

[2] www.thingspeak.com
[3] http://www.yoctopuce.com/EN/article/cosm-alternatives-to-record-sensor-measurements
[4] http://www.yoctopuce.com/EN/article/using-yoctopuce-sensors-with-influxdb-and-grafana

exchange channel over an HTTP connection. When a server script is connected by a YoctoHub-Wireless-g over a Websocket callback connection, the fully Yoctopuce API can be used, without any limitation.

7.9. User defined callback

The "*User defined callback*" allow you to fully customize the way the YoctoHub-Wireless-g interacts with an external web site. You need to provide the URL of the web server where you want the hub to post data. Note that only HTTP protocol is supported (no HTTPS).



The callback configuration window.

If you want to secure access to your callback script, you can setup a standard HTTP authentication. The YoctoHub-Wireless-g knows how to handle standard HTTP authentication schemes: simply fill in the user and and password fields needed to access the URL. Both Basic and Digest authentication are supported. However, Digest authentication is highly recommended, since it uses a challenge mechanism that avoids sending the password itself over the Internet, and prevents replays.

The YoctoHub-Wireless-g posts the advertised values[5] on a regular basis, and each time one of these values changes significantly. You can change the default delay between posts.

Tests

To help you debug the process, you can visualize with the YoctoHub-Wireless-g the answer to the callback sent by the web server. Click on the **test** button when all required fields are filled. When the result meets your expectations, close the debug window and then click on the "Ok" button.

Format

Values are posted in one of the following formats:

1. If the function has been assigned a logical name:

```
FUNCTION_NAME = VALUE
```

2. If the module has been assigned a logical name, but not the function:

```
MODULE_NAME#HARDWARE_NAME = VALUE
```

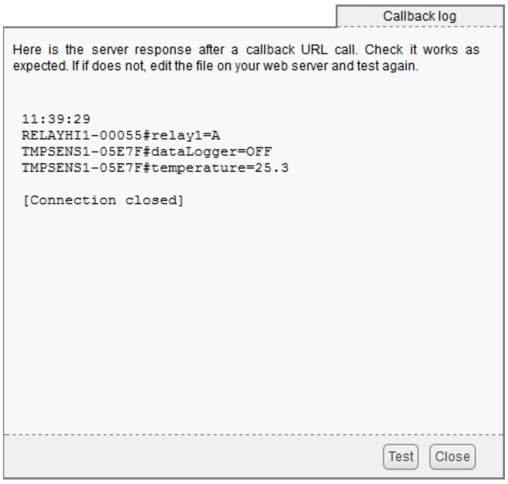
3. If no logical name has been set:

[5] Advertised values are the ones you can see on the YoctoHub-Wireless-g main interface when you click on the *show functions* button.

```
SERIAL_NUMBER#HARDWARE_NAME = VALUE
```

Here is a short PHP script allowing you to visualize the data posted by the callback and the result in the debug window:

```
<?php
  Print(Date('H:i:s')."\r\n");
  foreach ($_POST as $key=>$value) {
      Print("$key=$value\r\n");
  }
?>
```



Callback test results with a Yocto-PowerRelay and a Yocto-Temperature.

8. Programming

8.1. Accessing connected modules

The YoctoHub-Wireless-g behaves itself exactly like a computer running a *VirtualHub*. The only difference between a program using the Yoctopuce API with modules in native USB and the same program with Yoctopuce modules connected to a YoctoHub-Wireless-g is located at the level of the *registerHub* function call. To use USB modules connected natively, the *registerHub* parameter is *usb*. To use modules connected to a YoctoHub-Wireless-g, you must simply replace this parameter by the IP address of the YoctoHub-Wireless-g. For instance, in Delphi:

```
YRegisterHub("usb",errmsg);
```

becomes

```
YRegisterHub("192.168.0.10",errmsg); // The hub IP address is 192.168.0.10
```

8.2. Controlling the YoctoHub-Wireless-g

From the programming API standpoint, the YoctoHub-Wireless-g is a module like the others. You can perfectly manage it from the Yoctopuce API. To do so, you need the following classes:

Module

This class, shared by all Yoctopuce modules, enables you to control the module itself. You can drive the Yocto-led, know the USB power consumption of the YoctoHub-Wireless-g, and so on.

Network

This class enables you to manage the network part of the YoctoHub-Wireless-g. You can control the link state, read the MAC address, change the YoctoHub-Wireless-g IP address, know the power consumption on PoE, and so on.

HubPort

This class enables you to manage the hub part. You can enable or disable the YoctoHub-Wireless-g ports, you can also know which module is connected to which port.

Files

This class enables you to access files stored in the flash memory of the YoctoHub-Wireless-g. The YoctoHub-Wireless-g contains a small file system which allows you to store, for example, a web application controlling the modules connected to the YoctoHub-Wireless-g.

WakeMonitor

This class enables you to monitor the sleep mode of the YoctoHub-Wireless-g.

WakeSchedule

This class enables you to schedule one or several wake ups for the YoctoHub-Wireless-g.

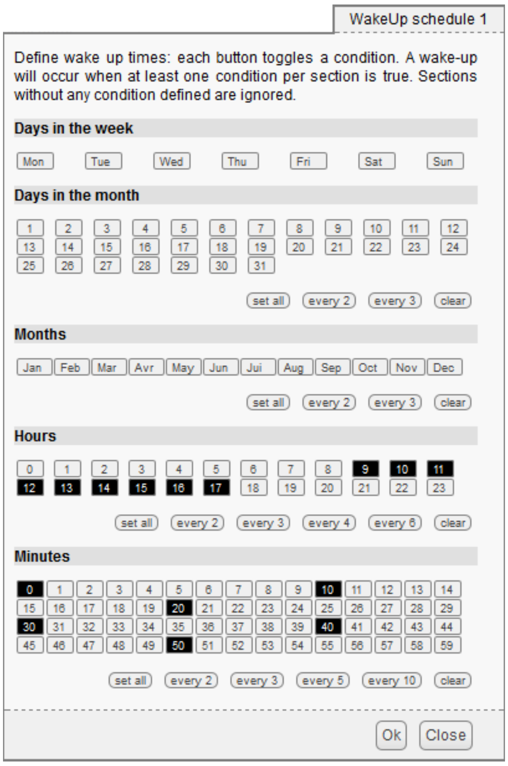
You can find some examples on how to drive the YoctoHub-Wireless-g by software in the Yoctopuce programming libraries, available free of charge on the Yoctopuce web site.

9. Sleep mode

The YoctoHub-Wireless-g includes a real time clock (RTC) powered by a super capacitor. This capacitor charges itself automatically when the module is powered. But it is able to keep time without any power for several days. This RTC is used to drive a sleep and wake up system to save power. You can configure the sleep system manually through an interface or drive it through software.

9.1. Manual configuration of the wake ups

You can manually configure the wake up conditions by connecting yourself on the interface of the YoctoHub-Wireless-g. In the **Wake-up scheduler** section of the main configuration window, click on the setup button corresponding to one of the "wakeup-schedule". This opens a window enabling you to schedule more or less regular wake ups. Select the boxes corresponding to the wanted occurrences. Empty sections are ignored.



Wake up configuration window: here every 10 minutes between 9h and 17h.

Likewise, you can configure directly in the YoctoHub-Wireless-g interface the maximal wake up duration, after which the module automatically goes back to sleep. If your YoctoHub-Wireless-g is running on batteries, this ensures they do not empty even if no explicit sleep command is received.

9.2. Configuring the wake up system by software

At the programming interface level, the wake up system is implemented with two types of functions: the *wakeUpMonitor* function and the *wakeUpSchedule* function.

wakeUpMonitor

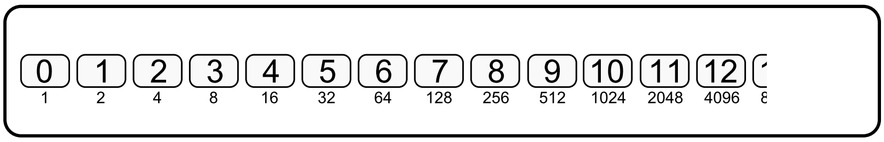
The *wakeUpMonitor* function manages wake ups and sleep periods, proper. It provides all the instant managing functionalities : instant wake up, instant sleep, computing the date of the next wake up, and so on...

The *wakeUpMonitor* function enables you also to define the maximum duration during which the YoctoHub-Wireless-g stays awake before automatically going back to sleep.

wakeUpSchedule

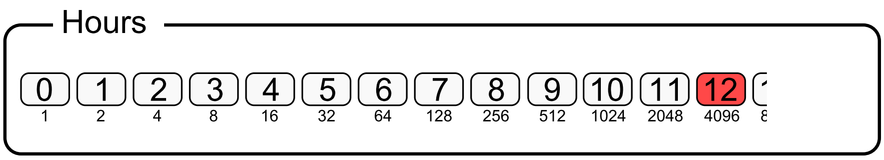
The *wakeUpSchedule* function enables you to program a wake up condition followed by a possible sleep. It includes five variables enabling you to define correspondences on minutes, hours, days of the week, days of the month, and months. These variables are integers where each bit defines a correspondence. Schematically, each set of minutes, hours, and days is represented as a set of boxes with each a coefficient which is a power of two, exactly like in the corresponding interface of the YoctoHub-Wireless-g.

For example, bit 0 for the hours corresponds to hour zero, bit 1 corresponds to hour 1, bit 2 to hour 2, and so on.



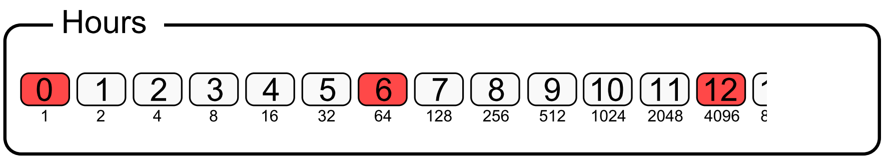
To each box is assigned a power of two

Thus, to program the YoctoHub-Wireless-g for it to wake up every day at noon, you must set bit 12 to 1, which corresponds to the value 2^12 = 4096.



Example for a wake up at 12h

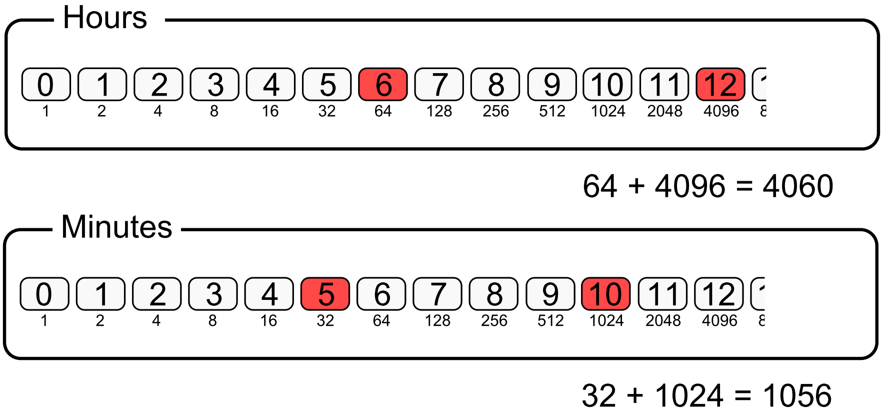
For the module to wake up at 0 hour, 6 hours, and 12 hours, you must set the 0, 6, and 12 bits to 1, which corresponds to the value 2^0 +2^6 +2^12 = 1 + 64 + 4096 = 4161



1 + 64 + 4096 = 4151

Example for wake ups at 0, 6, and 12h

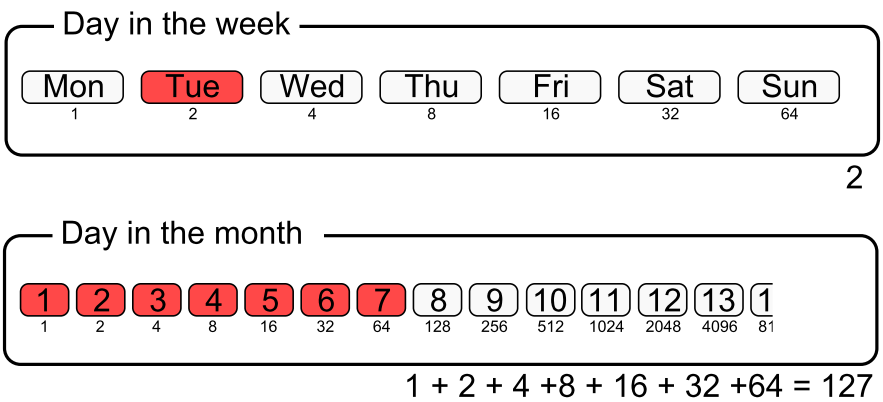
Variables can be combined. For a wake up to happen every day at 6h05, 6h10, 12h05, and 12h10, you must set the hours to 2^6 + 2^12 = 4060, minutes to 2^5 and 2^10 = 1056. Variables remaining at the zero value are ignored.



Example for wake ups at 6H05, 6h10, 12h05, and 12h10

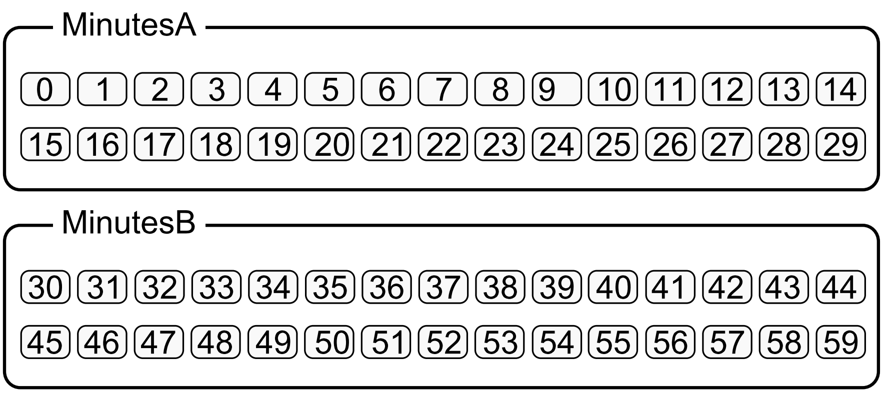
Note that if you want to program a wake up at 6h05 and 12h10, but not at 6h10 and 12h05, you need to use two distinct *wakeUpSchedule* functions.

This paradigm allows you to schedule complex wake ups. Thus, to program a wake up every first Tuesday of the month, you must set to 1 bit 1 of the days of the week and the first seven bits of the days of the month.



Example for a wake up every first Tuesday of the month

Some programming languages, among which JavaScript, do not support 64 bit integers. This is an issue for encoding minutes. Therefore, minutes are available both through a 64 bit integer *minutes* and two 32 bit integers *minutesA* and *minutesB*. These 32 bit integers are supposed to be available in any current programming language.



Minutes are also available in the shape of two 32 bit integers

The *wakeUpSchedule* function includes an additional variable to define the duration, in seconds, during which the module stays awake after a wake up. If this variable is set to zero, the modules stays awake.

The YoctoHub-Wireless-g includes two *wakeUpSchedule* functions, enabling you to program up to two independent wake up types.

10. Personalizing the web interface

Your YoctoHub-Wireless-g contains a small embedded file system, allowing it to store personalized files for its own use. You can manipulate the file system thanks to the *yocto_files* library. You can store there the files you want to. If need be, you can store a web application enabling you to manage modules connected to your YoctoHub-Wireless-g.

10.1. Using the file system

Interactive use

The YoctoHub-Wireless-g web interface provides a succinct interface to manipulate the content of the file system: simply click the *configuration* button corresponding to your module in the hub interface, then the *manage files* button. The files are listed and you can view them, erase them, or add new ones (downloads).

Because of its small size, the file system does not have an explicit concept of directories. You can nevertheless use the slash sign "/" inside file names to sort them as if they were in directories.

Programmed use

Use the *yocto_files* library to manage the file system. Basic functions are available:

- *upload* creates a new file on the module, with a content that you provide;
- *get_list* lists the files on the module, including their content size and CRC32;
- *download* retrieves in a variable the content of a file present on the module;
- *remove* erases a file from the module;
- *format* resets the file system to an empty, not fragmented state.

A piece of software using a well designed file system should always start by making sure that all the files necessary for its working are available on the module and, if needed, upload them on the module. We can thus transparently manage software updates and application deployment on new modules. To make file versions easier to detect, the *get_list* method returns for each file a 32 bit signature called CRC (Cyclic Redundancy Check) which identifies in a reliable manner the file content. Thus, if the file CRC corresponds, there is less than one chance over 4 billions that the content is not the correct one. You can even compute in advance in your software the CRC of the content you want, and therefore check it without having to download the files. The CRC function used by the Yoctopuce file system is the same as Ethernet, Gzip, PNG, etc. Its characteristic value for the nine character string "123456789" is 0xCBF43926.

HTTP use

You can access the files that your have downloaded on your YoctoHub-Wireless-g by HTTP at the root of the module (at the same level as the REST API). This allows you to load personalized HTML and Javascript interface pages, for example. You cannot, however, replace the content of a file preloaded on the module, you can only add new ones.

UI and optimisation

Since you can store files on the hub file system, you can easily build a web application to control the devices connected to the hub and store it directly on the hub. This is a very convenient way to build system remote controlled by tablets or smart phones. However the web server embedded in the hub have limited connectivity capabilities: only a few number of sockets can be opened at the same time. Since most web browsers tend to open as many connection as they can to load all elements in a web page, this might lead to very long loading time. To prevent this, try to keep your UI pages as compact as possible by embedding the javascript, CSS code and if possible, images in base64 code.

10.2. Limitations

The file system embedded on your YoctoHub-Wireless-g has some technical limitations:

- Its maximal storage space is 3.5Mo, allocated in blocks enabling to store up to about 800 files.
- Erasing a file does not necessarily immediately free all the space used by the file. The non freed space is completely reused if you create a new file with the same name, but not necessarily if you create files with a distinct name each time. For this reason, it is not recommended to automatically create files with distinct names.
- You can recover the complete non freed space with the *format* command which frees all the files.
- Each firmware update implicitly provokes a complete reformatting of the file system.
- As all flash memories, the memory used to store the files has a life of about 100'000 erasing cycles. It is enough, but it is not infinite. Make sure that you do not write and erase files uselessly and very quickly in a loop, or you may destroy your module.

11. High-level API Reference

This chapter summarizes the high-level API functions to drive your YoctoHub-Wireless-g. Syntax and exact type names may vary from one language to another, but, unless otherwise stated, all the functions are available in every language. For detailed information regarding the types of arguments and return values for a given language, refer to the definition file for this language (`yocto_api.*` as well as the other `yocto_*` files that define the function interfaces).

For languages which support exceptions, all of these functions throw exceptions in case of error by default, rather than returning the documented error value for each function. This is by design, to facilitate debugging. It is however possible to disable the use of exceptions using the `yDisableExceptions()` function, in case you prefer to work with functions that return error values.

This chapter does not explain Yoctopuce programming concepts, in order to stay as concise as possible. You will find more details in the documentation of the devices you plan to connect to your YoctoHub-Wireless-g.

11.1. Yocto-hub port interface

The YHubPort class provides control over the power supply for every port on a YoctoHub, for instance using a YoctoHub-Ethernet, a YoctoHub-Wireless-g, a YoctoHub-Shield or a YoctoHub-GSM-3G-NA. It provide information about the device connected to it. The logical name of a YHubPort is always automatically set to the unique serial number of the Yoctopuce device connected to it.

In order to use the functions described here, you should include:

es	in HTML: <script src="../../lib/yocto_hubport.js"></script> in node.js: require('yoctolib-es2017/yocto_hubport.js');
js	<script type='text/javascript' src='yocto_hubport.js'></script>
cpp	#include "yocto_hubport.h"
m	#import "yocto_hubport.h"
pas	uses yocto_hubport;
vb	yocto_hubport.vb
cs	yocto_hubport_proxy.cs
java	import com.yoctopuce.YoctoAPI.YHubPort;
uwp	import com.yoctopuce.YoctoAPI.YHubPort;
py	from yocto_hubport import *
php	require_once('yocto_hubport.php');
vi	YHubPort.vi

Global functions

yFindHubPort(**func**)

Retrieves a Yocto-hub port for a given identifier.

yFindHubPortInContext(**yctx**, **func**)

Retrieves a Yocto-hub port for a given identifier in a YAPI context.

yFirstHubPort()

Starts the enumeration of Yocto-hub ports currently accessible.

yFirstHubPortInContext(**yctx**)

Starts the enumeration of Yocto-hub ports currently accessible.

`YHubPort` methods

hubport→clearCache()

Invalidates the cache.

hubport→describe()

Returns a short text that describes unambiguously the instance of the Yocto-hub port in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

hubport→get_advertisedValue()

Returns the current value of the Yocto-hub port (no more than 6 characters).

hubport→get_baudRate()

Returns the current baud rate used by this Yocto-hub port, in kbps.

hubport→get_enabled()

Returns true if the Yocto-hub port is powered, false otherwise.

hubport→get_errorMessage()

Returns the error message of the latest error with the Yocto-hub port.

hubport→get_errorType()

Returns the numerical error code of the latest error with the Yocto-hub port.

hubport→get_friendlyName()

Returns a global identifier of the Yocto-hub port in the format `MODULE_NAME.FUNCTION_NAME`.

hubport→get_functionDescriptor()

Returns a unique identifier of type `YFUN_DESCR` corresponding to the function.

hubport→get_functionId()

Returns the hardware identifier of the Yocto-hub port, without reference to the module.

hubport→get_hardwareId()

Returns the unique hardware identifier of the Yocto-hub port in the form `SERIAL.FUNCTIONID`.

hubport→get_logicalName()

Returns the logical name of the Yocto-hub port.

hubport→get_module()

Gets the `YModule` object for the device on which the function is located.

hubport→get_module_async(callback, context)

Gets the `YModule` object for the device on which the function is located (asynchronous version).

hubport→get_portState()

Returns the current state of the Yocto-hub port.

hubport→get_serialNumber()

Returns the serial number of the module, as set by the factory.

hubport→get_userData()

Returns the value of the userData attribute, as previously stored using method `set_userData`.

hubport→isOnline()

Checks if the Yocto-hub port is currently reachable, without raising any error.

hubport→isOnline_async(callback, context)

Checks if the Yocto-hub port is currently reachable, without raising any error (asynchronous version).

hubport→isReadOnly()

Test if the function is readOnly.

hubport→load(msValidity)

Preloads the Yocto-hub port cache with a specified validity duration.

hubport→loadAttribute(attrName)

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

hubport→load_async(msValidity, callback, context)

Preloads the Yocto-hub port cache with a specified validity duration (asynchronous version).

hubport→muteValueCallbacks()

Disables the propagation of every new advertised value to the parent hub.

hubport→nextHubPort()

Continues the enumeration of Yocto-hub ports started using `yFirstHubPort()`.

hubport→registerValueCallback(callback)

Registers the callback function that is invoked on every change of advertised value.

hubport→set_enabled(newval)

Changes the activation of the Yocto-hub port.

hubport→set_logicalName(newval)

Changes the logical name of the Yocto-hub port.

hubport→set_userData(data)

Stores a user context provided as argument in the userData attribute of the function.

hubport→unmuteValueCallbacks()

Re-enables the propagation of every new advertised value to the parent hub.

hubport→wait_async(**callback**, **context**)

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

YHubPort.FindHubPort() yFindHubPort() — YHubPort

Retrieves a Yocto-hub port for a given identifier.

js	function **yFindHubPort**(**func**)
cpp	YHubPort* **yFindHubPort**(string **func**)
m	+(YHubPort*) **FindHubPort** : (NSString*) **func**
pas	function **yFindHubPort**(**func**: string): TYHubPort
vb	function **yFindHubPort**(ByVal **func** As String) As YHubPort
cs	static YHubPort **FindHubPort**(string **func**)
java	static YHubPort **FindHubPort**(String **func**)
uwp	static YHubPort **FindHubPort**(string **func**)
py	**FindHubPort**(**func**)
php	function **yFindHubPort**(**$func**)
es	static **FindHubPort**(**func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the Yocto-hub port is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YHubPort.isOnline()` to test if the Yocto-hub port is indeed online at a given time. In case of ambiguity when looking for a Yocto-hub port by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

If a call to this object's is_online() method returns FALSE although you are certain that the matching device is plugged, make sure that you did call registerHub() at application initialization time.

Parameters :

func a string that uniquely characterizes the Yocto-hub port, for instance `YHUBETH1.hubPort1`.

Returns :

a `YHubPort` object allowing you to drive the Yocto-hub port.

YHubPort.FindHubPortInContext() yFindHubPortInContext() — YHubPort

Retrieves a Yocto-hub port for a given identifier in a YAPI context.

java	static YHubPort **FindHubPortInContext**(YAPIContext **yctx**, String **func**)
uwp	static YHubPort **FindHubPortInContext**(YAPIContext **yctx**, string **func**)
es	static **FindHubPortInContext**(**yctx**, **func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the Yocto-hub port is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YHubPort.isOnline()` to test if the Yocto-hub port is indeed online at a given time. In case of ambiguity when looking for a Yocto-hub port by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

Parameters :

yctx a YAPI context

func a string that uniquely characterizes the Yocto-hub port, for instance `YHUBETH1.hubPort1`.

Returns :

a `YHubPort` object allowing you to drive the Yocto-hub port.

YHubPort.FirstHubPort() yFirstHubPort() — YHubPort

Starts the enumeration of Yocto-hub ports currently accessible.

js	function **yFirstHubPort**( )
cpp	YHubPort* **yFirstHubPort**( )
m	+(YHubPort*) **FirstHubPort**
pas	function **yFirstHubPort**( ): TYHubPort
vb	function **yFirstHubPort**( ) As YHubPort
cs	static YHubPort **FirstHubPort**( )
java	static YHubPort **FirstHubPort**( )
uwp	static YHubPort **FirstHubPort**( )
py	**FirstHubPort**( )
php	function **yFirstHubPort**( )
es	static **FirstHubPort**( )

Use the method `YHubPort.nextHubPort()` to iterate on next Yocto-hub ports.

Returns :
a pointer to a `YHubPort` object, corresponding to the first Yocto-hub port currently online, or a `null` pointer if there are none.

YHubPort.FirstHubPortInContext() yFirstHubPortInContext() — YHubPort

Starts the enumeration of Yocto-hub ports currently accessible.

java	static YHubPort **FirstHubPortInContext**(YAPIContext **yctx**)
uwp	static YHubPort **FirstHubPortInContext**(YAPIContext **yctx**)
es	static **FirstHubPortInContext**(**yctx**)

Use the method `YHubPort.nextHubPort()` to iterate on next Yocto-hub ports.

Parameters :

yctx a YAPI context.

Returns :

a pointer to a `YHubPort` object, corresponding to the first Yocto-hub port currently online, or a `null` pointer if there are none.

hubport→clearCache() YHubPort

Invalidates the cache.

js	function **clearCache**( )
cpp	void **clearCache**( )
m	-(void) **clearCache**
pas	procedure **clearCache**( )
vb	procedure **clearCache**( )
cs	void **clearCache**( )
java	void **clearCache**( )
py	**clearCache**( )
php	function **clearCache**( )
es	async **clearCache**( )

Invalidates the cache of the Yocto-hub port attributes. Forces the next call to get_xxx() or loadxxx() to use values that come from the device.

hubport→describe() YHubPort

Returns a short text that describes unambiguously the instance of the Yocto-hub port in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

js	function **describe**( )
cpp	string **describe**( )
m	-(NSString*) **describe**
pas	function **describe**( ): string
vb	function **describe**( ) As String
cs	string **describe**( )
java	String **describe**( )
py	**describe**( )
php	function **describe**( )
es	async **describe**( )

More precisely, `TYPE` is the type of the function, `NAME` it the name used for the first access to the function, `SERIAL` is the serial number of the module if the module is connected or `"unresolved"`, and `FUNCTIONID` is the hardware identifier of the function if the module is connected. For example, this method returns `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1` if the module is already connected or `Relay(BadCustomeName.relay1)=unresolved` if the module has not yet been connected. This method does not trigger any USB or TCP transaction and can therefore be used in a debugger.

Returns :
a string that describes the Yocto-hub port (ex: `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1`)

hubport→get_advertisedValue()
hubport→advertisedValue()
YHubPort

Returns the current value of the Yocto-hub port (no more than 6 characters).

js	function **get_advertisedValue**( )
cpp	string **get_advertisedValue**( )
m	-(NSString*) advertisedValue
pas	function **get_advertisedValue**( ): string
vb	function **get_advertisedValue**( ) As String
cs	string **get_advertisedValue**( )
java	String **get_advertisedValue**( )
uwp	async Task<string> **get_advertisedValue**( )
py	**get_advertisedValue**( )
php	function **get_advertisedValue**( )
es	async **get_advertisedValue**( )
cmd	YHubPort **target** **get_advertisedValue**

Returns :
a string corresponding to the current value of the Yocto-hub port (no more than 6 characters).

On failure, throws an exception or returns `Y_ADVERTISEDVALUE_INVALID`.

hubport→get_baudRate()
hubport→baudRate()

YHubPort

Returns the current baud rate used by this Yocto-hub port, in kbps.

js	function **get_baudRate**( )
cpp	int **get_baudRate**( )
m	-(int) baudRate
pas	function **get_baudRate**( ): LongInt
vb	function **get_baudRate**( ) As Integer
cs	int **get_baudRate**( )
java	int **get_baudRate**( )
uwp	async Task<int> **get_baudRate**( )
py	**get_baudRate**( )
php	function **get_baudRate**( )
es	async **get_baudRate**( )
cmd	YHubPort **target** **get_baudRate**

The default value is 1000 kbps, but a slower rate may be used if communication problems are encountered.

Returns :

an integer corresponding to the current baud rate used by this Yocto-hub port, in kbps

On failure, throws an exception or returns `Y_BAUDRATE_INVALID`.

hubport→get_enabled()
hubport→enabled()

YHubPort

Returns true if the Yocto-hub port is powered, false otherwise.

js	function **get_enabled**( )
cpp	Y_ENABLED_enum **get_enabled**( )
m	-(Y_ENABLED_enum) enabled
pas	function **get_enabled**( ): Integer
vb	function **get_enabled**( ) As Integer
cs	int **get_enabled**( )
java	int **get_enabled**( )
uwp	async Task<int> **get_enabled**( )
py	**get_enabled**( )
php	function **get_enabled**( )
es	async **get_enabled**( )
cmd	YHubPort **target** **get_enabled**

Returns :
either `Y_ENABLED_FALSE` or `Y_ENABLED_TRUE`, according to true if the Yocto-hub port is powered, false otherwise

On failure, throws an exception or returns `Y_ENABLED_INVALID`.

hubport→get_errorMessage()
hubport→errorMessage()

YHubPort

Returns the error message of the latest error with the Yocto-hub port.

js	function **get_errorMessage**( )
cpp	string **get_errorMessage**( )
m	-(NSString*) errorMessage
pas	function **get_errorMessage**( ): string
vb	function **get_errorMessage**( ) As String
cs	string **get_errorMessage**( )
java	String **get_errorMessage**( )
py	**get_errorMessage**( )
php	function **get_errorMessage**( )
es	**get_errorMessage**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a string corresponding to the latest error message that occured while using the Yocto-hub port object

hubport→get_errorType()
hubport→errorType()

YHubPort

Returns the numerical error code of the latest error with the Yocto-hub port.

js	function **get_errorType**( )
cpp	YRETCODE **get_errorType**( )
m	-(YRETCODE) errorType
pas	function **get_errorType**( ): YRETCODE
vb	function **get_errorType**( ) As YRETCODE
cs	YRETCODE **get_errorType**( )
java	int **get_errorType**( )
py	**get_errorType**( )
php	function **get_errorType**( )
es	**get_errorType**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a number corresponding to the code of the latest error that occurred while using the Yocto-hub port object

hubport→get_friendlyName() hubport→friendlyName() YHubPort

Returns a global identifier of the Yocto-hub port in the format `MODULE_NAME.FUNCTION_NAME`.

js	function **get_friendlyName**( )
cpp	string **get_friendlyName**( )
m	-(NSString*) friendlyName
cs	string **get_friendlyName**( )
java	String **get_friendlyName**( )
py	**get_friendlyName**( )
php	function **get_friendlyName**( )
es	async **get_friendlyName**( )

The returned string uses the logical names of the module and of the Yocto-hub port if they are defined, otherwise the serial number of the module and the hardware identifier of the Yocto-hub port (for example: `MyCustomName.relay1`)

Returns :

a string that uniquely identifies the Yocto-hub port using logical names (ex: `MyCustomName.relay1`)

On failure, throws an exception or returns `Y_FRIENDLYNAME_INVALID`.

hubport→get_functionDescriptor()
hubport→functionDescriptor()

YHubPort

Returns a unique identifier of type YFUN_DESCR corresponding to the function.

js	function **get_functionDescriptor**( )
cpp	YFUN_DESCR **get_functionDescriptor**( )
m	-(YFUN_DESCR) functionDescriptor
pas	function **get_functionDescriptor**( ): YFUN_DESCR
vb	function **get_functionDescriptor**( ) As YFUN_DESCR
cs	YFUN_DESCR **get_functionDescriptor**( )
java	String **get_functionDescriptor**( )
py	**get_functionDescriptor**( )
php	function **get_functionDescriptor**( )
es	async **get_functionDescriptor**( )

This identifier can be used to test if two instances of `YFunction` reference the same physical function on the same physical device.

Returns :

an identifier of type YFUN_DESCR.

If the function has never been contacted, the returned value is `Y_FUNCTIONDESCRIPTOR_INVALID`.

hubport→get_functionId()
hubport→functionId()

YHubPort

Returns the hardware identifier of the Yocto-hub port, without reference to the module.

js	function **get_functionId**( )
cpp	string **get_functionId**( )
m	-(NSString*) functionId
vb	function **get_functionId**( ) As String
cs	string **get_functionId**( )
java	String **get_functionId**( )
py	**get_functionId**( )
php	function **get_functionId**( )
es	async **get_functionId**( )

For example `relay1`

Returns :

a string that identifies the Yocto-hub port (ex: `relay1`)

On failure, throws an exception or returns `Y_FUNCTIONID_INVALID`.

hubport→get_hardwareId() hubport→hardwareId()

YHubPort

Returns the unique hardware identifier of the Yocto-hub port in the form `SERIAL.FUNCTIONID`.

js	function **get_hardwareId**( )
cpp	string **get_hardwareId**( )
m	-(NSString*) hardwareId
vb	function **get_hardwareId**( ) As String
cs	string **get_hardwareId**( )
java	String **get_hardwareId**( )
py	**get_hardwareId**( )
php	function **get_hardwareId**( )
es	async **get_hardwareId**( )

The unique hardware identifier is composed of the device serial number and of the hardware identifier of the Yocto-hub port (for example `RELAYLO1-123456.relay1`).

Returns :
a string that uniquely identifies the Yocto-hub port (ex: `RELAYLO1-123456.relay1`)

On failure, throws an exception or returns `Y_HARDWAREID_INVALID`.

hubport→get_logicalName() hubport→logicalName()

YHubPort

Returns the logical name of the Yocto-hub port.

js	function **get_logicalName**( )
cpp	string **get_logicalName**( )
m	-(NSString*) logicalName
pas	function **get_logicalName**( ): string
vb	function **get_logicalName**( ) As String
cs	string **get_logicalName**( )
java	String **get_logicalName**( )
uwp	async Task<string> **get_logicalName**( )
py	**get_logicalName**( )
php	function **get_logicalName**( )
es	async **get_logicalName**( )
cmd	YHubPort **target** **get_logicalName**

Returns :
a string corresponding to the logical name of the Yocto-hub port.

On failure, throws an exception or returns `Y_LOGICALNAME_INVALID`.

hubport→get_module()
hubport→module()

YHubPort

Gets the `YModule` object for the device on which the function is located.

js	function **get_module**( )
cpp	YModule * **get_module**( )
m	-(YModule*) module
pas	function **get_module**( ): TYModule
vb	function **get_module**( ) As YModule
cs	YModule **get_module**( )
java	YModule **get_module**( )
py	**get_module**( )
php	function **get_module**( )
es	async **get_module**( )

If the function cannot be located on any module, the returned instance of `YModule` is not shown as on-line.

Returns :
an instance of `YModule`

hubport→get_module_async() hubport→module_async()

YHubPort

Gets the `YModule` object for the device on which the function is located (asynchronous version).

`js` function **get_module_async**(**callback**, **context**)

If the function cannot be located on any module, the returned `YModule` object does not show as on-line.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking Firefox JavaScript VM that does not implement context switching during blocking I/O calls. See the documentation section on asynchronous JavasSript calls for more details.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the requested `YModule` object

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

hubport→get_portState() hubport→portState()

YHubPort

Returns the current state of the Yocto-hub port.

js	function **get_portState**( )
cpp	Y_PORTSTATE_enum **get_portState**( )
m	-(Y_PORTSTATE_enum) portState
pas	function **get_portState**( ): Integer
vb	function **get_portState**( ) As Integer
cs	int **get_portState**( )
java	int **get_portState**( )
uwp	async Task<int> **get_portState**( )
py	**get_portState**( )
php	function **get_portState**( )
es	async **get_portState**( )
cmd	YHubPort **target** **get_portState**

Returns :

a value among `Y_PORTSTATE_OFF`, `Y_PORTSTATE_OVRLD`, `Y_PORTSTATE_ON`, `Y_PORTSTATE_RUN` and `Y_PORTSTATE_PROG` corresponding to the current state of the Yocto-hub port

On failure, throws an exception or returns `Y_PORTSTATE_INVALID`.

hubport→get_serialNumber()
hubport→serialNumber()

YHubPort

Returns the serial number of the module, as set by the factory.

js	function **get_serialNumber**( )
cpp	string **get_serialNumber**( )
m	-(NSString*) serialNumber
pas	function **get_serialNumber**( ): string
vb	function **get_serialNumber**( ) As String
cs	string **get_serialNumber**( )
java	String **get_serialNumber**( )
uwp	async Task<string> **get_serialNumber**( )
py	**get_serialNumber**( )
php	function **get_serialNumber**( )
es	async **get_serialNumber**( )
cmd	YHubPort **target** **get_serialNumber**

Returns :
a string corresponding to the serial number of the module, as set by the factory.

On failure, throws an exception or returns YModule.SERIALNUMBER_INVALID.

hubport→get_userData()
hubport→userData()

YHubPort

Returns the value of the userData attribute, as previously stored using method `set_userData`.

js	function **get_userData**( )
cpp	void * **get_userData**( )
m	-(id) userData
pas	function **get_userData**( ): Tobject
vb	function **get_userData**( ) As Object
cs	object **get_userData**( )
java	Object **get_userData**( )
py	**get_userData**( )
php	function **get_userData**( )
es	async **get_userData**( )

This attribute is never touched directly by the API, and is at disposal of the caller to store a context.

Returns :
the object stored previously by the caller.

hubport→isOnline() YHubPort

Checks if the Yocto-hub port is currently reachable, without raising any error.

js	function **isOnline**( )
cpp	bool **isOnline**( )
m	-(BOOL) **isOnline**
pas	function **isOnline**( ): boolean
vb	function **isOnline**( ) As Boolean
cs	bool **isOnline**( )
java	boolean **isOnline**( )
py	**isOnline**( )
php	function **isOnline**( )
es	async **isOnline**( )

If there is a cached value for the Yocto-hub port in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the Yocto-hub port.

Returns :
`true` if the Yocto-hub port can be reached, and `false` otherwise

hubport→isOnline_async() YHubPort

Checks if the Yocto-hub port is currently reachable, without raising any error (asynchronous version).

`js` function **isOnline_async**(**callback**, **context**)

If there is a cached value for the Yocto-hub port in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the requested function.

This asynchronous version exists only in Javascript. It uses a callback instead of a return value in order to avoid blocking the Javascript virtual machine.

Parameters :

- **callback** callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the boolean result
- **context** caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

hubport→isReadOnly() YHubPort

Test if the function is readOnly.

cpp	bool **isReadOnly**( )
m	-(bool) **isReadOnly**
pas	function **isReadOnly**( ): boolean
vb	function **isReadOnly**( ) As Boolean
cs	bool **isReadOnly**( )
java	boolean **isReadOnly**( )
uwp	async Task<bool> **isReadOnly**( )
py	**isReadOnly**( )
php	function **isReadOnly**( )
es	async **isReadOnly**( )
cmd	YHubPort **target** **isReadOnly**

Return `true` if the function is write protected or that the function is not available.

Returns :
`true` if the function is readOnly or not online.

hubport→load() YHubPort

Preloads the Yocto-hub port cache with a specified validity duration.

js	function **load**(**msValidity**)
cpp	YRETCODE **load**(int **msValidity**)
m	-(YRETCODE) **load** : (u64) **msValidity**
pas	function **load**(**msValidity**: u64): YRETCODE
vb	function **load**(ByVal **msValidity** As Long) As YRETCODE
cs	YRETCODE **load**(ulong **msValidity**)
java	int **load**(long **msValidity**)
py	**load**(**msValidity**)
php	function **load**(**$msValidity**)
es	async **load**(**msValidity**)

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

Parameters :

msValidity an integer corresponding to the validity attributed to the loaded function parameters, in milliseconds

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

hubport→loadAttribute() YHubPort

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

js	function **loadAttribute**(**attrName**)
cpp	string **loadAttribute**(string **attrName**)
m	-(NSString*) **loadAttribute** : (NSString*) **attrName**
pas	function **loadAttribute**(**attrName**: string): string
vb	function **loadAttribute**( ) As String
cs	string **loadAttribute**(string **attrName**)
java	String **loadAttribute**(String **attrName**)
uwp	async Task<string> **loadAttribute**(string **attrName**)
py	**loadAttribute**(**attrName**)
php	function **loadAttribute**(**$attrName**)
es	async **loadAttribute**(**attrName**)

Parameters :

attrName the name of the requested attribute

Returns :

a string with the value of the the attribute

On failure, throws an exception or returns an empty string.

hubport→load_async() YHubPort

Preloads the Yocto-hub port cache with a specified validity duration (asynchronous version).

```
js function load_async( msValidity, callback, context)
```

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking the JavaScript virtual machine.

Parameters :

msValidity an integer corresponding to the validity of the loaded function parameters, in milliseconds

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the error code (or `YAPI_SUCCESS`)

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

hubport→muteValueCallbacks() YHubPort

Disables the propagation of every new advertised value to the parent hub.

js	function **muteValueCallbacks**( )
cpp	int **muteValueCallbacks**( )
m	-(int) **muteValueCallbacks**
pas	function **muteValueCallbacks**( ): LongInt
vb	function **muteValueCallbacks**( ) As Integer
cs	int **muteValueCallbacks**( )
java	int **muteValueCallbacks**( )
uwp	async Task<int> **muteValueCallbacks**( )
py	**muteValueCallbacks**( )
php	function **muteValueCallbacks**( )
es	async **muteValueCallbacks**( )
cmd	YHubPort **target** **muteValueCallbacks**

You can use this function to save bandwidth and CPU on computers with limited resources, or to prevent unwanted invocations of the HTTP callback. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

hubport→nextHubPort() YHubPort

Continues the enumeration of Yocto-hub ports started using `yFirstHubPort()`.

js	function **nextHubPort**( )
cpp	YHubPort * **nextHubPort**( )
m	-(YHubPort*) **nextHubPort**
pas	function **nextHubPort**( ): TYHubPort
vb	function **nextHubPort**( ) As YHubPort
cs	YHubPort **nextHubPort**( )
java	YHubPort **nextHubPort**( )
uwp	YHubPort **nextHubPort**( )
py	**nextHubPort**( )
php	function **nextHubPort**( )
es	**nextHubPort**( )

Caution: You can't make any assumption about the returned Yocto-hub ports order. If you want to find a specific a Yocto-hub port, use `HubPort.findHubPort()` and a hardwareID or a logical name.

Returns :
a pointer to a `YHubPort` object, corresponding to a Yocto-hub port currently online, or a `null` pointer if there are no more Yocto-hub ports to enumerate.

hubport→registerValueCallback() YHubPort

Registers the callback function that is invoked on every change of advertised value.

js	function **registerValueCallback**(**callback**)
cpp	int **registerValueCallback**(YHubPortValueCallback **callback**)
m	-(int) **registerValueCallback** : (YHubPortValueCallback) **callback**
pas	function **registerValueCallback**(**callback**: TYHubPortValueCallback): LongInt
vb	function **registerValueCallback**( ) As Integer
cs	int **registerValueCallback**(ValueCallback **callback**)
java	int **registerValueCallback**(UpdateCallback **callback**)
uwp	async Task<int> **registerValueCallback**(ValueCallback **callback**)
py	**registerValueCallback**(**callback**)
php	function **registerValueCallback**(**$callback**)
es	async **registerValueCallback**(**callback**)

The callback is invoked only during the execution of `ySleep` or `yHandleEvents`. This provides control over the time when the callback is triggered. For good responsiveness, remember to call one of these two functions periodically. To unregister a callback, pass a null pointer as argument.

Parameters :

callback the callback function to call, or a null pointer. The callback function should take two arguments: the function object of which the value has changed, and the character string describing the new advertised value.

hubport→set_enabled()
hubport→setEnabled()

YHubPort

Changes the activation of the Yocto-hub port.

js	function **set_enabled**(**newval**)
cpp	int **set_enabled**(Y_ENABLED_enum **newval**)
m	-(int) setEnabled : (Y_ENABLED_enum) **newval**
pas	function **set_enabled**(**newval**: Integer): integer
vb	function **set_enabled**(ByVal **newval** As Integer) As Integer
cs	int **set_enabled**(int **newval**)
java	int **set_enabled**(int **newval**)
uwp	async Task<int> **set_enabled**(int **newval**)
py	**set_enabled**(**newval**)
php	function **set_enabled**(**$newval**)
es	async **set_enabled**(**newval**)
cmd	YHubPort **target** **set_enabled** **newval**

If the port is enabled, the connected module is powered. Otherwise, port power is shut down.

Parameters :

newval either `Y_ENABLED_FALSE` or `Y_ENABLED_TRUE`, according to the activation of the Yocto-hub port

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

hubport→set_logicalName() hubport→setLogicalName()

YHubPort

Changes the logical name of the Yocto-hub port.

js	function **set_logicalName**(**newval**)
cpp	int **set_logicalName**(const string& **newval**)
m	-(int) setLogicalName : (NSString*) **newval**
pas	function **set_logicalName**(**newval**: string): integer
vb	function **set_logicalName**(ByVal **newval** As String) As Integer
cs	int **set_logicalName**(string **newval**)
java	int **set_logicalName**(String **newval**)
uwp	async Task<int> **set_logicalName**(string **newval**)
py	**set_logicalName**(**newval**)
php	function **set_logicalName**(**$newval**)
es	async **set_logicalName**(**newval**)
cmd	YHubPort **target** **set_logicalName** **newval**

You can use `yCheckLogicalName()` prior to this call to make sure that your parameter is valid. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the logical name of the Yocto-hub port.

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

hubport→set_userData()
hubport→setUserData()

YHubPort

Stores a user context provided as argument in the userData attribute of the function.

js	function **set_userData**(**data**)
cpp	void **set_userData**(void* **data**)
m	-(void) setUserData : (id) **data**
pas	procedure **set_userData**(**data**: Tobject)
vb	procedure **set_userData**(ByVal **data** As Object)
cs	void **set_userData**(object **data**)
java	void **set_userData**(Object **data**)
py	**set_userData**(**data**)
php	function **set_userData**(**$data**)
es	async **set_userData**(**data**)

This attribute is never touched by the API, and is at disposal of the caller to store a context.

Parameters :

data any kind of object to be stored

hubport→unmuteValueCallbacks() YHubPort

Re-enables the propagation of every new advertised value to the parent hub.

js	function **unmuteValueCallbacks**( )
cpp	int **unmuteValueCallbacks**( )
m	-(int) **unmuteValueCallbacks**
pas	function **unmuteValueCallbacks**( ): LongInt
vb	function **unmuteValueCallbacks**( ) As Integer
cs	int **unmuteValueCallbacks**( )
java	int **unmuteValueCallbacks**( )
uwp	async Task<int> **unmuteValueCallbacks**( )
py	**unmuteValueCallbacks**( )
php	function **unmuteValueCallbacks**( )
es	async **unmuteValueCallbacks**( )
cmd	YHubPort **target** **unmuteValueCallbacks**

This function reverts the effect of a previous call to `muteValueCallbacks()`. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

hubport→wait_async() YHubPort

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

js	function **wait_async**(**callback**, **context**)
es	**wait_async**(**callback**, **context**)

The callback function can therefore freely issue synchronous or asynchronous commands, without risking to block the JavaScript VM.

Parameters :

callback callback function that is invoked when all pending commands on the module are completed. The callback function receives two arguments: the caller-specific context object and the receiving function object.

context caller-specific object that is passed as-is to the callback function

Returns :

nothing.

11.2. Wireless function interface

The YWireless class provides control over wireless network parameters and status for devices that are wireless-enabled, for instance using a YoctoHub-Wireless-g, a YoctoHub-Wireless-SR or a YoctoHub-Wireless.

In order to use the functions described here, you should include:

js	<script type='text/javascript' src='yocto_wireless.js'></script>
cpp	#include "yocto_wireless.h"
m	#import "yocto_wireless.h"
pas	uses yocto_wireless;
vb	yocto_wireless.vb
cs	yocto_wireless_proxy.cs
java	import com.yoctopuce.YoctoAPI.YWireless;
uwp	import com.yoctopuce.YoctoAPI.YWireless;
py	from yocto_wireless import *
php	require_once('yocto_wireless.php');
es	in HTML: <script src="../../lib/yocto_wireless.js"></script> in node.js: require('yoctolib-es2017/yocto_wireless.js');
vi	YWireless.vi

Global functions

yFindWireless(func)

Retrieves a wireless lan interface for a given identifier.

yFindWirelessInContext(yctx, func)

Retrieves a wireless lan interface for a given identifier in a YAPI context.

yFirstWireless()

Starts the enumeration of wireless lan interfaces currently accessible.

yFirstWirelessInContext(yctx)

Starts the enumeration of wireless lan interfaces currently accessible.

`YWireless` methods

wireless→adhocNetwork(ssid, securityKey)

Changes the configuration of the wireless lan interface to create an ad-hoc wireless network, without using an access point.

wireless→clearCache()

Invalidates the cache.

wireless→describe()

Returns a short text that describes unambiguously the instance of the wireless lan interface in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

wireless→get_advertisedValue()

Returns the current value of the wireless lan interface (no more than 6 characters).

wireless→get_channel()

Returns the 802.11 channel currently used, or 0 when the selected network has not been found.

wireless→get_detectedWlans()

Returns a list of YWlanRecord objects that describe detected Wireless networks.

wireless→get_errorMessage()

Returns the error message of the latest error with the wireless lan interface.

wireless→get_errorType()
Returns the numerical error code of the latest error with the wireless lan interface.

wireless→get_friendlyName()
Returns a global identifier of the wireless lan interface in the format `MODULE_NAME.FUNCTION_NAME`.

wireless→get_functionDescriptor()
Returns a unique identifier of type `YFUN_DESCR` corresponding to the function.

wireless→get_functionId()
Returns the hardware identifier of the wireless lan interface, without reference to the module.

wireless→get_hardwareId()
Returns the unique hardware identifier of the wireless lan interface in the form `SERIAL.FUNCTIONID`.

wireless→get_linkQuality()
Returns the link quality, expressed in percent.

wireless→get_logicalName()
Returns the logical name of the wireless lan interface.

wireless→get_message()
Returns the latest status message from the wireless interface.

wireless→get_module()
Gets the `YModule` object for the device on which the function is located.

wireless→get_module_async(callback, context)
Gets the `YModule` object for the device on which the function is located (asynchronous version).

wireless→get_security()
Returns the security algorithm used by the selected wireless network.

wireless→get_serialNumber()
Returns the serial number of the module, as set by the factory.

wireless→get_ssid()
Returns the wireless network name (SSID).

wireless→get_userData()
Returns the value of the userData attribute, as previously stored using method `set_userData`.

wireless→get_wlanState()
Returns the current state of the wireless interface.

wireless→isOnline()
Checks if the wireless lan interface is currently reachable, without raising any error.

wireless→isOnline_async(callback, context)
Checks if the wireless lan interface is currently reachable, without raising any error (asynchronous version).

wireless→isReadOnly()
Test if the function is readOnly.

wireless→joinNetwork(ssid, securityKey)
Changes the configuration of the wireless lan interface to connect to an existing access point (infrastructure mode).

wireless→load(msValidity)
Preloads the wireless lan interface cache with a specified validity duration.

wireless→loadAttribute(attrName)
Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

wireless→load_async(msValidity, callback, context)

Preloads the wireless lan interface cache with a specified validity duration (asynchronous version).

wireless→muteValueCallbacks()

Disables the propagation of every new advertised value to the parent hub.

wireless→nextWireless()

Continues the enumeration of wireless lan interfaces started using `yFirstWireless()`.

wireless→registerValueCallback(callback)

Registers the callback function that is invoked on every change of advertised value.

wireless→set_logicalName(newval)

Changes the logical name of the wireless lan interface.

wireless→set_userData(data)

Stores a user context provided as argument in the userData attribute of the function.

wireless→softAPNetwork(ssid, securityKey)

Changes the configuration of the wireless lan interface to create a new wireless network by emulating a WiFi access point (Soft AP).

wireless→startWlanScan()

Triggers a scan of the wireless frequency and builds the list of available networks.

wireless→unmuteValueCallbacks()

Re-enables the propagation of every new advertised value to the parent hub.

wireless→wait_async(callback, context)

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

YWireless.FindWireless() yFindWireless()

YWireless

Retrieves a wireless lan interface for a given identifier.

js	function **yFindWireless**(**func**)
cpp	YWireless* **yFindWireless**(string **func**)
m	+(YWireless*) **FindWireless** : (NSString*) **func**
pas	function **yFindWireless**(**func**: string): TYWireless
vb	function **yFindWireless**(ByVal **func** As String) As YWireless
cs	static YWireless **FindWireless**(string **func**)
java	static YWireless **FindWireless**(String **func**)
uwp	static YWireless **FindWireless**(string **func**)
py	**FindWireless**(**func**)
php	function **yFindWireless**(**$func**)
es	static **FindWireless**(**func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the wireless lan interface is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YWireless.isOnline()` to test if the wireless lan interface is indeed online at a given time. In case of ambiguity when looking for a wireless lan interface by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

If a call to this object's is_online() method returns FALSE although you are certain that the matching device is plugged, make sure that you did call registerHub() at application initialization time.

Parameters :

func a string that uniquely characterizes the wireless lan interface, for instance `YHUBWLN3.wireless`.

Returns :

a `YWireless` object allowing you to drive the wireless lan interface.

YWireless.FindWirelessInContext() yFindWirelessInContext() YWireless

Retrieves a wireless lan interface for a given identifier in a YAPI context.

java	static YWireless **FindWirelessInContext**(YAPIContext **yctx**, String **func**)
uwp	static YWireless **FindWirelessInContext**(YAPIContext **yctx**, string **func**)
es	static **FindWirelessInContext**(**yctx**, **func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the wireless lan interface is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YWireless.isOnline()` to test if the wireless lan interface is indeed online at a given time. In case of ambiguity when looking for a wireless lan interface by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

Parameters :

yctx a YAPI context

func a string that uniquely characterizes the wireless lan interface, for instance `YHUBWLN3.wireless`.

Returns :

a `YWireless` object allowing you to drive the wireless lan interface.

YWireless.FirstWireless() yFirstWireless()

YWireless

Starts the enumeration of wireless lan interfaces currently accessible.

js	function **yFirstWireless**( )
cpp	YWireless* **yFirstWireless**( )
m	+(YWireless*) **FirstWireless**
pas	function **yFirstWireless**( ): TYWireless
vb	function **yFirstWireless**( ) As YWireless
cs	static YWireless **FirstWireless**( )
java	static YWireless **FirstWireless**( )
uwp	static YWireless **FirstWireless**( )
py	**FirstWireless**( )
php	function **yFirstWireless**( )
es	static **FirstWireless**( )

Use the method `YWireless.nextWireless()` to iterate on next wireless lan interfaces.

Returns :

a pointer to a `YWireless` object, corresponding to the first wireless lan interface currently online, or a `null` pointer if there are none.

YWireless.FirstWirelessInContext() yFirstWirelessInContext()

YWireless

Starts the enumeration of wireless lan interfaces currently accessible.

java	static YWireless **FirstWirelessInContext**(YAPIContext **yctx**)
uwp	static YWireless **FirstWirelessInContext**(YAPIContext **yctx**)
es	static **FirstWirelessInContext**(**yctx**)

Use the method `YWireless.nextWireless()` to iterate on next wireless lan interfaces.

Parameters :

yctx a YAPI context.

Returns :

a pointer to a `YWireless` object, corresponding to the first wireless lan interface currently online, or a `null` pointer if there are none.

wireless→adhocNetwork() YWireless

Changes the configuration of the wireless lan interface to create an ad-hoc wireless network, without using an access point.

js	function **adhocNetwork**(**ssid**, **securityKey**)
cpp	int **adhocNetwork**(string **ssid**, string **securityKey**)
m	-(int) **adhocNetwork** : (NSString*) **ssid** : (NSString*) **securityKey**
pas	function **adhocNetwork**(**ssid**: string, **securityKey**: string): LongInt
vb	function **adhocNetwork**( ) As Integer
cs	int **adhocNetwork**(string **ssid**, string **securityKey**)
java	int **adhocNetwork**(String **ssid**, String **securityKey**)
uwp	async Task<int> **adhocNetwork**(string **ssid**, string **securityKey**)
py	**adhocNetwork**(**ssid**, **securityKey**)
php	function **adhocNetwork**(**$ssid**, **$securityKey**)
es	async **adhocNetwork**(**ssid**, **securityKey**)
cmd	YWireless **target** **adhocNetwork** **ssid** **securityKey**

On the YoctoHub-Wireless-g, it is best to use softAPNetworkInstead(), which emulates an access point (Soft AP) which is more efficient and more widely supported than ad-hoc networks.

When a security key is specified for an ad-hoc network, the network is protected by a WEP40 key (5 characters or 10 hexadecimal digits) or WEP128 key (13 characters or 26 hexadecimal digits). It is recommended to use a well-randomized WEP128 key using 26 hexadecimal digits to maximize security. Remember to call the `saveToFlash()` method and then to reboot the module to apply this setting.

Parameters :

ssid	the name of the network to connect to
securityKey	the network key, as a character string

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wireless→clearCache() YWireless

Invalidates the cache.

js	function **clearCache**( )
cpp	void **clearCache**( )
m	-(void) **clearCache**
pas	procedure **clearCache**( )
vb	procedure **clearCache**( )
cs	void **clearCache**( )
java	void **clearCache**( )
py	**clearCache**( )
php	function **clearCache**( )
es	async **clearCache**( )

Invalidates the cache of the wireless lan interface attributes. Forces the next call to get_xxx() or loadxxx() to use values that come from the device.

wireless→describe() YWireless

Returns a short text that describes unambiguously the instance of the wireless lan interface in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

js	function **describe**( )
cpp	string **describe**( )
m	-(NSString*) **describe**
pas	function **describe**( ): string
vb	function **describe**( ) As String
cs	string **describe**( )
java	String **describe**( )
py	**describe**( )
php	function **describe**( )
es	async **describe**( )

More precisely, `TYPE` is the type of the function, `NAME` it the name used for the first access to the function, `SERIAL` is the serial number of the module if the module is connected or `"unresolved"`, and `FUNCTIONID` is the hardware identifier of the function if the module is connected. For example, this method returns `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1` if the module is already connected or `Relay(BadCustomeName.relay1)=unresolved` if the module has not yet been connected. This method does not trigger any USB or TCP transaction and can therefore be used in a debugger.

Returns :
a string that describes the wireless lan interface (ex: `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1`)

wireless→get_advertisedValue()
wireless→advertisedValue() YWireless

Returns the current value of the wireless lan interface (no more than 6 characters).

js	function **get_advertisedValue**( )
cpp	string **get_advertisedValue**( )
m	-(NSString*) advertisedValue
pas	function **get_advertisedValue**( ): string
vb	function **get_advertisedValue**( ) As String
cs	string **get_advertisedValue**( )
java	String **get_advertisedValue**( )
uwp	async Task<string> **get_advertisedValue**( )
py	**get_advertisedValue**( )
php	function **get_advertisedValue**( )
es	async **get_advertisedValue**( )
cmd	YWireless **target** **get_advertisedValue**

Returns :
a string corresponding to the current value of the wireless lan interface (no more than 6 characters).

On failure, throws an exception or returns `Y_ADVERTISEDVALUE_INVALID`.

wireless→get_channel()
wireless→channel()

YWireless

Returns the 802.11 channel currently used, or 0 when the selected network has not been found.

`js`	function **get_channel**( )
`cpp`	int **get_channel**( )
`m`	-(int) channel
`pas`	function **get_channel**( ): LongInt
`vb`	function **get_channel**( ) As Integer
`cs`	int **get_channel**( )
`java`	int **get_channel**( )
`uwp`	async Task<int> **get_channel**( )
`py`	**get_channel**( )
`php`	function **get_channel**( )
`es`	async **get_channel**( )
`cmd`	YWireless **target** **get_channel**

Returns :
an integer corresponding to the 802.11 channel currently used, or 0 when the selected network has not been found

On failure, throws an exception or returns `Y_CHANNEL_INVALID`.

wireless→get_detectedWlans() wireless→detectedWlans()

YWireless

Returns a list of YWlanRecord objects that describe detected Wireless networks.

js	function **get_detectedWlans**( )
cpp	vector<YWlanRecord> **get_detectedWlans**( )
m	-(NSMutableArray*) detectedWlans
pas	function **get_detectedWlans**( ): TYWlanRecordArray
vb	function **get_detectedWlans**( ) As List
cs	YWlanRecord[] **get_detectedWlans**( )
java	ArrayList<YWlanRecord> **get_detectedWlans**( )
uwp	async Task<List<YWlanRecord>> **get_detectedWlans**( )
py	**get_detectedWlans**( )
php	function **get_detectedWlans**( )
es	async **get_detectedWlans**( )
cmd	YWireless **target** **get_detectedWlans**

This list is not updated when the module is already connected to an access point (infrastructure mode). To force an update of this list, `startWlanScan()` must be called. Note that an languages without garbage collections, the returned list must be freed by the caller.

Returns :
a list of `YWlanRecord` objects, containing the SSID, channel, link quality and the type of security of the wireless network.

On failure, throws an exception or returns an empty list.

wireless→get_errorMessage()
wireless→errorMessage()

YWireless

Returns the error message of the latest error with the wireless lan interface.

js	function **get_errorMessage**( )
cpp	string **get_errorMessage**( )
m	-(NSString*) errorMessage
pas	function **get_errorMessage**( ): string
vb	function **get_errorMessage**( ) As String
cs	string **get_errorMessage**( )
java	String **get_errorMessage**( )
py	**get_errorMessage**( )
php	function **get_errorMessage**( )
es	**get_errorMessage**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a string corresponding to the latest error message that occured while using the wireless lan interface object

wireless→get_errorType() wireless→errorType() YWireless

Returns the numerical error code of the latest error with the wireless lan interface.

js	function **get_errorType**( )
cpp	YRETCODE **get_errorType**( )
m	-(YRETCODE) errorType
pas	function **get_errorType**( ): YRETCODE
vb	function **get_errorType**( ) As YRETCODE
cs	YRETCODE **get_errorType**( )
java	int **get_errorType**( )
py	**get_errorType**( )
php	function **get_errorType**( )
es	**get_errorType**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a number corresponding to the code of the latest error that occurred while using the wireless lan interface object

wireless→get_friendlyName()
wireless→friendlyName() YWireless

Returns a global identifier of the wireless lan interface in the format `MODULE_NAME.FUNCTION_NAME`.

js	function **get_friendlyName**( )
cpp	string **get_friendlyName**( )
m	-(NSString*) friendlyName
cs	string **get_friendlyName**( )
java	String **get_friendlyName**( )
py	**get_friendlyName**( )
php	function **get_friendlyName**( )
es	async **get_friendlyName**( )

The returned string uses the logical names of the module and of the wireless lan interface if they are defined, otherwise the serial number of the module and the hardware identifier of the wireless lan interface (for example: `MyCustomName.relay1`)

Returns :

a string that uniquely identifies the wireless lan interface using logical names (ex: `MyCustomName.relay1`)

On failure, throws an exception or returns `Y_FRIENDLYNAME_INVALID`.

wireless→get_functionDescriptor() wireless→functionDescriptor() YWireless

Returns a unique identifier of type YFUN_DESCR corresponding to the function.

js	function **get_functionDescriptor**( )
cpp	YFUN_DESCR **get_functionDescriptor**( )
m	-(YFUN_DESCR) functionDescriptor
pas	function **get_functionDescriptor**( ): YFUN_DESCR
vb	function **get_functionDescriptor**( ) As YFUN_DESCR
cs	YFUN_DESCR **get_functionDescriptor**( )
java	String **get_functionDescriptor**( )
py	**get_functionDescriptor**( )
php	function **get_functionDescriptor**( )
es	async **get_functionDescriptor**( )

This identifier can be used to test if two instances of YFunction reference the same physical function on the same physical device.

Returns :
an identifier of type YFUN_DESCR.

If the function has never been contacted, the returned value is Y_FUNCTIONDESCRIPTOR_INVALID.

wireless→get_functionId()
wireless→functionId() — YWireless

Returns the hardware identifier of the wireless lan interface, without reference to the module.

js	function **get_functionId**( )
cpp	string **get_functionId**( )
m	-(NSString*) functionId
vb	function **get_functionId**( ) As String
cs	string **get_functionId**( )
java	String **get_functionId**( )
py	**get_functionId**( )
php	function **get_functionId**( )
es	async **get_functionId**( )

For example `relay1`

Returns :
a string that identifies the wireless lan interface (ex: `relay1`)

On failure, throws an exception or returns `Y_FUNCTIONID_INVALID`.

wireless→get_hardwareId() wireless→hardwareId() YWireless

Returns the unique hardware identifier of the wireless lan interface in the form SERIAL.FUNCTIONID.

js	function **get_hardwareId**( )
cpp	string **get_hardwareId**( )
m	-(NSString*) hardwareId
vb	function **get_hardwareId**( ) As String
cs	string **get_hardwareId**( )
java	String **get_hardwareId**( )
py	**get_hardwareId**( )
php	function **get_hardwareId**( )
es	async **get_hardwareId**( )

The unique hardware identifier is composed of the device serial number and of the hardware identifier of the wireless lan interface (for example RELAYLO1-123456.relay1).

Returns :
a string that uniquely identifies the wireless lan interface (ex: RELAYLO1-123456.relay1)

On failure, throws an exception or returns Y_HARDWAREID_INVALID.

wireless→get_linkQuality()
wireless→linkQuality()

YWireless

Returns the link quality, expressed in percent.

js	function **get_linkQuality**( )
cpp	int **get_linkQuality**( )
m	-(int) linkQuality
pas	function **get_linkQuality**( ): LongInt
vb	function **get_linkQuality**( ) As Integer
cs	int **get_linkQuality**( )
java	int **get_linkQuality**( )
uwp	async Task<int> **get_linkQuality**( )
py	**get_linkQuality**( )
php	function **get_linkQuality**( )
es	async **get_linkQuality**( )
cmd	YWireless **target** **get_linkQuality**

Returns :
an integer corresponding to the link quality, expressed in percent

On failure, throws an exception or returns `Y_LINKQUALITY_INVALID`.

wireless→get_logicalName() wireless→logicalName() YWireless

Returns the logical name of the wireless lan interface.

js	function **get_logicalName**( )
cpp	string **get_logicalName**( )
m	-(NSString*) logicalName
pas	function **get_logicalName**( ): string
vb	function **get_logicalName**( ) As String
cs	string **get_logicalName**( )
java	String **get_logicalName**( )
uwp	async Task<string> **get_logicalName**( )
py	**get_logicalName**( )
php	function **get_logicalName**( )
es	async **get_logicalName**( )
cmd	YWireless **target** **get_logicalName**

Returns :
a string corresponding to the logical name of the wireless lan interface.

On failure, throws an exception or returns `Y_LOGICALNAME_INVALID`.

wireless→get_message()
wireless→message()

YWireless

Returns the latest status message from the wireless interface.

js	function **get_message**( )
cpp	string **get_message**( )
m	-(NSString*) message
pas	function **get_message**( ): string
vb	function **get_message**( ) As String
cs	string **get_message**( )
java	String **get_message**( )
uwp	async Task<string> **get_message**( )
py	**get_message**( )
php	function **get_message**( )
es	async **get_message**( )
cmd	YWireless **target** **get_message**

Returns :
a string corresponding to the latest status message from the wireless interface

On failure, throws an exception or returns `Y_MESSAGE_INVALID`.

wireless→get_module() wireless→module()

YWireless

Gets the `YModule` object for the device on which the function is located.

js	function **get_module**( )
cpp	YModule * **get_module**( )
m	-(YModule*) module
pas	function **get_module**( ): TYModule
vb	function **get_module**( ) As YModule
cs	YModule **get_module**( )
java	YModule **get_module**( )
py	**get_module**( )
php	function **get_module**( )
es	async **get_module**( )

If the function cannot be located on any module, the returned instance of `YModule` is not shown as on-line.

Returns :
an instance of `YModule`

wireless→get_module_async() wireless→module_async()

YWireless

Gets the `YModule` object for the device on which the function is located (asynchronous version).

```
js  function get_module_async( callback, context)
```

If the function cannot be located on any module, the returned `YModule` object does not show as on-line.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking Firefox JavaScript VM that does not implement context switching during blocking I/O calls. See the documentation section on asynchronous JavasSript calls for more details.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the requested `YModule` object

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

wireless→get_security() wireless→security()

YWireless

Returns the security algorithm used by the selected wireless network.

js	function **get_security**( )
cpp	Y_SECURITY_enum **get_security**( )
m	-(Y_SECURITY_enum) security
pas	function **get_security**( ): Integer
vb	function **get_security**( ) As Integer
cs	int **get_security**( )
java	int **get_security**( )
uwp	async Task<int> **get_security**( )
py	**get_security**( )
php	function **get_security**( )
es	async **get_security**( )
cmd	YWireless **target** **get_security**

Returns :
a value among `Y_SECURITY_UNKNOWN`, `Y_SECURITY_OPEN`, `Y_SECURITY_WEP`, `Y_SECURITY_WPA` and `Y_SECURITY_WPA2` corresponding to the security algorithm used by the selected wireless network

On failure, throws an exception or returns `Y_SECURITY_INVALID`.

wireless→get_serialNumber()
wireless→serialNumber()

YWireless

Returns the serial number of the module, as set by the factory.

js	function **get_serialNumber**( )
cpp	string **get_serialNumber**( )
m	-(NSString*) serialNumber
pas	function **get_serialNumber**( ): string
vb	function **get_serialNumber**( ) As String
cs	string **get_serialNumber**( )
java	String **get_serialNumber**( )
uwp	async Task<string> **get_serialNumber**( )
py	**get_serialNumber**( )
php	function **get_serialNumber**( )
es	async **get_serialNumber**( )
cmd	YWireless **target** **get_serialNumber**

Returns :
a string corresponding to the serial number of the module, as set by the factory.

On failure, throws an exception or returns YModule.SERIALNUMBER_INVALID.

wireless→get_ssid() wireless→ssid() YWireless

Returns the wireless network name (SSID).

js	function **get_ssid**( )
cpp	string **get_ssid**( )
m	-(NSString*) ssid
pas	function **get_ssid**( ): string
vb	function **get_ssid**( ) As String
cs	string **get_ssid**( )
java	String **get_ssid**( )
uwp	async Task<string> **get_ssid**( )
py	**get_ssid**( )
php	function **get_ssid**( )
es	async **get_ssid**( )
cmd	YWireless **target** **get_ssid**

Returns :
a string corresponding to the wireless network name (SSID)

On failure, throws an exception or returns `Y_SSID_INVALID`.

wireless→get_userData() wireless→userData()

YWireless

Returns the value of the userData attribute, as previously stored using method `set_userData`.

js	function **get_userData**( )
cpp	void * **get_userData**( )
m	-(id) userData
pas	function **get_userData**( ): Tobject
vb	function **get_userData**( ) As Object
cs	object **get_userData**( )
java	Object **get_userData**( )
py	**get_userData**( )
php	function **get_userData**( )
es	async **get_userData**( )

This attribute is never touched directly by the API, and is at disposal of the caller to store a context.

Returns :
the object stored previously by the caller.

wireless→get_wlanState() wireless→wlanState() YWireless

Returns the current state of the wireless interface.

js	function **get_wlanState**( )
cpp	Y_WLANSTATE_enum **get_wlanState**( )
m	-(Y_WLANSTATE_enum) wlanState
pas	function **get_wlanState**( ): Integer
vb	function **get_wlanState**( ) As Integer
cs	int **get_wlanState**( )
java	int **get_wlanState**( )
uwp	async Task<int> **get_wlanState**( )
py	**get_wlanState**( )
php	function **get_wlanState**( )
es	async **get_wlanState**( )
cmd	YWireless **target** **get_wlanState**

The state `Y_WLANSTATE_DOWN` means that the network interface is not connected to a network. The state `Y_WLANSTATE_SCANNING` means that the network interface is scanning available frequencies. During this stage, the device is not reachable, and the network settings are not yet applied. The state `Y_WLANSTATE_CONNECTED` means that the network settings have been successfully applied ant that the device is reachable from the wireless network. If the device is configured to use ad-hoc or Soft AP mode, it means that the wireless network is up and that other devices can join the network. The state `Y_WLANSTATE_REJECTED` means that the network interface has not been able to join the requested network. The description of the error can be obtain with the `get_message()` method.

Returns :

a value among `Y_WLANSTATE_DOWN`, `Y_WLANSTATE_SCANNING`, `Y_WLANSTATE_CONNECTED` and `Y_WLANSTATE_REJECTED` corresponding to the current state of the wireless interface

On failure, throws an exception or returns `Y_WLANSTATE_INVALID`.

wireless→isOnline() YWireless

Checks if the wireless lan interface is currently reachable, without raising any error.

js	function **isOnline**( )
cpp	bool **isOnline**( )
m	-(BOOL) **isOnline**
pas	function **isOnline**( ): boolean
vb	function **isOnline**( ) As Boolean
cs	bool **isOnline**( )
java	boolean **isOnline**( )
py	**isOnline**( )
php	function **isOnline**( )
es	async **isOnline**( )

If there is a cached value for the wireless lan interface in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the wireless lan interface.

Returns :
`true` if the wireless lan interface can be reached, and `false` otherwise

wireless→isOnline_async() YWireless

Checks if the wireless lan interface is currently reachable, without raising any error (asynchronous version).

```
js function isOnline_async( callback, context)
```

If there is a cached value for the wireless lan interface in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the requested function.

This asynchronous version exists only in Javascript. It uses a callback instead of a return value in order to avoid blocking the Javascript virtual machine.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the boolean result

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

wireless→isReadOnly() YWireless

Test if the function is readOnly.

cpp	bool **isReadOnly**( )
m	-(bool) **isReadOnly**
pas	function **isReadOnly**( ): boolean
vb	function **isReadOnly**( ) As Boolean
cs	bool **isReadOnly**( )
java	boolean **isReadOnly**( )
uwp	async Task<bool> **isReadOnly**( )
py	**isReadOnly**( )
php	function **isReadOnly**( )
es	async **isReadOnly**( )
cmd	YWireless **target** **isReadOnly**

Return `true` if the function is write protected or that the function is not available.

Returns :
`true` if the function is readOnly or not online.

wireless→joinNetwork() YWireless

Changes the configuration of the wireless lan interface to connect to an existing access point (infrastructure mode).

js	function **joinNetwork**(**ssid**, **securityKey**)
cpp	int **joinNetwork**(string **ssid**, string **securityKey**)
m	-(int) **joinNetwork** : (NSString*) **ssid** : (NSString*) **securityKey**
pas	function **joinNetwork**(**ssid**: string, **securityKey**: string): LongInt
vb	function **joinNetwork**( ) As Integer
cs	int **joinNetwork**(string **ssid**, string **securityKey**)
java	int **joinNetwork**(String **ssid**, String **securityKey**)
uwp	async Task<int> **joinNetwork**(string **ssid**, string **securityKey**)
py	**joinNetwork**(**ssid**, **securityKey**)
php	function **joinNetwork**(**$ssid**, **$securityKey**)
es	async **joinNetwork**(**ssid**, **securityKey**)
cmd	YWireless **target** **joinNetwork** **ssid** **securityKey**

Remember to call the `saveToFlash()` method and then to reboot the module to apply this setting.

Parameters :

ssid	the name of the network to connect to
securityKey	the network key, as a character string

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wireless→load() YWireless

Preloads the wireless lan interface cache with a specified validity duration.

js	function **load**(**msValidity**)
cpp	YRETCODE **load**(int **msValidity**)
m	-(YRETCODE) **load** : (u64) **msValidity**
pas	function **load**(**msValidity**: u64): YRETCODE
vb	function **load**(ByVal **msValidity** As Long) As YRETCODE
cs	YRETCODE **load**(ulong **msValidity**)
java	int **load**(long **msValidity**)
py	**load**(**msValidity**)
php	function **load**(**$msValidity**)
es	async **load**(**msValidity**)

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

Parameters :

msValidity an integer corresponding to the validity attributed to the loaded function parameters, in milliseconds

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wireless→loadAttribute() YWireless

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

js	function **loadAttribute**(**attrName**)
cpp	string **loadAttribute**(string **attrName**)
m	-(NSString*) **loadAttribute** : (NSString*) **attrName**
pas	function **loadAttribute**(**attrName**: string): string
vb	function **loadAttribute**( ) As String
cs	string **loadAttribute**(string **attrName**)
java	String **loadAttribute**(String **attrName**)
uwp	async Task<string> **loadAttribute**(string **attrName**)
py	**loadAttribute**(**attrName**)
php	function **loadAttribute**(**$attrName**)
es	async **loadAttribute**(**attrName**)

Parameters :

attrName the name of the requested attribute

Returns :

a string with the value of the the attribute

On failure, throws an exception or returns an empty string.

wireless→load_async() YWireless

Preloads the wireless lan interface cache with a specified validity duration (asynchronous version).

js	function **load_async**(**msValidity**, **callback**, **context**)

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking the JavaScript virtual machine.

Parameters :

msValidity	an integer corresponding to the validity of the loaded function parameters, in milliseconds
callback	callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the error code (or `YAPI_SUCCESS`)
context	caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

wireless→muteValueCallbacks() YWireless

Disables the propagation of every new advertised value to the parent hub.

js	function **muteValueCallbacks**( )
cpp	int **muteValueCallbacks**( )
m	-(int) **muteValueCallbacks**
pas	function **muteValueCallbacks**( ): LongInt
vb	function **muteValueCallbacks**( ) As Integer
cs	int **muteValueCallbacks**( )
java	int **muteValueCallbacks**( )
uwp	async Task<int> **muteValueCallbacks**( )
py	**muteValueCallbacks**( )
php	function **muteValueCallbacks**( )
es	async **muteValueCallbacks**( )
cmd	YWireless **target** **muteValueCallbacks**

You can use this function to save bandwidth and CPU on computers with limited resources, or to prevent unwanted invocations of the HTTP callback. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wireless→nextWireless() YWireless

Continues the enumeration of wireless lan interfaces started using `yFirstWireless()`.

js	function **nextWireless**( )
cpp	YWireless * **nextWireless**( )
m	-(YWireless*) **nextWireless**
pas	function **nextWireless**( ): TYWireless
vb	function **nextWireless**( ) As YWireless
cs	YWireless **nextWireless**( )
java	YWireless **nextWireless**( )
uwp	YWireless **nextWireless**( )
py	**nextWireless**( )
php	function **nextWireless**( )
es	**nextWireless**( )

Caution: You can't make any assumption about the returned wireless lan interfaces order. If you want to find a specific a wireless lan interface, use `Wireless.findWireless()` and a hardwareID or a logical name.

Returns :

a pointer to a `YWireless` object, corresponding to a wireless lan interface currently online, or a `null` pointer if there are no more wireless lan interfaces to enumerate.

wireless→registerValueCallback() YWireless

Registers the callback function that is invoked on every change of advertised value.

js	function **registerValueCallback**(**callback**)
cpp	int **registerValueCallback**(YWirelessValueCallback **callback**)
m	-(int) **registerValueCallback** : (YWirelessValueCallback) **callback**
pas	function **registerValueCallback**(**callback**: TYWirelessValueCallback): LongInt
vb	function **registerValueCallback**( ) As Integer
cs	int **registerValueCallback**(ValueCallback **callback**)
java	int **registerValueCallback**(UpdateCallback **callback**)
uwp	async Task<int> **registerValueCallback**(ValueCallback **callback**)
py	**registerValueCallback**(**callback**)
php	function **registerValueCallback**(**$callback**)
es	async **registerValueCallback**(**callback**)

The callback is invoked only during the execution of `ySleep` or `yHandleEvents`. This provides control over the time when the callback is triggered. For good responsiveness, remember to call one of these two functions periodically. To unregister a callback, pass a null pointer as argument.

Parameters :

callback the callback function to call, or a null pointer. The callback function should take two arguments: the function object of which the value has changed, and the character string describing the new advertised value.

wireless→set_logicalName()
wireless→setLogicalName()

YWireless

Changes the logical name of the wireless lan interface.

js	function **set_logicalName**(**newval**)
cpp	int **set_logicalName**(const string& **newval**)
m	-(int) setLogicalName : (NSString*) **newval**
pas	function **set_logicalName**(**newval**: string): integer
vb	function **set_logicalName**(ByVal **newval** As String) As Integer
cs	int **set_logicalName**(string **newval**)
java	int **set_logicalName**(String **newval**)
uwp	async Task<int> **set_logicalName**(string **newval**)
py	**set_logicalName**(**newval**)
php	function **set_logicalName**(**$newval**)
es	async **set_logicalName**(**newval**)
cmd	YWireless **target** **set_logicalName** **newval**

You can use `yCheckLogicalName()` prior to this call to make sure that your parameter is valid. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the logical name of the wireless lan interface.

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wireless→set_userData()
wireless→setUserData()

YWireless

Stores a user context provided as argument in the userData attribute of the function.

js	function **set_userData**(**data**)
cpp	void **set_userData**(void* **data**)
m	-(void) setUserData : (id) **data**
pas	procedure **set_userData**(**data**: Tobject)
vb	procedure **set_userData**(ByVal **data** As Object)
cs	void **set_userData**(object **data**)
java	void **set_userData**(Object **data**)
py	**set_userData**(**data**)
php	function **set_userData**(**$data**)
es	async **set_userData**(**data**)

This attribute is never touched by the API, and is at disposal of the caller to store a context.

Parameters :

data any kind of object to be stored

wireless→softAPNetwork() YWireless

Changes the configuration of the wireless lan interface to create a new wireless network by emulating a WiFi access point (Soft AP).

js	function **softAPNetwork**(**ssid**, **securityKey**)
cpp	int **softAPNetwork**(string **ssid**, string **securityKey**)
m	-(int) **softAPNetwork** : (NSString*) **ssid** : (NSString*) **securityKey**
pas	function **softAPNetwork**(**ssid**: string, **securityKey**: string): LongInt
vb	function **softAPNetwork**( ) As Integer
cs	int **softAPNetwork**(string **ssid**, string **securityKey**)
java	int **softAPNetwork**(String **ssid**, String **securityKey**)
uwp	async Task<int> **softAPNetwork**(string **ssid**, string **securityKey**)
py	**softAPNetwork**(**ssid**, **securityKey**)
php	function **softAPNetwork**(**$ssid**, **$securityKey**)
es	async **softAPNetwork**(**ssid**, **securityKey**)
cmd	YWireless **target softAPNetwork ssid securityKey**

This function can only be used with the YoctoHub-Wireless-g.

When a security key is specified for a SoftAP network, the network is protected by a WEP40 key (5 characters or 10 hexadecimal digits) or WEP128 key (13 characters or 26 hexadecimal digits). It is recommended to use a well-randomized WEP128 key using 26 hexadecimal digits to maximize security. Remember to call the `saveToFlash()` method and then to reboot the module to apply this setting.

Parameters :

ssid the name of the network to connect to

securityKey the network key, as a character string

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wireless→startWlanScan() YWireless

Triggers a scan of the wireless frequency and builds the list of available networks.

js	function **startWlanScan**( )
cpp	int **startWlanScan**( )
m	-(int) **startWlanScan**
pas	function **startWlanScan**( ): LongInt
vb	function **startWlanScan**( ) As Integer
cs	int **startWlanScan**( )
java	int **startWlanScan**( )
uwp	async Task<int> **startWlanScan**( )
py	**startWlanScan**( )
php	function **startWlanScan**( )
es	async **startWlanScan**( )
cmd	YWireless **target** **startWlanScan**

The scan forces a disconnection from the current network. At then end of the process, the the network interface attempts to reconnect to the previous network. During the scan, the `wlanState` switches to `Y_WLANSTATE_DOWN`, then to `Y_WLANSTATE_SCANNING`. When the scan is completed, `get_wlanState()` returns either `Y_WLANSTATE_DOWN` or `Y_WLANSTATE_SCANNING`. At this point, the list of detected network can be retrieved with the `get_detectedWlans()` method.

On failure, throws an exception or returns a negative error code.

wireless→unmuteValueCallbacks() YWireless

Re-enables the propagation of every new advertised value to the parent hub.

js	function **unmuteValueCallbacks**( )
cpp	int **unmuteValueCallbacks**( )
m	-(int) **unmuteValueCallbacks**
pas	function **unmuteValueCallbacks**( ): LongInt
vb	function **unmuteValueCallbacks**( ) As Integer
cs	int **unmuteValueCallbacks**( )
java	int **unmuteValueCallbacks**( )
uwp	async Task<int> **unmuteValueCallbacks**( )
py	**unmuteValueCallbacks**( )
php	function **unmuteValueCallbacks**( )
es	async **unmuteValueCallbacks**( )
cmd	YWireless **target** **unmuteValueCallbacks**

This function reverts the effect of a previous call to `muteValueCallbacks()`. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wireless→wait_async() YWireless

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

js	function **wait_async**(**callback**, **context**)
es	**wait_async**(**callback**, **context**)

The callback function can therefore freely issue synchronous or asynchronous commands, without risking to block the JavaScript VM.

Parameters :

callback callback function that is invoked when all pending commands on the module are completed. The callback function receives two arguments: the caller-specific context object and the receiving function object.

context caller-specific object that is passed as-is to the callback function

Returns :

nothing.

11.3. Network function interface

YNetwork objects provide access to TCP/IP parameters of Yoctopuce devices that include a built-in network interface, for instance using a YoctoHub-Ethernet, a YoctoHub-Wireless-g, a YoctoHub-GSM-3G-NA or a YoctoHub-GSM-3G-EU.

In order to use the functions described here, you should include:

es	in HTML: <script src="../../lib/yocto_network.js"></script> in node.js: require('yoctolib-es2017/yocto_network.js');
js	<script type='text/javascript' src='yocto_network.js'></script>
cpp	#include "yocto_network.h"
m	#import "yocto_network.h"
pas	uses yocto_network;
vb	yocto_network.vb
cs	yocto_network_proxy.cs
java	import com.yoctopuce.YoctoAPI.YNetwork;
uwp	import com.yoctopuce.YoctoAPI.YNetwork;
py	from yocto_network import *
php	require_once('yocto_network.php');
vi	YNetwork.vi

Global functions
yFindNetwork(func) Retrieves a network interface for a given identifier.
yFindNetworkInContext(yctx, func) Retrieves a network interface for a given identifier in a YAPI context.
yFirstNetwork() Starts the enumeration of network interfaces currently accessible.
yFirstNetworkInContext(yctx) Starts the enumeration of network interfaces currently accessible.
`YNetwork` methods
network→callbackLogin(username, password) Connects to the notification callback and saves the credentials required to log into it.
network→clearCache() Invalidates the cache.
network→describe() Returns a short text that describes unambiguously the instance of the network interface in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.
network→get_adminPassword() Returns a hash string if a password has been set for user "admin", or an empty string otherwise.
network→get_advertisedValue() Returns the current value of the network interface (no more than 6 characters).
network→get_callbackCredentials() Returns a hashed version of the notification callback credentials if set, or an empty string otherwise.
network→get_callbackEncoding() Returns the encoding standard to use for representing notification values.
network→get_callbackInitialDelay()

Returns the initial waiting time before first callback notifications, in seconds.

network→get_callbackMaxDelay()

Returns the waiting time between two HTTP callbacks when there is nothing new.

network→get_callbackMethod()

Returns the HTTP method used to notify callbacks for significant state changes.

network→get_callbackMinDelay()

Returns the minimum waiting time between two HTTP callbacks, in seconds.

network→get_callbackSchedule()

Returns the HTTP callback schedule strategy, as a text string.

network→get_callbackUrl()

Returns the callback URL to notify of significant state changes.

network→get_defaultPage()

Returns the HTML page to serve for the URL "/"" of the hub.

network→get_discoverable()

Returns the activation state of the multicast announce protocols to allow easy discovery of the module in the network neighborhood (uPnP/Bonjour protocol).

network→get_errorMessage()

Returns the error message of the latest error with the network interface.

network→get_errorType()

Returns the numerical error code of the latest error with the network interface.

network→get_friendlyName()

Returns a global identifier of the network interface in the format `MODULE_NAME.FUNCTION_NAME`.

network→get_functionDescriptor()

Returns a unique identifier of type `YFUN_DESCR` corresponding to the function.

network→get_functionId()

Returns the hardware identifier of the network interface, without reference to the module.

network→get_hardwareId()

Returns the unique hardware identifier of the network interface in the form `SERIAL.FUNCTIONID`.

network→get_httpPort()

Returns the TCP port used to serve the hub web UI.

network→get_ipAddress()

Returns the IP address currently in use by the device.

network→get_ipConfig()

Returns the IP configuration of the network interface.

network→get_logicalName()

Returns the logical name of the network interface.

network→get_macAddress()

Returns the MAC address of the network interface.

network→get_module()

Gets the `YModule` object for the device on which the function is located.

network→get_module_async(callback, context)

Gets the `YModule` object for the device on which the function is located (asynchronous version).

network→get_ntpServer()

Returns the IP address of the NTP server to be used by the device.

network→get_poeCurrent()

Returns the current consumed by the module from Power-over-Ethernet (PoE), in milliamps.

network→get_primaryDNS()

Returns the IP address of the primary name server to be used by the module.

network→get_readiness()

Returns the current established working mode of the network interface.

network→get_router()

Returns the IP address of the router on the device subnet (default gateway).

network→get_secondaryDNS()

Returns the IP address of the secondary name server to be used by the module.

network→get_serialNumber()

Returns the serial number of the module, as set by the factory.

network→get_subnetMask()

Returns the subnet mask currently used by the device.

network→get_userData()

Returns the value of the userData attribute, as previously stored using method `set_userData`.

network→get_userPassword()

Returns a hash string if a password has been set for "user" user, or an empty string otherwise.

network→get_wwwWatchdogDelay()

Returns the allowed downtime of the WWW link (in seconds) before triggering an automated reboot to try to recover Internet connectivity.

network→isOnline()

Checks if the network interface is currently reachable, without raising any error.

network→isOnline_async(callback, context)

Checks if the network interface is currently reachable, without raising any error (asynchronous version).

network→isReadOnly()

Test if the function is readOnly.

network→load(msValidity)

Preloads the network interface cache with a specified validity duration.

network→loadAttribute(attrName)

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

network→load_async(msValidity, callback, context)

Preloads the network interface cache with a specified validity duration (asynchronous version).

network→muteValueCallbacks()

Disables the propagation of every new advertised value to the parent hub.

network→nextNetwork()

Continues the enumeration of network interfaces started using `yFirstNetwork()`.

network→ping(host)

Pings host to test the network connectivity.

network→registerValueCallback(callback)

Registers the callback function that is invoked on every change of advertised value.

network→set_adminPassword(newval)

Changes the password for the "admin" user.

network→set_callbackCredentials(newval)

Changes the credentials required to connect to the callback address.

network→set_callbackEncoding(newval)

Changes the encoding standard to use for representing notification values.

network→set_callbackInitialDelay(newval)

Changes the initial waiting time before first callback notifications, in seconds.

network→set_callbackMaxDelay(newval)

Changes the waiting time between two HTTP callbacks when there is nothing new.

network→set_callbackMethod(newval)

Changes the HTTP method used to notify callbacks for significant state changes.

network→set_callbackMinDelay(newval)

Changes the minimum waiting time between two HTTP callbacks, in seconds.

network→set_callbackSchedule(newval)

Changes the HTTP callback schedule strategy, as a text string.

network→set_callbackUrl(newval)

Changes the callback URL to notify significant state changes.

network→set_defaultPage(newval)

Changes the default HTML page returned by the hub.

network→set_discoverable(newval)

Changes the activation state of the multicast announce protocols to allow easy discovery of the module in the network neighborhood (uPnP/Bonjour protocol).

network→set_httpPort(newval)

Changes the the TCP port used to serve the hub web UI.

network→set_logicalName(newval)

Changes the logical name of the network interface.

network→set_ntpServer(newval)

Changes the IP address of the NTP server to be used by the module.

network→set_periodicCallbackSchedule(interval, offset)

Setup periodic HTTP callbacks (simplified function).

network→set_primaryDNS(newval)

Changes the IP address of the primary name server to be used by the module.

network→set_secondaryDNS(newval)

Changes the IP address of the secondary name server to be used by the module.

network→set_userData(data)

Stores a user context provided as argument in the userData attribute of the function.

network→set_userPassword(newval)

Changes the password for the "user" user.

network→set_wwwWatchdogDelay(newval)

Changes the allowed downtime of the WWW link (in seconds) before triggering an automated reboot to try to recover Internet connectivity.

network→triggerCallback()

Trigger an HTTP callback quickly.

network→unmuteValueCallbacks()

Re-enables the propagation of every new advertised value to the parent hub.

network→useDHCP(fallbackIpAddr, fallbackSubnetMaskLen, fallbackRouter)

Changes the configuration of the network interface to enable the use of an IP address received from a DHCP server.

network→useDHCPauto()

Changes the configuration of the network interface to enable the use of an IP address received from a DHCP server.

network→useStaticIP(ipAddress, subnetMaskLen, router)

Changes the configuration of the network interface to use a static IP address.

network→wait_async(callback, context)

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

YNetwork.FindNetwork() yFindNetwork() — YNetwork

Retrieves a network interface for a given identifier.

js	function **yFindNetwork**(**func**)
cpp	YNetwork* **yFindNetwork**(string **func**)
m	+(YNetwork*) **FindNetwork** : (NSString*) **func**
pas	function **yFindNetwork**(**func**: string): TYNetwork
vb	function **yFindNetwork**(ByVal **func** As String) As YNetwork
cs	static YNetwork **FindNetwork**(string **func**)
java	static YNetwork **FindNetwork**(String **func**)
uwp	static YNetwork **FindNetwork**(string **func**)
py	**FindNetwork**(**func**)
php	function **yFindNetwork**(**$func**)
es	static **FindNetwork**(**func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the network interface is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YNetwork.isOnline()` to test if the network interface is indeed online at a given time. In case of ambiguity when looking for a network interface by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

If a call to this object's is_online() method returns FALSE although you are certain that the matching device is plugged, make sure that you did call registerHub() at application initialization time.

Parameters :

func a string that uniquely characterizes the network interface, for instance `YHUBETH1.network`.

Returns :

a `YNetwork` object allowing you to drive the network interface.

YNetwork.FindNetworkInContext() yFindNetworkInContext() YNetwork

Retrieves a network interface for a given identifier in a YAPI context.

java	static YNetwork **FindNetworkInContext**(YAPIContext **yctx**, String **func**)
uwp	static YNetwork **FindNetworkInContext**(YAPIContext **yctx**, string **func**)
es	static **FindNetworkInContext**(**yctx**, **func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the network interface is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YNetwork.isOnline()` to test if the network interface is indeed online at a given time. In case of ambiguity when looking for a network interface by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

Parameters :

yctx a YAPI context

func a string that uniquely characterizes the network interface, for instance `YHUBETH1.network`.

Returns :

a `YNetwork` object allowing you to drive the network interface.

YNetwork.FirstNetwork() yFirstNetwork() YNetwork

Starts the enumeration of network interfaces currently accessible.

js	function **yFirstNetwork**( )
cpp	YNetwork* **yFirstNetwork**( )
m	+(YNetwork*) **FirstNetwork**
pas	function **yFirstNetwork**( ): TYNetwork
vb	function **yFirstNetwork**( ) As YNetwork
cs	static YNetwork **FirstNetwork**( )
java	static YNetwork **FirstNetwork**( )
uwp	static YNetwork **FirstNetwork**( )
py	**FirstNetwork**( )
php	function **yFirstNetwork**( )
es	static **FirstNetwork**( )

Use the method `YNetwork.nextNetwork()` to iterate on next network interfaces.

Returns :
a pointer to a `YNetwork` object, corresponding to the first network interface currently online, or a `null` pointer if there are none.

YNetwork.FirstNetworkInContext() yFirstNetworkInContext() — YNetwork

Starts the enumeration of network interfaces currently accessible.

java	static YNetwork **FirstNetworkInContext**(YAPIContext **yctx**)
uwp	static YNetwork **FirstNetworkInContext**(YAPIContext **yctx**)
es	static **FirstNetworkInContext**(**yctx**)

Use the method `YNetwork.nextNetwork()` to iterate on next network interfaces.

Parameters :

yctx a YAPI context.

Returns :

a pointer to a `YNetwork` object, corresponding to the first network interface currently online, or a `null` pointer if there are none.

network→callbackLogin() YNetwork

Connects to the notification callback and saves the credentials required to log into it.

js	function **callbackLogin**(**username**, **password**)
cpp	int **callbackLogin**(string **username**, string **password**)
m	-(int) **callbackLogin** : (NSString*) **username** : (NSString*) **password**
pas	function **callbackLogin**(**username**: string, **password**: string): integer
vb	function **callbackLogin**(ByVal **username** As String, ByVal **password** As String) As Integer
cs	int **callbackLogin**(string **username**, string **password**)
java	int **callbackLogin**(String **username**, String **password**)
py	**callbackLogin**(**username**, **password**)
php	function **callbackLogin**(**$username**, **$password**)
es	async **callbackLogin**(**username**, **password**)
cmd	YNetwork **target** **callbackLogin** **username** **password**

The password is not stored into the module, only a hashed copy of the credentials are saved. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

username username required to log to the callback

password password required to log to the callback

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→clearCache() YNetwork

Invalidates the cache.

js	function **clearCache**( )
cpp	void **clearCache**( )
m	-(void) **clearCache**
pas	procedure **clearCache**( )
vb	procedure **clearCache**( )
cs	void **clearCache**( )
java	void **clearCache**( )
py	**clearCache**( )
php	function **clearCache**( )
es	async **clearCache**( )

Invalidates the cache of the network interface attributes. Forces the next call to get_xxx() or loadxxx() to use values that come from the device.

network→describe() YNetwork

Returns a short text that describes unambiguously the instance of the network interface in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

js	function **describe**( )
cpp	string **describe**( )
m	-(NSString*) **describe**
pas	function **describe**( ): string
vb	function **describe**( ) As String
cs	string **describe**( )
java	String **describe**( )
py	**describe**( )
php	function **describe**( )
es	async **describe**( )

More precisely, `TYPE` is the type of the function, `NAME` it the name used for the first access to the function, `SERIAL` is the serial number of the module if the module is connected or `"unresolved"`, and `FUNCTIONID` is the hardware identifier of the function if the module is connected. For example, this method returns `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1` if the module is already connected or `Relay(BadCustomeName.relay1)=unresolved` if the module has not yet been connected. This method does not trigger any USB or TCP transaction and can therefore be used in a debugger.

Returns :
a string that describes the network interface (ex: `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1`)

network→get_adminPassword() network→adminPassword()

YNetwork

Returns a hash string if a password has been set for user "admin", or an empty string otherwise.

js	function **get_adminPassword**( )
cpp	string **get_adminPassword**( )
m	-(NSString*) adminPassword
pas	function **get_adminPassword**( ): string
vb	function **get_adminPassword**( ) As String
cs	string **get_adminPassword**( )
java	String **get_adminPassword**( )
uwp	async Task<string> **get_adminPassword**( )
py	**get_adminPassword**( )
php	function **get_adminPassword**( )
es	async **get_adminPassword**( )
cmd	YNetwork **target** **get_adminPassword**

Returns :

a string corresponding to a hash string if a password has been set for user "admin", or an empty string otherwise

On failure, throws an exception or returns `Y_ADMINPASSWORD_INVALID`.

network→get_advertisedValue() network→advertisedValue()

YNetwork

Returns the current value of the network interface (no more than 6 characters).

js	function **get_advertisedValue**( )
cpp	string **get_advertisedValue**( )
m	-(NSString*) advertisedValue
pas	function **get_advertisedValue**( ): string
vb	function **get_advertisedValue**( ) As String
cs	string **get_advertisedValue**( )
java	String **get_advertisedValue**( )
uwp	async Task<string> **get_advertisedValue**( )
py	**get_advertisedValue**( )
php	function **get_advertisedValue**( )
es	async **get_advertisedValue**( )
cmd	YNetwork **target** **get_advertisedValue**

Returns :
a string corresponding to the current value of the network interface (no more than 6 characters).

On failure, throws an exception or returns `Y_ADVERTISEDVALUE_INVALID`.

network→get_callbackCredentials() network→callbackCredentials() YNetwork

Returns a hashed version of the notification callback credentials if set, or an empty string otherwise.

js	function **get_callbackCredentials**( )
cpp	string **get_callbackCredentials**( )
m	-(NSString*) callbackCredentials
pas	function **get_callbackCredentials**( ): string
vb	function **get_callbackCredentials**( ) As String
cs	string **get_callbackCredentials**( )
java	String **get_callbackCredentials**( )
uwp	async Task<string> **get_callbackCredentials**( )
py	**get_callbackCredentials**( )
php	function **get_callbackCredentials**( )
es	async **get_callbackCredentials**( )
cmd	YNetwork **target** **get_callbackCredentials**

Returns :
a string corresponding to a hashed version of the notification callback credentials if set, or an empty string otherwise

On failure, throws an exception or returns `Y_CALLBACKCREDENTIALS_INVALID`.

network→get_callbackEncoding() network→callbackEncoding() YNetwork

Returns the encoding standard to use for representing notification values.

js	function **get_callbackEncoding**( )
cpp	Y_CALLBACKENCODING_enum **get_callbackEncoding**( )
m	-(Y_CALLBACKENCODING_enum) callbackEncoding
pas	function **get_callbackEncoding**( ): Integer
vb	function **get_callbackEncoding**( ) As Integer
cs	int **get_callbackEncoding**( )
java	int **get_callbackEncoding**( )
uwp	async Task<int> **get_callbackEncoding**( )
py	**get_callbackEncoding**( )
php	function **get_callbackEncoding**( )
es	async **get_callbackEncoding**( )
cmd	YNetwork **target get_callbackEncoding**

Returns :

a value among Y_CALLBACKENCODING_FORM, Y_CALLBACKENCODING_JSON, Y_CALLBACKENCODING_JSON_ARRAY, Y_CALLBACKENCODING_CSV, Y_CALLBACKENCODING_YOCTO_API, Y_CALLBACKENCODING_JSON_NUM, Y_CALLBACKENCODING_EMONCMS, Y_CALLBACKENCODING_AZURE, Y_CALLBACKENCODING_INFLUXDB, Y_CALLBACKENCODING_MQTT, Y_CALLBACKENCODING_YOCTO_API_JZON and Y_CALLBACKENCODING_PRTG corresponding to the encoding standard to use for representing notification values

On failure, throws an exception or returns Y_CALLBACKENCODING_INVALID.

network→get_callbackInitialDelay() network→callbackInitialDelay()

YNetwork

Returns the initial waiting time before first callback notifications, in seconds.

js	function **get_callbackInitialDelay**( )
cpp	int **get_callbackInitialDelay**( )
m	-(int) callbackInitialDelay
pas	function **get_callbackInitialDelay**( ): LongInt
vb	function **get_callbackInitialDelay**( ) As Integer
cs	int **get_callbackInitialDelay**( )
java	int **get_callbackInitialDelay**( )
uwp	async Task<int> **get_callbackInitialDelay**( )
py	**get_callbackInitialDelay**( )
php	function **get_callbackInitialDelay**( )
es	async **get_callbackInitialDelay**( )
cmd	YNetwork **target** **get_callbackInitialDelay**

Returns :

an integer corresponding to the initial waiting time before first callback notifications, in seconds

On failure, throws an exception or returns `Y_CALLBACKINITIALDELAY_INVALID`.

network→get_callbackMaxDelay() network→callbackMaxDelay() YNetwork

Returns the waiting time between two HTTP callbacks when there is nothing new.

js	function **get_callbackMaxDelay**( )
cpp	int **get_callbackMaxDelay**( )
m	-(int) callbackMaxDelay
pas	function **get_callbackMaxDelay**( ): LongInt
vb	function **get_callbackMaxDelay**( ) As Integer
cs	int **get_callbackMaxDelay**( )
java	int **get_callbackMaxDelay**( )
uwp	async Task<int> **get_callbackMaxDelay**( )
py	**get_callbackMaxDelay**( )
php	function **get_callbackMaxDelay**( )
es	async **get_callbackMaxDelay**( )
cmd	YNetwork **target** **get_callbackMaxDelay**

Returns :
an integer corresponding to the waiting time between two HTTP callbacks when there is nothing new

On failure, throws an exception or returns `Y_CALLBACKMAXDELAY_INVALID`.

network→get_callbackMethod() network→callbackMethod()

YNetwork

Returns the HTTP method used to notify callbacks for significant state changes.

js	function **get_callbackMethod**( )
cpp	Y_CALLBACKMETHOD_enum **get_callbackMethod**( )
m	-(Y_CALLBACKMETHOD_enum) callbackMethod
pas	function **get_callbackMethod**( ): Integer
vb	function **get_callbackMethod**( ) As Integer
cs	int **get_callbackMethod**( )
java	int **get_callbackMethod**( )
uwp	async Task<int> **get_callbackMethod**( )
py	**get_callbackMethod**( )
php	function **get_callbackMethod**( )
es	async **get_callbackMethod**( )
cmd	YNetwork **target** **get_callbackMethod**

Returns :

a value among `Y_CALLBACKMETHOD_POST`, `Y_CALLBACKMETHOD_GET` and `Y_CALLBACKMETHOD_PUT` corresponding to the HTTP method used to notify callbacks for significant state changes

On failure, throws an exception or returns `Y_CALLBACKMETHOD_INVALID`.

network→get_callbackMinDelay()
network→callbackMinDelay()

YNetwork

Returns the minimum waiting time between two HTTP callbacks, in seconds.

js	function **get_callbackMinDelay**( )
cpp	int **get_callbackMinDelay**( )
m	-(int) callbackMinDelay
pas	function **get_callbackMinDelay**( ): LongInt
vb	function **get_callbackMinDelay**( ) As Integer
cs	int **get_callbackMinDelay**( )
java	int **get_callbackMinDelay**( )
uwp	async Task<int> **get_callbackMinDelay**( )
py	**get_callbackMinDelay**( )
php	function **get_callbackMinDelay**( )
es	async **get_callbackMinDelay**( )
cmd	YNetwork **target** **get_callbackMinDelay**

Returns :
an integer corresponding to the minimum waiting time between two HTTP callbacks, in seconds

On failure, throws an exception or returns `Y_CALLBACKMINDELAY_INVALID`.

network→get_callbackSchedule()
network→callbackSchedule()

YNetwork

Returns the HTTP callback schedule strategy, as a text string.

js	function **get_callbackSchedule**( )
cpp	string **get_callbackSchedule**( )
m	-(NSString*) callbackSchedule
pas	function **get_callbackSchedule**( ): string
vb	function **get_callbackSchedule**( ) As String
cs	string **get_callbackSchedule**( )
java	String **get_callbackSchedule**( )
uwp	async Task<string> **get_callbackSchedule**( )
py	**get_callbackSchedule**( )
php	function **get_callbackSchedule**( )
es	async **get_callbackSchedule**( )
cmd	YNetwork **target** **get_callbackSchedule**

Returns :
a string corresponding to the HTTP callback schedule strategy, as a text string

On failure, throws an exception or returns `Y_CALLBACKSCHEDULE_INVALID`.

network→get_callbackUrl() network→callbackUrl() YNetwork

Returns the callback URL to notify of significant state changes.

js	function **get_callbackUrl**( )
cpp	string **get_callbackUrl**( )
m	-(NSString*) callbackUrl
pas	function **get_callbackUrl**( ): string
vb	function **get_callbackUrl**( ) As String
cs	string **get_callbackUrl**( )
java	String **get_callbackUrl**( )
uwp	async Task<string> **get_callbackUrl**( )
py	**get_callbackUrl**( )
php	function **get_callbackUrl**( )
es	async **get_callbackUrl**( )
cmd	YNetwork **target** **get_callbackUrl**

Returns :
a string corresponding to the callback URL to notify of significant state changes

On failure, throws an exception or returns `Y_CALLBACKURL_INVALID`.

network→get_defaultPage() network→defaultPage()

YNetwork

Returns the HTML page to serve for the URL "/"" of the hub.

js	function **get_defaultPage**( )
cpp	string **get_defaultPage**( )
m	-(NSString*) defaultPage
pas	function **get_defaultPage**( ): string
vb	function **get_defaultPage**( ) As String
cs	string **get_defaultPage**( )
java	String **get_defaultPage**( )
uwp	async Task<string> **get_defaultPage**( )
py	**get_defaultPage**( )
php	function **get_defaultPage**( )
es	async **get_defaultPage**( )
cmd	YNetwork **target** **get_defaultPage**

Returns :
a string corresponding to the HTML page to serve for the URL "/"" of the hub

On failure, throws an exception or returns `Y_DEFAULTPAGE_INVALID`.

network→get_discoverable() network→discoverable()

YNetwork

Returns the activation state of the multicast announce protocols to allow easy discovery of the module in the network neighborhood (uPnP/Bonjour protocol).

js	function **get_discoverable**( )
cpp	Y_DISCOVERABLE_enum **get_discoverable**( )
m	-(Y_DISCOVERABLE_enum) discoverable
pas	function **get_discoverable**( ): Integer
vb	function **get_discoverable**( ) As Integer
cs	int **get_discoverable**( )
java	int **get_discoverable**( )
uwp	async Task<int> **get_discoverable**( )
py	**get_discoverable**( )
php	function **get_discoverable**( )
es	async **get_discoverable**( )
cmd	YNetwork **target** **get_discoverable**

Returns :

either `Y_DISCOVERABLE_FALSE` or `Y_DISCOVERABLE_TRUE`, according to the activation state of the multicast announce protocols to allow easy discovery of the module in the network neighborhood (uPnP/Bonjour protocol)

On failure, throws an exception or returns `Y_DISCOVERABLE_INVALID`.

network→get_errorMessage() network→errorMessage()

YNetwork

Returns the error message of the latest error with the network interface.

js	function **get_errorMessage**( )
cpp	string **get_errorMessage**( )
m	-(NSString*) errorMessage
pas	function **get_errorMessage**( ): string
vb	function **get_errorMessage**( ) As String
cs	string **get_errorMessage**( )
java	String **get_errorMessage**( )
py	**get_errorMessage**( )
php	function **get_errorMessage**( )
es	**get_errorMessage**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :

a string corresponding to the latest error message that occured while using the network interface object

network→get_errorType()
network→errorType()

YNetwork

Returns the numerical error code of the latest error with the network interface.

js	function **get_errorType**( )
cpp	YRETCODE **get_errorType**( )
m	-(YRETCODE) errorType
pas	function **get_errorType**( ): YRETCODE
vb	function **get_errorType**( ) As YRETCODE
cs	YRETCODE **get_errorType**( )
java	int **get_errorType**( )
py	**get_errorType**( )
php	function **get_errorType**( )
es	**get_errorType**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a number corresponding to the code of the latest error that occurred while using the network interface object

network→get_friendlyName()
network→friendlyName() YNetwork

Returns a global identifier of the network interface in the format `MODULE_NAME.FUNCTION_NAME`.

js	function **get_friendlyName**( )
cpp	string **get_friendlyName**( )
m	-(NSString*) friendlyName
cs	string **get_friendlyName**( )
java	String **get_friendlyName**( )
py	**get_friendlyName**( )
php	function **get_friendlyName**( )
es	async **get_friendlyName**( )

The returned string uses the logical names of the module and of the network interface if they are defined, otherwise the serial number of the module and the hardware identifier of the network interface (for example: `MyCustomName.relay1`)

Returns :

a string that uniquely identifies the network interface using logical names (ex: `MyCustomName.relay1`)

On failure, throws an exception or returns `Y_FRIENDLYNAME_INVALID`.

network→get_functionDescriptor()
network→functionDescriptor() — YNetwork

Returns a unique identifier of type YFUN_DESCR corresponding to the function.

js	function **get_functionDescriptor**( )
cpp	YFUN_DESCR **get_functionDescriptor**( )
m	-(YFUN_DESCR) functionDescriptor
pas	function **get_functionDescriptor**( ): YFUN_DESCR
vb	function **get_functionDescriptor**( ) As YFUN_DESCR
cs	YFUN_DESCR **get_functionDescriptor**( )
java	String **get_functionDescriptor**( )
py	**get_functionDescriptor**( )
php	function **get_functionDescriptor**( )
es	async **get_functionDescriptor**( )

This identifier can be used to test if two instances of `YFunction` reference the same physical function on the same physical device.

Returns :
an identifier of type `YFUN_DESCR`.

If the function has never been contacted, the returned value is `Y_FUNCTIONDESCRIPTOR_INVALID`.

network→get_functionId()
network→functionId()

YNetwork

Returns the hardware identifier of the network interface, without reference to the module.

js	function **get_functionId**( )
cpp	string **get_functionId**( )
m	-(NSString*) functionId
vb	function **get_functionId**( ) As String
cs	string **get_functionId**( )
java	String **get_functionId**( )
py	**get_functionId**( )
php	function **get_functionId**( )
es	async **get_functionId**( )

For example `relay1`

Returns :
a string that identifies the network interface (ex: `relay1`)

On failure, throws an exception or returns `Y_FUNCTIONID_INVALID`.

network→get_hardwareId() network→hardwareId()

YNetwork

Returns the unique hardware identifier of the network interface in the form `SERIAL.FUNCTIONID`.

js	function **get_hardwareId**( )
cpp	string **get_hardwareId**( )
m	-(NSString*) hardwareId
vb	function **get_hardwareId**( ) As String
cs	string **get_hardwareId**( )
java	String **get_hardwareId**( )
py	**get_hardwareId**( )
php	function **get_hardwareId**( )
es	async **get_hardwareId**( )

The unique hardware identifier is composed of the device serial number and of the hardware identifier of the network interface (for example `RELAYLO1-123456.relay1`).

Returns :

a string that uniquely identifies the network interface (ex: `RELAYLO1-123456.relay1`)

On failure, throws an exception or returns `Y_HARDWAREID_INVALID`.

network→get_httpPort() network→httpPort() YNetwork

Returns the TCP port used to serve the hub web UI.

js	function **get_httpPort**( )
cpp	int **get_httpPort**( )
m	-(int) httpPort
pas	function **get_httpPort**( ): LongInt
vb	function **get_httpPort**( ) As Integer
cs	int **get_httpPort**( )
java	int **get_httpPort**( )
uwp	async Task<int> **get_httpPort**( )
py	**get_httpPort**( )
php	function **get_httpPort**( )
es	async **get_httpPort**( )
cmd	YNetwork **target** **get_httpPort**

Returns :
an integer corresponding to the TCP port used to serve the hub web UI

On failure, throws an exception or returns `Y_HTTPPORT_INVALID`.

network→get_ipAddress()
network→ipAddress()

YNetwork

Returns the IP address currently in use by the device.

js	function **get_ipAddress**( )
cpp	string **get_ipAddress**( )
m	-(NSString*) ipAddress
pas	function **get_ipAddress**( ): string
vb	function **get_ipAddress**( ) As String
cs	string **get_ipAddress**( )
java	String **get_ipAddress**( )
uwp	async Task<string> **get_ipAddress**( )
py	**get_ipAddress**( )
php	function **get_ipAddress**( )
es	async **get_ipAddress**( )
cmd	YNetwork **target** **get_ipAddress**

The address may have been configured statically, or provided by a DHCP server.

Returns :

a string corresponding to the IP address currently in use by the device

On failure, throws an exception or returns `Y_IPADDRESS_INVALID`.

network→get_ipConfig() network→ipConfig()

YNetwork

Returns the IP configuration of the network interface.

js	function **get_ipConfig**( )
cpp	string **get_ipConfig**( )
m	-(NSString*) ipConfig
pas	function **get_ipConfig**( ): string
vb	function **get_ipConfig**( ) As String
cs	string **get_ipConfig**( )
java	String **get_ipConfig**( )
uwp	async Task<string> **get_ipConfig**( )
py	**get_ipConfig**( )
php	function **get_ipConfig**( )
es	async **get_ipConfig**( )
cmd	YNetwork **target** **get_ipConfig**

If the network interface is setup to use a static IP address, the string starts with "STATIC:" and is followed by three parameters, separated by "/". The first is the device IP address, followed by the subnet mask length, and finally the router IP address (default gateway). For instance: "STATIC:192.168.1.14/16/192.168.1.1"

If the network interface is configured to receive its IP from a DHCP server, the string start with "DHCP:" and is followed by three parameters separated by "/". The first is the fallback IP address, then the fallback subnet mask length and finally the fallback router IP address. These three parameters are used when no DHCP reply is received.

Returns :
a string corresponding to the IP configuration of the network interface

On failure, throws an exception or returns `Y_IPCONFIG_INVALID`.

network→get_logicalName()
network→logicalName() — YNetwork

Returns the logical name of the network interface.

js	function **get_logicalName**( )
cpp	string **get_logicalName**( )
m	-(NSString*) logicalName
pas	function **get_logicalName**( ): string
vb	function **get_logicalName**( ) As String
cs	string **get_logicalName**( )
java	String **get_logicalName**( )
uwp	async Task<string> **get_logicalName**( )
py	**get_logicalName**( )
php	function **get_logicalName**( )
es	async **get_logicalName**( )
cmd	YNetwork **target** **get_logicalName**

Returns :
a string corresponding to the logical name of the network interface.

On failure, throws an exception or returns `Y_LOGICALNAME_INVALID`.

network→get_macAddress()
network→macAddress()

YNetwork

Returns the MAC address of the network interface.

js	function **get_macAddress**( )
cpp	string **get_macAddress**( )
m	-(NSString*) macAddress
pas	function **get_macAddress**( ): string
vb	function **get_macAddress**( ) As String
cs	string **get_macAddress**( )
java	String **get_macAddress**( )
uwp	async Task<string> **get_macAddress**( )
py	**get_macAddress**( )
php	function **get_macAddress**( )
es	async **get_macAddress**( )
cmd	YNetwork **target** **get_macAddress**

The MAC address is also available on a sticker on the module, in both numeric and barcode forms.

Returns :
a string corresponding to the MAC address of the network interface

On failure, throws an exception or returns `Y_MACADDRESS_INVALID`.

network→get_module()
network→module()

YNetwork

Gets the `YModule` object for the device on which the function is located.

js	function **get_module**( )
cpp	YModule * **get_module**( )
m	-(YModule*) module
pas	function **get_module**( ): TYModule
vb	function **get_module**( ) As YModule
cs	YModule **get_module**( )
java	YModule **get_module**( )
py	**get_module**( )
php	function **get_module**( )
es	async **get_module**( )

If the function cannot be located on any module, the returned instance of `YModule` is not shown as on-line.

Returns :
an instance of `YModule`

network→get_module_async() network→module_async()

YNetwork

Gets the `YModule` object for the device on which the function is located (asynchronous version).

```
js function get_module_async( callback, context)
```

If the function cannot be located on any module, the returned `YModule` object does not show as on-line.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking Firefox JavaScript VM that does not implement context switching during blocking I/O calls. See the documentation section on asynchronous JavasSript calls for more details.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the requested `YModule` object

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

network→get_ntpServer()
network→ntpServer()

YNetwork

Returns the IP address of the NTP server to be used by the device.

js	function **get_ntpServer**( )
cpp	string **get_ntpServer**( )
m	-(NSString*) ntpServer
pas	function **get_ntpServer**( ): string
vb	function **get_ntpServer**( ) As String
cs	string **get_ntpServer**( )
java	String **get_ntpServer**( )
uwp	async Task<string> **get_ntpServer**( )
py	**get_ntpServer**( )
php	function **get_ntpServer**( )
es	async **get_ntpServer**( )
cmd	YNetwork **target** **get_ntpServer**

Returns :
a string corresponding to the IP address of the NTP server to be used by the device

On failure, throws an exception or returns `Y_NTPSERVER_INVALID`.

network→get_poeCurrent() network→poeCurrent()

YNetwork

Returns the current consumed by the module from Power-over-Ethernet (PoE), in milliamps.

js	function **get_poeCurrent**( )
cpp	int **get_poeCurrent**( )
m	-(int) poeCurrent
pas	function **get_poeCurrent**( ): LongInt
vb	function **get_poeCurrent**( ) As Integer
cs	int **get_poeCurrent**( )
java	int **get_poeCurrent**( )
uwp	async Task<int> **get_poeCurrent**( )
py	**get_poeCurrent**( )
php	function **get_poeCurrent**( )
es	async **get_poeCurrent**( )
cmd	YNetwork **target** **get_poeCurrent**

The current consumption is measured after converting PoE source to 5 Volt, and should never exceed 1800 mA.

Returns :
an integer corresponding to the current consumed by the module from Power-over-Ethernet (PoE), in milliamps

On failure, throws an exception or returns `Y_POECURRENT_INVALID`.

network→get_primaryDNS()
network→primaryDNS()

YNetwork

Returns the IP address of the primary name server to be used by the module.

js	function **get_primaryDNS**( )
cpp	string **get_primaryDNS**( )
m	-(NSString*) primaryDNS
pas	function **get_primaryDNS**( ): string
vb	function **get_primaryDNS**( ) As String
cs	string **get_primaryDNS**( )
java	String **get_primaryDNS**( )
uwp	async Task<string> **get_primaryDNS**( )
py	**get_primaryDNS**( )
php	function **get_primaryDNS**( )
es	async **get_primaryDNS**( )
cmd	YNetwork **target** **get_primaryDNS**

Returns :
a string corresponding to the IP address of the primary name server to be used by the module

On failure, throws an exception or returns `Y_PRIMARYDNS_INVALID`.

network→get_readiness()
network→readiness()

YNetwork

Returns the current established working mode of the network interface.

js	function **get_readiness**( )
cpp	Y_READINESS_enum **get_readiness**( )
m	-(Y_READINESS_enum) readiness
pas	function **get_readiness**( ): Integer
vb	function **get_readiness**( ) As Integer
cs	int **get_readiness**( )
java	int **get_readiness**( )
uwp	async Task<int> **get_readiness**( )
py	**get_readiness**( )
php	function **get_readiness**( )
es	async **get_readiness**( )
cmd	YNetwork **target** **get_readiness**

Level zero (DOWN_0) means that no hardware link has been detected. Either there is no signal on the network cable, or the selected wireless access point cannot be detected. Level 1 (LIVE_1) is reached when the network is detected, but is not yet connected. For a wireless network, this shows that the requested SSID is present. Level 2 (LINK_2) is reached when the hardware connection is established. For a wired network connection, level 2 means that the cable is attached at both ends. For a connection to a wireless access point, it shows that the security parameters are properly configured. For an ad-hoc wireless connection, it means that there is at least one other device connected on the ad-hoc network. Level 3 (DHCP_3) is reached when an IP address has been obtained using DHCP. Level 4 (DNS_4) is reached when the DNS server is reachable on the network. Level 5 (WWW_5) is reached when global connectivity is demonstrated by properly loading the current time from an NTP server.

Returns :
a value among `Y_READINESS_DOWN`, `Y_READINESS_EXISTS`, `Y_READINESS_LINKED`, `Y_READINESS_LAN_OK` and `Y_READINESS_WWW_OK` corresponding to the current established working mode of the network interface

On failure, throws an exception or returns `Y_READINESS_INVALID`.

network→get_router()
network→router()

YNetwork

Returns the IP address of the router on the device subnet (default gateway).

js	function **get_router**( )
cpp	string **get_router**( )
m	-(NSString*) router
pas	function **get_router**( ): string
vb	function **get_router**( ) As String
cs	string **get_router**( )
java	String **get_router**( )
uwp	async Task<string> **get_router**( )
py	**get_router**( )
php	function **get_router**( )
es	async **get_router**( )
cmd	YNetwork **target** **get_router**

Returns :
a string corresponding to the IP address of the router on the device subnet (default gateway)

On failure, throws an exception or returns `Y_ROUTER_INVALID`.

network→get_secondaryDNS()
network→secondaryDNS()

YNetwork

Returns the IP address of the secondary name server to be used by the module.

js	function **get_secondaryDNS**( )
cpp	string **get_secondaryDNS**( )
m	-(NSString*) secondaryDNS
pas	function **get_secondaryDNS**( ): string
vb	function **get_secondaryDNS**( ) As String
cs	string **get_secondaryDNS**( )
java	String **get_secondaryDNS**( )
uwp	async Task<string> **get_secondaryDNS**( )
py	**get_secondaryDNS**( )
php	function **get_secondaryDNS**( )
es	async **get_secondaryDNS**( )
cmd	YNetwork **target** **get_secondaryDNS**

Returns :

a string corresponding to the IP address of the secondary name server to be used by the module

On failure, throws an exception or returns `Y_SECONDARYDNS_INVALID`.

network→get_serialNumber() network→serialNumber()

YNetwork

Returns the serial number of the module, as set by the factory.

js	function **get_serialNumber**( )
cpp	string **get_serialNumber**( )
m	-(NSString*) serialNumber
pas	function **get_serialNumber**( ): string
vb	function **get_serialNumber**( ) As String
cs	string **get_serialNumber**( )
java	String **get_serialNumber**( )
uwp	async Task<string> **get_serialNumber**( )
py	**get_serialNumber**( )
php	function **get_serialNumber**( )
es	async **get_serialNumber**( )
cmd	YNetwork **target** **get_serialNumber**

Returns :
a string corresponding to the serial number of the module, as set by the factory.

On failure, throws an exception or returns YModule.SERIALNUMBER_INVALID.

network→get_subnetMask() network→subnetMask()

YNetwork

Returns the subnet mask currently used by the device.

js	function **get_subnetMask**( )
cpp	string **get_subnetMask**( )
m	-(NSString*) subnetMask
pas	function **get_subnetMask**( ): string
vb	function **get_subnetMask**( ) As String
cs	string **get_subnetMask**( )
java	String **get_subnetMask**( )
uwp	async Task<string> **get_subnetMask**( )
py	**get_subnetMask**( )
php	function **get_subnetMask**( )
es	async **get_subnetMask**( )
cmd	YNetwork **target** **get_subnetMask**

Returns :
a string corresponding to the subnet mask currently used by the device

On failure, throws an exception or returns `Y_SUBNETMASK_INVALID`.

network→get_userData() network→userData()

YNetwork

Returns the value of the userData attribute, as previously stored using method `set_userData`.

js	function **get_userData**( )
cpp	void * **get_userData**( )
m	-(id) userData
pas	function **get_userData**( ): Tobject
vb	function **get_userData**( ) As Object
cs	object **get_userData**( )
java	Object **get_userData**( )
py	**get_userData**( )
php	function **get_userData**( )
es	async **get_userData**( )

This attribute is never touched directly by the API, and is at disposal of the caller to store a context.

Returns :
the object stored previously by the caller.

network→get_userPassword()
network→userPassword()

YNetwork

Returns a hash string if a password has been set for "user" user, or an empty string otherwise.

js	function **get_userPassword**( )
cpp	string **get_userPassword**( )
m	-(NSString*) userPassword
pas	function **get_userPassword**( ): string
vb	function **get_userPassword**( ) As String
cs	string **get_userPassword**( )
java	String **get_userPassword**( )
uwp	async Task<string> **get_userPassword**( )
py	**get_userPassword**( )
php	function **get_userPassword**( )
es	async **get_userPassword**( )
cmd	YNetwork **target** **get_userPassword**

Returns :

a string corresponding to a hash string if a password has been set for "user" user, or an empty string otherwise

On failure, throws an exception or returns `Y_USERPASSWORD_INVALID`.

network→get_wwwWatchdogDelay() network→wwwWatchdogDelay() YNetwork

Returns the allowed downtime of the WWW link (in seconds) before triggering an automated reboot to try to recover Internet connectivity.

js	function **get_wwwWatchdogDelay**( )
cpp	int **get_wwwWatchdogDelay**( )
m	-(int) wwwWatchdogDelay
pas	function **get_wwwWatchdogDelay**( ): LongInt
vb	function **get_wwwWatchdogDelay**( ) As Integer
cs	int **get_wwwWatchdogDelay**( )
java	int **get_wwwWatchdogDelay**( )
uwp	async Task<int> **get_wwwWatchdogDelay**( )
py	**get_wwwWatchdogDelay**( )
php	function **get_wwwWatchdogDelay**( )
es	async **get_wwwWatchdogDelay**( )
cmd	YNetwork **target** **get_wwwWatchdogDelay**

A zero value disables automated reboot in case of Internet connectivity loss.

Returns :
an integer corresponding to the allowed downtime of the WWW link (in seconds) before triggering an automated reboot to try to recover Internet connectivity

On failure, throws an exception or returns `Y_WWWWATCHDOGDELAY_INVALID`.

network→isOnline() YNetwork

Checks if the network interface is currently reachable, without raising any error.

js	function **isOnline**( )
cpp	bool **isOnline**( )
m	-(BOOL) **isOnline**
pas	function **isOnline**( ): boolean
vb	function **isOnline**( ) As Boolean
cs	bool **isOnline**( )
java	boolean **isOnline**( )
py	**isOnline**( )
php	function **isOnline**( )
es	async **isOnline**( )

If there is a cached value for the network interface in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the network interface.

Returns :
`true` if the network interface can be reached, and `false` otherwise

network→isOnline_async() YNetwork

Checks if the network interface is currently reachable, without raising any error (asynchronous version).

```
js function isOnline_async( callback, context)
```

If there is a cached value for the network interface in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the requested function.

This asynchronous version exists only in Javascript. It uses a callback instead of a return value in order to avoid blocking the Javascript virtual machine.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the boolean result

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

network→isReadOnly() YNetwork

Test if the function is readOnly.

cpp	bool **isReadOnly**( )
m	-(bool) **isReadOnly**
pas	function **isReadOnly**( ): boolean
vb	function **isReadOnly**( ) As Boolean
cs	bool **isReadOnly**( )
java	boolean **isReadOnly**( )
uwp	async Task<bool> **isReadOnly**( )
py	**isReadOnly**( )
php	function **isReadOnly**( )
es	async **isReadOnly**( )
cmd	YNetwork **target** **isReadOnly**

Return `true` if the function is write protected or that the function is not available.

Returns :
`true` if the function is readOnly or not online.

network→load() YNetwork

Preloads the network interface cache with a specified validity duration.

js	function **load**(**msValidity**)
cpp	YRETCODE **load**(int **msValidity**)
m	-(YRETCODE) **load** : (u64) **msValidity**
pas	function **load**(**msValidity**: u64): YRETCODE
vb	function **load**(ByVal **msValidity** As Long) As YRETCODE
cs	YRETCODE **load**(ulong **msValidity**)
java	int **load**(long **msValidity**)
py	**load**(**msValidity**)
php	function **load**(**$msValidity**)
es	async **load**(**msValidity**)

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

Parameters :

msValidity an integer corresponding to the validity attributed to the loaded function parameters, in milliseconds

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

network→loadAttribute() YNetwork

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

js	function **loadAttribute**(**attrName**)
cpp	string **loadAttribute**(string **attrName**)
m	-(NSString*) **loadAttribute** : (NSString*) **attrName**
pas	function **loadAttribute**(**attrName**: string): string
vb	function **loadAttribute**( ) As String
cs	string **loadAttribute**(string **attrName**)
java	String **loadAttribute**(String **attrName**)
uwp	async Task<string> **loadAttribute**(string **attrName**)
py	**loadAttribute**(**attrName**)
php	function **loadAttribute**(**$attrName**)
es	async **loadAttribute**(**attrName**)

Parameters :

attrName the name of the requested attribute

Returns :

a string with the value of the the attribute

On failure, throws an exception or returns an empty string.

network→load_async() YNetwork

Preloads the network interface cache with a specified validity duration (asynchronous version).

```
js function load_async( msValidity, callback, context)
```

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking the JavaScript virtual machine.

Parameters :

msValidity an integer corresponding to the validity of the loaded function parameters, in milliseconds

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the error code (or `YAPI_SUCCESS`)

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

network→muteValueCallbacks() YNetwork

Disables the propagation of every new advertised value to the parent hub.

js	function **muteValueCallbacks**( )
cpp	int **muteValueCallbacks**( )
m	-(int) **muteValueCallbacks**
pas	function **muteValueCallbacks**( ): LongInt
vb	function **muteValueCallbacks**( ) As Integer
cs	int **muteValueCallbacks**( )
java	int **muteValueCallbacks**( )
uwp	async Task<int> **muteValueCallbacks**( )
py	**muteValueCallbacks**( )
php	function **muteValueCallbacks**( )
es	async **muteValueCallbacks**( )
cmd	YNetwork **target** **muteValueCallbacks**

You can use this function to save bandwidth and CPU on computers with limited resources, or to prevent unwanted invocations of the HTTP callback. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

network→nextNetwork() YNetwork

Continues the enumeration of network interfaces started using `yFirstNetwork()`.

js	function **nextNetwork**( )
cpp	YNetwork * **nextNetwork**( )
m	-(YNetwork*) **nextNetwork**
pas	function **nextNetwork**( ): TYNetwork
vb	function **nextNetwork**( ) As YNetwork
cs	YNetwork **nextNetwork**( )
java	YNetwork **nextNetwork**( )
uwp	YNetwork **nextNetwork**( )
py	**nextNetwork**( )
php	function **nextNetwork**( )
es	**nextNetwork**( )

Caution: You can't make any assumption about the returned network interfaces order. If you want to find a specific a network interface, use `Network.findNetwork()` and a hardwareID or a logical name.

Returns :

a pointer to a `YNetwork` object, corresponding to a network interface currently online, or a `null` pointer if there are no more network interfaces to enumerate.

network→ping() YNetwork

Pings host to test the network connectivity.

js	function **ping**(**host**)
cpp	string **ping**(string **host**)
m	-(NSString*) **ping** : (NSString*) **host**
pas	function **ping**(**host**: string): string
vb	function **ping**( ) As String
cs	string **ping**(string **host**)
java	String **ping**(String **host**)
uwp	async Task<string> **ping**(string **host**)
py	**ping**(**host**)
php	function **ping**(**$host**)
es	async **ping**(**host**)
cmd	YNetwork **target** **ping** **host**

Sends four ICMP ECHO_REQUEST requests from the module to the target host. This method returns a string with the result of the 4 ICMP ECHO_REQUEST requests.

Parameters :

host the hostname or the IP address of the target

Returns :

a string with the result of the ping.

network→registerValueCallback() YNetwork

Registers the callback function that is invoked on every change of advertised value.

js	function **registerValueCallback**(**callback**)
cpp	int **registerValueCallback**(YNetworkValueCallback **callback**)
m	-(int) **registerValueCallback** : (YNetworkValueCallback) **callback**
pas	function **registerValueCallback**(**callback**: TYNetworkValueCallback): LongInt
vb	function **registerValueCallback**( ) As Integer
cs	int **registerValueCallback**(ValueCallback **callback**)
java	int **registerValueCallback**(UpdateCallback **callback**)
uwp	async Task<int> **registerValueCallback**(ValueCallback **callback**)
py	**registerValueCallback**(**callback**)
php	function **registerValueCallback**(**$callback**)
es	async **registerValueCallback**(**callback**)

The callback is invoked only during the execution of `ySleep` or `yHandleEvents`. This provides control over the time when the callback is triggered. For good responsiveness, remember to call one of these two functions periodically. To unregister a callback, pass a null pointer as argument.

Parameters :

callback the callback function to call, or a null pointer. The callback function should take two arguments: the function object of which the value has changed, and the character string describing the new advertised value.

network→set_adminPassword()
network→setAdminPassword() — YNetwork

Changes the password for the "admin" user.

js	function **set_adminPassword**(**newval**)
cpp	int **set_adminPassword**(const string& **newval**)
m	-(int) setAdminPassword : (NSString*) **newval**
pas	function **set_adminPassword**(**newval**: string): integer
vb	function **set_adminPassword**(ByVal **newval** As String) As Integer
cs	int **set_adminPassword**(string **newval**)
java	int **set_adminPassword**(String **newval**)
uwp	async Task<int> **set_adminPassword**(string **newval**)
py	**set_adminPassword**(**newval**)
php	function **set_adminPassword**(**$newval**)
es	async **set_adminPassword**(**newval**)
cmd	YNetwork **target set_adminPassword** **newval**

This password becomes instantly required to perform any change of the module state. If the specified value is an empty string, a password is not required anymore. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the password for the "admin" user

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_callbackCredentials()
network→setCallbackCredentials()

YNetwork

Changes the credentials required to connect to the callback address.

js	function **set_callbackCredentials**(**newval**)
cpp	int **set_callbackCredentials**(const string& **newval**)
m	-(int) setCallbackCredentials : (NSString*) **newval**
pas	function **set_callbackCredentials**(**newval**: string): integer
vb	function **set_callbackCredentials**(ByVal **newval** As String) As Integer
cs	int **set_callbackCredentials**(string **newval**)
java	int **set_callbackCredentials**(String **newval**)
uwp	async Task<int> **set_callbackCredentials**(string **newval**)
py	**set_callbackCredentials**(**newval**)
php	function **set_callbackCredentials**(**$newval**)
es	async **set_callbackCredentials**(**newval**)
cmd	YNetwork **target set_callbackCredentials newval**

The credentials must be provided as returned by function `get_callbackCredentials`, in the form `username:hash`. The method used to compute the hash varies according to the the authentication scheme implemented by the callback, For Basic authentication, the hash is the MD5 of the string `username:password`. For Digest authentication, the hash is the MD5 of the string `username:realm:password`. For a simpler way to configure callback credentials, use function `callbackLogin` instead. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the credentials required to connect to the callback address

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_callbackEncoding()
network→setCallbackEncoding()

YNetwork

Changes the encoding standard to use for representing notification values.

js	function **set_callbackEncoding**(**newval**)
cpp	int **set_callbackEncoding**(Y_CALLBACKENCODING_enum **newval**)
m	-(int) setCallbackEncoding : (Y_CALLBACKENCODING_enum) **newval**
pas	function **set_callbackEncoding**(**newval**: Integer): integer
vb	function **set_callbackEncoding**(ByVal **newval** As Integer) As Integer
cs	int **set_callbackEncoding**(int **newval**)
java	int **set_callbackEncoding**(int **newval**)
uwp	async Task<int> **set_callbackEncoding**(int **newval**)
py	**set_callbackEncoding**(**newval**)
php	function **set_callbackEncoding**(**$newval**)
es	async **set_callbackEncoding**(**newval**)
cmd	YNetwork **target** **set_callbackEncoding** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a value among `Y_CALLBACKENCODING_FORM`, `Y_CALLBACKENCODING_JSON`, `Y_CALLBACKENCODING_JSON_ARRAY`, `Y_CALLBACKENCODING_CSV`, `Y_CALLBACKENCODING_YOCTO_API`, `Y_CALLBACKENCODING_JSON_NUM`, `Y_CALLBACKENCODING_EMONCMS`, `Y_CALLBACKENCODING_AZURE`, `Y_CALLBACKENCODING_INFLUXDB`, `Y_CALLBACKENCODING_MQTT`, `Y_CALLBACKENCODING_YOCTO_API_JZON` and `Y_CALLBACKENCODING_PRTG` corresponding to the encoding standard to use for representing notification values

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_callbackInitialDelay() network→setCallbackInitialDelay()

YNetwork

Changes the initial waiting time before first callback notifications, in seconds.

js	function **set_callbackInitialDelay**(**newval**)
cpp	int **set_callbackInitialDelay**(int **newval**)
m	-(int) setCallbackInitialDelay : (int) **newval**
pas	function **set_callbackInitialDelay**(**newval**: LongInt): integer
vb	function **set_callbackInitialDelay**(ByVal **newval** As Integer) As Integer
cs	int **set_callbackInitialDelay**(int **newval**)
java	int **set_callbackInitialDelay**(int **newval**)
uwp	async Task<int> **set_callbackInitialDelay**(int **newval**)
py	**set_callbackInitialDelay**(**newval**)
php	function **set_callbackInitialDelay**(**$newval**)
es	async **set_callbackInitialDelay**(**newval**)
cmd	YNetwork **target** **set_callbackInitialDelay** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the initial waiting time before first callback notifications, in seconds

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_callbackMaxDelay() network→setCallbackMaxDelay()

YNetwork

Changes the waiting time between two HTTP callbacks when there is nothing new.

js	function **set_callbackMaxDelay**(**newval**)
cpp	int **set_callbackMaxDelay**(int **newval**)
m	-(int) setCallbackMaxDelay : (int) **newval**
pas	function **set_callbackMaxDelay**(**newval**: LongInt): integer
vb	function **set_callbackMaxDelay**(ByVal **newval** As Integer) As Integer
cs	int **set_callbackMaxDelay**(int **newval**)
java	int **set_callbackMaxDelay**(int **newval**)
uwp	async Task<int> **set_callbackMaxDelay**(int **newval**)
py	**set_callbackMaxDelay**(**newval**)
php	function **set_callbackMaxDelay**(**$newval**)
es	async **set_callbackMaxDelay**(**newval**)
cmd	YNetwork **target set_callbackMaxDelay newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the waiting time between two HTTP callbacks when there is nothing new

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_callbackMethod() network→setCallbackMethod()

YNetwork

Changes the HTTP method used to notify callbacks for significant state changes.

js	function **set_callbackMethod**(**newval**)
cpp	int **set_callbackMethod**(Y_CALLBACKMETHOD_enum **newval**)
m	-(int) setCallbackMethod : (Y_CALLBACKMETHOD_enum) **newval**
pas	function **set_callbackMethod**(**newval**: Integer): integer
vb	function **set_callbackMethod**(ByVal **newval** As Integer) As Integer
cs	int **set_callbackMethod**(int **newval**)
java	int **set_callbackMethod**(int **newval**)
uwp	async Task<int> **set_callbackMethod**(int **newval**)
py	**set_callbackMethod**(**newval**)
php	function **set_callbackMethod**(**$newval**)
es	async **set_callbackMethod**(**newval**)
cmd	YNetwork **target set_callbackMethod newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a value among `Y_CALLBACKMETHOD_POST`, `Y_CALLBACKMETHOD_GET` and `Y_CALLBACKMETHOD_PUT` corresponding to the HTTP method used to notify callbacks for significant state changes

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_callbackMinDelay() network→setCallbackMinDelay() YNetwork

Changes the minimum waiting time between two HTTP callbacks, in seconds.

js	function **set_callbackMinDelay**(**newval**)
cpp	int **set_callbackMinDelay**(int **newval**)
m	-(int) setCallbackMinDelay : (int) **newval**
pas	function **set_callbackMinDelay**(**newval**: LongInt): integer
vb	function **set_callbackMinDelay**(ByVal **newval** As Integer) As Integer
cs	int **set_callbackMinDelay**(int **newval**)
java	int **set_callbackMinDelay**(int **newval**)
uwp	async Task<int> **set_callbackMinDelay**(int **newval**)
py	**set_callbackMinDelay**(**newval**)
php	function **set_callbackMinDelay**(**$newval**)
es	async **set_callbackMinDelay**(**newval**)
cmd	YNetwork **target** **set_callbackMinDelay** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the minimum waiting time between two HTTP callbacks, in seconds

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_callbackSchedule() network→setCallbackSchedule()

YNetwork

Changes the HTTP callback schedule strategy, as a text string.

js	function **set_callbackSchedule**(**newval**)
cpp	int **set_callbackSchedule**(const string& **newval**)
m	-(int) setCallbackSchedule : (NSString*) **newval**
pas	function **set_callbackSchedule**(**newval**: string): integer
vb	function **set_callbackSchedule**(ByVal **newval** As String) As Integer
cs	int **set_callbackSchedule**(string **newval**)
java	int **set_callbackSchedule**(String **newval**)
uwp	async Task<int> **set_callbackSchedule**(string **newval**)
py	**set_callbackSchedule**(**newval**)
php	function **set_callbackSchedule**(**$newval**)
es	async **set_callbackSchedule**(**newval**)
cmd	YNetwork **target** **set_callbackSchedule** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the HTTP callback schedule strategy, as a text string

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_callbackUrl() network→setCallbackUrl()

YNetwork

Changes the callback URL to notify significant state changes.

js	function **set_callbackUrl**(**newval**)
cpp	int **set_callbackUrl**(const string& **newval**)
m	-(int) setCallbackUrl : (NSString*) **newval**
pas	function **set_callbackUrl**(**newval**: string): integer
vb	function **set_callbackUrl**(ByVal **newval** As String) As Integer
cs	int **set_callbackUrl**(string **newval**)
java	int **set_callbackUrl**(String **newval**)
uwp	async Task<int> **set_callbackUrl**(string **newval**)
py	**set_callbackUrl**(**newval**)
php	function **set_callbackUrl**(**$newval**)
es	async **set_callbackUrl**(**newval**)
cmd	YNetwork **target** **set_callbackUrl** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the callback URL to notify significant state changes

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_defaultPage() network→setDefaultPage() YNetwork

Changes the default HTML page returned by the hub.

js	function **set_defaultPage**(**newval**)
cpp	int **set_defaultPage**(const string& **newval**)
m	-(int) setDefaultPage : (NSString*) **newval**
pas	function **set_defaultPage**(**newval**: string): integer
vb	function **set_defaultPage**(ByVal **newval** As String) As Integer
cs	int **set_defaultPage**(string **newval**)
java	int **set_defaultPage**(String **newval**)
uwp	async Task<int> **set_defaultPage**(string **newval**)
py	**set_defaultPage**(**newval**)
php	function **set_defaultPage**(**$newval**)
es	async **set_defaultPage**(**newval**)
cmd	YNetwork **target** **set_defaultPage** **newval**

If not value are set the hub return "index.html" which is the web interface of the hub. It is possible to change this page for file that has been uploaded on the hub. The maximum filename size is 15 characters. When you change this parameter, remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the default HTML page returned by the hub

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_discoverable() network→setDiscoverable() YNetwork

Changes the activation state of the multicast announce protocols to allow easy discovery of the module in the network neighborhood (uPnP/Bonjour protocol).

js	function **set_discoverable**(**newval**)
cpp	int **set_discoverable**(Y_DISCOVERABLE_enum **newval**)
m	-(int) setDiscoverable : (Y_DISCOVERABLE_enum) **newval**
pas	function **set_discoverable**(**newval**: Integer): integer
vb	function **set_discoverable**(ByVal **newval** As Integer) As Integer
cs	int **set_discoverable**(int **newval**)
java	int **set_discoverable**(int **newval**)
uwp	async Task<int> **set_discoverable**(int **newval**)
py	**set_discoverable**(**newval**)
php	function **set_discoverable**(**$newval**)
es	async **set_discoverable**(**newval**)
cmd	YNetwork **target** **set_discoverable** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval either `Y_DISCOVERABLE_FALSE` or `Y_DISCOVERABLE_TRUE`, according to the activation state of the multicast announce protocols to allow easy discovery of the module in the network neighborhood (uPnP/Bonjour protocol)

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_httpPort()
network→setHttpPort()

YNetwork

Changes the the TCP port used to serve the hub web UI.

js	function **set_httpPort**(**newval**)
cpp	int **set_httpPort**(int **newval**)
m	-(int) setHttpPort : (int) **newval**
pas	function **set_httpPort**(**newval**: LongInt): integer
vb	function **set_httpPort**(ByVal **newval** As Integer) As Integer
cs	int **set_httpPort**(int **newval**)
java	int **set_httpPort**(int **newval**)
uwp	async Task<int> **set_httpPort**(int **newval**)
py	**set_httpPort**(**newval**)
php	function **set_httpPort**(**$newval**)
es	async **set_httpPort**(**newval**)
cmd	YNetwork **target** **set_httpPort** **newval**

The default value is port 80, which is the default for all Web servers. Regardless of the value set here, the hub will always reply on port 4444, which is used by default by Yoctopuce API library. When you change this parameter, remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the the TCP port used to serve the hub web UI

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_logicalName()
network→setLogicalName()

YNetwork

Changes the logical name of the network interface.

js	function **set_logicalName**(**newval**)
cpp	int **set_logicalName**(const string& **newval**)
m	-(int) setLogicalName : (NSString*) **newval**
pas	function **set_logicalName**(**newval**: string): integer
vb	function **set_logicalName**(ByVal **newval** As String) As Integer
cs	int **set_logicalName**(string **newval**)
java	int **set_logicalName**(String **newval**)
uwp	async Task<int> **set_logicalName**(string **newval**)
py	**set_logicalName**(**newval**)
php	function **set_logicalName**(**$newval**)
es	async **set_logicalName**(**newval**)
cmd	YNetwork **target** **set_logicalName** **newval**

You can use `yCheckLogicalName()` prior to this call to make sure that your parameter is valid. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the logical name of the network interface.

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_ntpServer() network→setNtpServer()

YNetwork

Changes the IP address of the NTP server to be used by the module.

js	function **set_ntpServer**(**newval**)
cpp	int **set_ntpServer**(const string& **newval**)
m	-(int) setNtpServer : (NSString*) **newval**
pas	function **set_ntpServer**(**newval**: string): integer
vb	function **set_ntpServer**(ByVal **newval** As String) As Integer
cs	int **set_ntpServer**(string **newval**)
java	int **set_ntpServer**(String **newval**)
uwp	async Task<int> **set_ntpServer**(string **newval**)
py	**set_ntpServer**(**newval**)
php	function **set_ntpServer**(**$newval**)
es	async **set_ntpServer**(**newval**)
cmd	YNetwork **target** **set_ntpServer** **newval**

Use an empty string to restore the factory set address. Remember to call the `saveToFlash()` method and then to reboot the module to apply this setting.

Parameters :

newval a string corresponding to the IP address of the NTP server to be used by the module

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_periodicCallbackSchedule() network→setPeriodicCallbackSchedule()

YNetwork

Setup periodic HTTP callbacks (simplified function).

js	function **set_periodicCallbackSchedule**(**interval**, **offset**)
cpp	int **set_periodicCallbackSchedule**(string **interval**, int **offset**)
m	-(int) setPeriodicCallbackSchedule : (NSString*) **interval** : (int) **offset**
pas	function **set_periodicCallbackSchedule**(**interval**: string, **offset**: LongInt): LongInt
vb	function **set_periodicCallbackSchedule**( ) As Integer
cs	int **set_periodicCallbackSchedule**(string **interval**, int **offset**)
java	int **set_periodicCallbackSchedule**(String **interval**, int **offset**)
uwp	async Task<int> **set_periodicCallbackSchedule**(string **interval**, int **offset**)
py	**set_periodicCallbackSchedule**(**interval**, **offset**)
php	function **set_periodicCallbackSchedule**(**$interval**, **$offset**)
es	async **set_periodicCallbackSchedule**(**interval**, **offset**)
cmd	YNetwork **target** **set_periodicCallbackSchedule** **interval** **offset**

Parameters :

interval a string representing the callback periodicity, expressed in seconds, minutes or hours, eg. "60s", "5m", "1h", "48h".

offset an integer representing the time offset relative to the period when the callback should occur. For instance, if the periodicity is 24h, an offset of 7 will make the callback occur each day at 7AM.

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_primaryDNS() network→setPrimaryDNS() **YNetwork**

Changes the IP address of the primary name server to be used by the module.

js	function **set_primaryDNS**(**newval**)
cpp	int **set_primaryDNS**(const string& **newval**)
m	-(int) setPrimaryDNS : (NSString*) **newval**
pas	function **set_primaryDNS**(**newval**: string): integer
vb	function **set_primaryDNS**(ByVal **newval** As String) As Integer
cs	int **set_primaryDNS**(string **newval**)
java	int **set_primaryDNS**(String **newval**)
uwp	async Task<int> **set_primaryDNS**(string **newval**)
py	**set_primaryDNS**(**newval**)
php	function **set_primaryDNS**(**$newval**)
es	async **set_primaryDNS**(**newval**)
cmd	YNetwork **target set_primaryDNS newval**

When using DHCP, if a value is specified, it overrides the value received from the DHCP server. Remember to call the `saveToFlash()` method and then to reboot the module to apply this setting.

Parameters :

newval a string corresponding to the IP address of the primary name server to be used by the module

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_secondaryDNS()
network→setSecondaryDNS()

YNetwork

Changes the IP address of the secondary name server to be used by the module.

js	function **set_secondaryDNS**(**newval**)
cpp	int **set_secondaryDNS**(const string& **newval**)
m	-(int) setSecondaryDNS : (NSString*) **newval**
pas	function **set_secondaryDNS**(**newval**: string): integer
vb	function **set_secondaryDNS**(ByVal **newval** As String) As Integer
cs	int **set_secondaryDNS**(string **newval**)
java	int **set_secondaryDNS**(String **newval**)
uwp	async Task<int> **set_secondaryDNS**(string **newval**)
py	**set_secondaryDNS**(**newval**)
php	function **set_secondaryDNS**(**$newval**)
es	async **set_secondaryDNS**(**newval**)
cmd	YNetwork **target** **set_secondaryDNS** **newval**

When using DHCP, if a value is specified, it overrides the value received from the DHCP server. Remember to call the `saveToFlash()` method and then to reboot the module to apply this setting.

Parameters :

newval a string corresponding to the IP address of the secondary name server to be used by the module

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_userData() network→setUserData()

YNetwork

Stores a user context provided as argument in the userData attribute of the function.

js	function **set_userData**(**data**)
cpp	void **set_userData**(void* **data**)
m	-(void) setUserData : (id) **data**
pas	procedure **set_userData**(**data**: Tobject)
vb	procedure **set_userData**(ByVal **data** As Object)
cs	void **set_userData**(object **data**)
java	void **set_userData**(Object **data**)
py	**set_userData**(**data**)
php	function **set_userData**(**$data**)
es	async **set_userData**(**data**)

This attribute is never touched by the API, and is at disposal of the caller to store a context.

Parameters :

data any kind of object to be stored

network→set_userPassword() network→setUserPassword()

YNetwork

Changes the password for the "user" user.

js	function **set_userPassword**(**newval**)
cpp	int **set_userPassword**(const string& **newval**)
m	-(int) setUserPassword : (NSString*) **newval**
pas	function **set_userPassword**(**newval**: string): integer
vb	function **set_userPassword**(ByVal **newval** As String) As Integer
cs	int **set_userPassword**(string **newval**)
java	int **set_userPassword**(String **newval**)
uwp	async Task<int> **set_userPassword**(string **newval**)
py	**set_userPassword**(**newval**)
php	function **set_userPassword**(**$newval**)
es	async **set_userPassword**(**newval**)
cmd	YNetwork **target** **set_userPassword** **newval**

This password becomes instantly required to perform any use of the module. If the specified value is an empty string, a password is not required anymore. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the password for the "user" user

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→set_wwwWatchdogDelay() network→setWwwWatchdogDelay()

YNetwork

Changes the allowed downtime of the WWW link (in seconds) before triggering an automated reboot to try to recover Internet connectivity.

js	function **set_wwwWatchdogDelay**(**newval**)
cpp	int **set_wwwWatchdogDelay**(int **newval**)
m	-(int) setWwwWatchdogDelay : (int) **newval**
pas	function **set_wwwWatchdogDelay**(**newval**: LongInt): integer
vb	function **set_wwwWatchdogDelay**(ByVal **newval** As Integer) As Integer
cs	int **set_wwwWatchdogDelay**(int **newval**)
java	int **set_wwwWatchdogDelay**(int **newval**)
uwp	async Task<int> **set_wwwWatchdogDelay**(int **newval**)
py	**set_wwwWatchdogDelay**(**newval**)
php	function **set_wwwWatchdogDelay**(**$newval**)
es	async **set_wwwWatchdogDelay**(**newval**)
cmd	YNetwork **target set_wwwWatchdogDelay newval**

A zero value disables automated reboot in case of Internet connectivity loss. The smallest valid non-zero timeout is 90 seconds. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the allowed downtime of the WWW link (in seconds) before triggering an automated reboot to try to recover Internet connectivity

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

network→triggerCallback() YNetwork

Trigger an HTTP callback quickly.

js	function **triggerCallback**( )
cpp	int **triggerCallback**( )
m	-(int) **triggerCallback**
pas	function **triggerCallback**( ): LongInt
vb	function **triggerCallback**( ) As Integer
cs	int **triggerCallback**( )
java	int **triggerCallback**( )
uwp	async Task<int> **triggerCallback**( )
py	**triggerCallback**( )
php	function **triggerCallback**( )
es	async **triggerCallback**( )
cmd	YNetwork **target** **triggerCallback**

This function can even be called within an HTTP callback, in which case the next callback will be triggered 5 seconds after the end of the current callback, regardless if the minimum time between callbacks configured in the device.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

network→unmuteValueCallbacks() YNetwork

Re-enables the propagation of every new advertised value to the parent hub.

js	function **unmuteValueCallbacks**( )
cpp	int **unmuteValueCallbacks**( )
m	-(int) **unmuteValueCallbacks**
pas	function **unmuteValueCallbacks**( ): LongInt
vb	function **unmuteValueCallbacks**( ) As Integer
cs	int **unmuteValueCallbacks**( )
java	int **unmuteValueCallbacks**( )
uwp	async Task<int> **unmuteValueCallbacks**( )
py	**unmuteValueCallbacks**( )
php	function **unmuteValueCallbacks**( )
es	async **unmuteValueCallbacks**( )
cmd	YNetwork **target** **unmuteValueCallbacks**

This function reverts the effect of a previous call to `muteValueCallbacks()`. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

network→useDHCP() YNetwork

Changes the configuration of the network interface to enable the use of an IP address received from a DHCP server.

js	function **useDHCP**(**fallbackIpAddr**, **fallbackSubnetMaskLen**, **fallbackRouter**)
cpp	int **useDHCP**(string **fallbackIpAddr**, int **fallbackSubnetMaskLen**, string **fallbackRouter**)
m	-(int) **useDHCP** : (NSString*) **fallbackIpAddr** : (int) **fallbackSubnetMaskLen** : (NSString*) **fallbackRouter**
pas	function **useDHCP**(**fallbackIpAddr**: string, **fallbackSubnetMaskLen**: LongInt, **fallbackRouter**: string): LongInt
vb	function **useDHCP**( ) As Integer
cs	int **useDHCP**(string **fallbackIpAddr**, int **fallbackSubnetMaskLen**, string **fallbackRouter**)
java	int **useDHCP**(String **fallbackIpAddr**, int **fallbackSubnetMaskLen**, String **fallbackRouter**)
uwp	async Task<int> **useDHCP**(string **fallbackIpAddr**, int **fallbackSubnetMaskLen**, string **fallbackRouter**)
py	**useDHCP**(**fallbackIpAddr**, **fallbackSubnetMaskLen**, **fallbackRouter**)
php	function **useDHCP**(**$fallbackIpAddr**, **$fallbackSubnetMaskLen**, **$fallbackRouter**)
es	async **useDHCP**(**fallbackIpAddr**, **fallbackSubnetMaskLen**, **fallbackRouter**)
cmd	YNetwork **target useDHCP fallbackIpAddr fallbackSubnetMaskLen fallbackRouter**

Until an address is received from a DHCP server, the module uses the IP parameters specified to this function. Remember to call the `saveToFlash()` method and then to reboot the module to apply this setting.

Parameters :

fallbackIpAddr	fallback IP address, to be used when no DHCP reply is received
fallbackSubnetMaskLen	fallback subnet mask length when no DHCP reply is received, as an integer (e.g. 24 means 255.255.255.0)
fallbackRouter	fallback router IP address, to be used when no DHCP reply is received

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

network→useDHCPauto() YNetwork

Changes the configuration of the network interface to enable the use of an IP address received from a DHCP server.

js	function **useDHCPauto**( )
cpp	int **useDHCPauto**( )
m	-(int) **useDHCPauto**
pas	function **useDHCPauto**( ): LongInt
vb	function **useDHCPauto**( ) As Integer
cs	int **useDHCPauto**( )
java	int **useDHCPauto**( )
uwp	async Task<int> **useDHCPauto**( )
py	**useDHCPauto**( )
php	function **useDHCPauto**( )
es	async **useDHCPauto**( )
cmd	YNetwork **target** **useDHCPauto**

Until an address is received from a DHCP server, the module uses an IP of the network 169.254.0.0/16 (APIPA). Remember to call the `saveToFlash()` method and then to reboot the module to apply this setting.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

network→useStaticIP() YNetwork

Changes the configuration of the network interface to use a static IP address.

js	function **useStaticIP**(**ipAddress**, **subnetMaskLen**, **router**)
cpp	int **useStaticIP**(string **ipAddress**, int **subnetMaskLen**, string **router**)
m	-(int) **useStaticIP** : (NSString*) **ipAddress** : (int) **subnetMaskLen** : (NSString*) **router**
pas	function **useStaticIP**(**ipAddress**: string, **subnetMaskLen**: LongInt, **router**: string): LongInt
vb	function **useStaticIP**( ) As Integer
cs	int **useStaticIP**(string **ipAddress**, int **subnetMaskLen**, string **router**)
java	int **useStaticIP**(String **ipAddress**, int **subnetMaskLen**, String **router**)
uwp	async Task<int> **useStaticIP**(string **ipAddress**, int **subnetMaskLen**, string **router**)
py	**useStaticIP**(**ipAddress**, **subnetMaskLen**, **router**)
php	function **useStaticIP**(**$ipAddress**, **$subnetMaskLen**, **$router**)
es	async **useStaticIP**(**ipAddress**, **subnetMaskLen**, **router**)
cmd	YNetwork **target** **useStaticIP** **ipAddress** **subnetMaskLen** **router**

Remember to call the `saveToFlash()` method and then to reboot the module to apply this setting.

Parameters :

ipAddress	device IP address
subnetMaskLen	subnet mask length, as an integer (e.g. 24 means 255.255.255.0)
router	router IP address (default gateway)

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

network→wait_async() YNetwork

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

js	function **wait_async**(**callback**, **context**)
es	**wait_async**(**callback**, **context**)

The callback function can therefore freely issue synchronous or asynchronous commands, without risking to block the JavaScript VM.

Parameters :

callback callback function that is invoked when all pending commands on the module are completed. The callback function receives two arguments: the caller-specific context object and the receiving function object.

context caller-specific object that is passed as-is to the callback function

Returns :

nothing.

11.4. Files function interface

The YFiles class is used to access the filesystem embedded on some Yoctopuce devices, for instance using a YoctoHub-Ethernet, a Yocto-Color-V2, a YoctoHub-Wireless-g or a Yocto-RS232. This filesystem makes it possible for instance to design a custom web UI (for networked devices) or to add fonts (on display devices).

In order to use the functions described here, you should include:

js	<script type='text/javascript' src='yocto_files.js'></script>
cpp	#include "yocto_files.h"
m	#import "yocto_files.h"
pas	uses yocto_files;
vb	yocto_files.vb
cs	yocto_files_proxy.cs
java	import com.yoctopuce.YoctoAPI.YFiles;
uwp	import com.yoctopuce.YoctoAPI.YFiles;
py	from yocto_files import *
php	require_once('yocto_files.php');
es	in HTML: <script src="../../lib/yocto_files.js"></script> in node.js: require('yoctolib-es2017/yocto_files.js');
vi	YFiles.vi

Global functions

yFindFiles(func)
Retrieves a filesystem for a given identifier.

yFindFilesInContext(yctx, func)
Retrieves a filesystem for a given identifier in a YAPI context.

yFirstFiles()
Starts the enumeration of filesystems currently accessible.

yFirstFilesInContext(yctx)
Starts the enumeration of filesystems currently accessible.

`YFiles` methods

files→clearCache()
Invalidates the cache.

files→describe()
Returns a short text that describes unambiguously the instance of the filesystem in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

files→download(pathname)
Downloads the requested file and returns a binary buffer with its content.

files→download_async(pathname, callback, context)
Downloads the requested file and returns a binary buffer with its content.

files→fileExist(filename)
Test if a file exist on the filesystem of the module.

files→format_fs()
Reinitialize the filesystem to its clean, unfragmented, empty state.

files→get_advertisedValue()
Returns the current value of the filesystem (no more than 6 characters).

files→get_errorMessage()
Returns the error message of the latest error with the filesystem.

files→get_errorType()
Returns the numerical error code of the latest error with the filesystem.

files→get_filesCount()
Returns the number of files currently loaded in the filesystem.

files→get_freeSpace()
Returns the free space for uploading new files to the filesystem, in bytes.

files→get_friendlyName()
Returns a global identifier of the filesystem in the format `MODULE_NAME.FUNCTION_NAME`.

files→get_functionDescriptor()
Returns a unique identifier of type `YFUN_DESCR` corresponding to the function.

files→get_functionId()
Returns the hardware identifier of the filesystem, without reference to the module.

files→get_hardwareId()
Returns the unique hardware identifier of the filesystem in the form `SERIAL.FUNCTIONID`.

files→get_list(pattern)
Returns a list of YFileRecord objects that describe files currently loaded in the filesystem.

files→get_logicalName()
Returns the logical name of the filesystem.

files→get_module()
Gets the `YModule` object for the device on which the function is located.

files→get_module_async(callback, context)
Gets the `YModule` object for the device on which the function is located (asynchronous version).

files→get_serialNumber()
Returns the serial number of the module, as set by the factory.

files→get_userData()
Returns the value of the userData attribute, as previously stored using method `set_userData`.

files→isOnline()
Checks if the filesystem is currently reachable, without raising any error.

files→isOnline_async(callback, context)
Checks if the filesystem is currently reachable, without raising any error (asynchronous version).

files→isReadOnly()
Test if the function is readOnly.

files→load(msValidity)
Preloads the filesystem cache with a specified validity duration.

files→loadAttribute(attrName)
Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

files→load_async(msValidity, callback, context)
Preloads the filesystem cache with a specified validity duration (asynchronous version).

files→muteValueCallbacks()
Disables the propagation of every new advertised value to the parent hub.

files→nextFiles()
Continues the enumeration of filesystems started using `yFirstFiles()`.

files→registerValueCallback(callback)
Registers the callback function that is invoked on every change of advertised value.

files→remove(pathname)
Deletes a file, given by its full path name, from the filesystem.

files→set_logicalName(newval)
Changes the logical name of the filesystem.

files→set_userData(data)
Stores a user context provided as argument in the userData attribute of the function.

files→unmuteValueCallbacks()
Re-enables the propagation of every new advertised value to the parent hub.

files→upload(pathname, content)
Uploads a file to the filesystem, to the specified full path name.

files→wait_async(callback, context)
Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

YFiles.FindFiles() yFindFiles() — YFiles

Retrieves a filesystem for a given identifier.

js	function **yFindFiles**(**func**)
cpp	YFiles* **yFindFiles**(string **func**)
m	+(YFiles*) **FindFiles** : (NSString*) **func**
pas	function **yFindFiles**(**func**: string): TYFiles
vb	function **yFindFiles**(ByVal **func** As String) As YFiles
cs	static YFiles **FindFiles**(string **func**)
java	static YFiles **FindFiles**(String **func**)
uwp	static YFiles **FindFiles**(string **func**)
py	**FindFiles**(**func**)
php	function **yFindFiles**(**$func**)
es	static **FindFiles**(**func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the filesystem is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YFiles.isOnline()` to test if the filesystem is indeed online at a given time. In case of ambiguity when looking for a filesystem by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

If a call to this object's is_online() method returns FALSE although you are certain that the matching device is plugged, make sure that you did call registerHub() at application initialization time.

Parameters :

func a string that uniquely characterizes the filesystem, for instance `YHUBETH1.files`.

Returns :

a `YFiles` object allowing you to drive the filesystem.

YFiles.FindFilesInContext() yFindFilesInContext() — YFiles

Retrieves a filesystem for a given identifier in a YAPI context.

`java`	static YFiles **FindFilesInContext**(YAPIContext **yctx**, String **func**)
`uwp`	static YFiles **FindFilesInContext**(YAPIContext **yctx**, string **func**)
`es`	static **FindFilesInContext**(**yctx**, **func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the filesystem is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YFiles.isOnline()` to test if the filesystem is indeed online at a given time. In case of ambiguity when looking for a filesystem by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

Parameters :

yctx a YAPI context

func a string that uniquely characterizes the filesystem, for instance `YHUBETH1.files`.

Returns :

a `YFiles` object allowing you to drive the filesystem.

YFiles.FirstFiles() yFirstFiles()

YFiles

Starts the enumeration of filesystems currently accessible.

js	function **yFirstFiles**( )
cpp	YFiles* **yFirstFiles**( )
m	+(YFiles*) **FirstFiles**
pas	function **yFirstFiles**( ): TYFiles
vb	function **yFirstFiles**( ) As YFiles
cs	static YFiles **FirstFiles**( )
java	static YFiles **FirstFiles**( )
uwp	static YFiles **FirstFiles**( )
py	**FirstFiles**( )
php	function **yFirstFiles**( )
es	static **FirstFiles**( )

Use the method `YFiles.nextFiles()` to iterate on next filesystems.

Returns :
a pointer to a `YFiles` object, corresponding to the first filesystem currently online, or a `null` pointer if there are none.

YFiles.FirstFilesInContext() yFirstFilesInContext() — YFiles

Starts the enumeration of filesystems currently accessible.

java	static YFiles **FirstFilesInContext**(YAPIContext **yctx**)
uwp	static YFiles **FirstFilesInContext**(YAPIContext **yctx**)
es	static **FirstFilesInContext**(**yctx**)

Use the method `YFiles.nextFiles()` to iterate on next filesystems.

Parameters :

yctx a YAPI context.

Returns :

a pointer to a `YFiles` object, corresponding to the first filesystem currently online, or a `null` pointer if there are none.

files→clearCache() YFiles

Invalidates the cache.

js	function **clearCache**( )
cpp	void **clearCache**( )
m	-(void) **clearCache**
pas	procedure **clearCache**( )
vb	procedure **clearCache**( )
cs	void **clearCache**( )
java	void **clearCache**( )
py	**clearCache**( )
php	function **clearCache**( )
es	async **clearCache**( )

Invalidates the cache of the filesystem attributes. Forces the next call to get_xxx() or loadxxx() to use values that come from the device.

files→describe() YFiles

Returns a short text that describes unambiguously the instance of the filesystem in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

js	function **describe**( )
cpp	string **describe**( )
m	-(NSString*) **describe**
pas	function **describe**( ): string
vb	function **describe**( ) As String
cs	string **describe**( )
java	String **describe**( )
py	**describe**( )
php	function **describe**( )
es	async **describe**( )

More precisely, `TYPE` is the type of the function, `NAME` it the name used for the first access to the function, `SERIAL` is the serial number of the module if the module is connected or `"unresolved"`, and `FUNCTIONID` is the hardware identifier of the function if the module is connected. For example, this method returns `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1` if the module is already connected or `Relay(BadCustomeName.relay1)=unresolved` if the module has not yet been connected. This method does not trigger any USB or TCP transaction and can therefore be used in a debugger.

Returns :
a string that describes the filesystem (ex: `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1`)

files→download() YFiles

Downloads the requested file and returns a binary buffer with its content.

js	function **download**(**pathname**)
cpp	string **download**(string **pathname**)
m	-(NSMutableData*) **download** : (NSString*) **pathname**
pas	function **download**(**pathname**: string): TByteArray
vb	function **download**( ) As Byte
cs	byte[] **download**(string **pathname**)
java	byte[] **download**(String **pathname**)
uwp	async Task<byte[]> **download**(string **pathname**)
py	**download**(**pathname**)
php	function **download**(**$pathname**)
es	async **download**(**pathname**)
cmd	YFiles **target** **download** **pathname**

Parameters :

pathname path and name of the file to download

Returns :

a binary buffer with the file content

On failure, throws an exception or returns an empty content.

files→download_async() YFiles

Downloads the requested file and returns a binary buffer with its content.

```
js function download_async( pathname, callback, context)
```

This is the asynchronous version that uses a callback to pass the result when the download is completed.

Parameters :

pathname path and name of the new file to load

callback callback function that is invoked when the w The callback function receives three arguments: - the user-specific context object - the YFiles object whose download_async was invoked - a binary buffer with the file content

context user-specific object that is passed as-is to the callback function

Returns :

nothing.

files→fileExist() YFiles

Test if a file exist on the filesystem of the module.

js	function **fileExist**(**filename**)
cpp	bool **fileExist**(string **filename**)
m	-(bool) **fileExist** : (NSString*) **filename**
pas	function **fileExist**(**filename**: string): boolean
vb	function **fileExist**( ) As Boolean
cs	bool **fileExist**(string **filename**)
java	boolean **fileExist**(String **filename**)
uwp	async Task<bool> **fileExist**(string **filename**)
py	**fileExist**(**filename**)
php	function **fileExist**(**$filename**)
es	async **fileExist**(**filename**)
cmd	YFiles **target** **fileExist** **filename**

Parameters :

filename the file name to test.

Returns :

a true if the file exist, false otherwise.

On failure, throws an exception.

files→format_fs() YFiles

Reinitialize the filesystem to its clean, unfragmented, empty state.

js	function **format_fs**( )
cpp	int **format_fs**( )
m	-(int) **format_fs**
pas	function **format_fs**( ): LongInt
vb	function **format_fs**( ) As Integer
cs	int **format_fs**( )
java	int **format_fs**( )
uwp	async Task<int> **format_fs**( )
py	**format_fs**( )
php	function **format_fs**( )
es	async **format_fs**( )
cmd	YFiles **target** **format_fs**

All files previously uploaded are permanently lost.

Returns :
`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

files→get_advertisedValue() files→advertisedValue()

YFiles

Returns the current value of the filesystem (no more than 6 characters).

js	function **get_advertisedValue**( )
cpp	string **get_advertisedValue**( )
m	-(NSString*) advertisedValue
pas	function **get_advertisedValue**( ): string
vb	function **get_advertisedValue**( ) As String
cs	string **get_advertisedValue**( )
java	String **get_advertisedValue**( )
uwp	async Task<string> **get_advertisedValue**( )
py	**get_advertisedValue**( )
php	function **get_advertisedValue**( )
es	async **get_advertisedValue**( )
cmd	YFiles **target** **get_advertisedValue**

Returns :
a string corresponding to the current value of the filesystem (no more than 6 characters).

On failure, throws an exception or returns `Y_ADVERTISEDVALUE_INVALID`.

files→get_errorMessage()
files→errorMessage()

YFiles

Returns the error message of the latest error with the filesystem.

js	function **get_errorMessage**( )
cpp	string **get_errorMessage**( )
m	-(NSString*) errorMessage
pas	function **get_errorMessage**( ): string
vb	function **get_errorMessage**( ) As String
cs	string **get_errorMessage**( )
java	String **get_errorMessage**( )
py	**get_errorMessage**( )
php	function **get_errorMessage**( )
es	**get_errorMessage**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a string corresponding to the latest error message that occured while using the filesystem object

files→get_errorType() files→errorType()

YFiles

Returns the numerical error code of the latest error with the filesystem.

js	function **get_errorType**( )
cpp	YRETCODE **get_errorType**( )
m	-(YRETCODE) errorType
pas	function **get_errorType**( ): YRETCODE
vb	function **get_errorType**( ) As YRETCODE
cs	YRETCODE **get_errorType**( )
java	int **get_errorType**( )
py	**get_errorType**( )
php	function **get_errorType**( )
es	**get_errorType**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :

a number corresponding to the code of the latest error that occurred while using the filesystem object

files→get_filesCount()
files→filesCount()

YFiles

Returns the number of files currently loaded in the filesystem.

js	function **get_filesCount**( )
cpp	int **get_filesCount**( )
m	-(int) filesCount
pas	function **get_filesCount**( ): LongInt
vb	function **get_filesCount**( ) As Integer
cs	int **get_filesCount**( )
java	int **get_filesCount**( )
uwp	async Task<int> **get_filesCount**( )
py	**get_filesCount**( )
php	function **get_filesCount**( )
es	async **get_filesCount**( )
cmd	YFiles **target** **get_filesCount**

Returns :
an integer corresponding to the number of files currently loaded in the filesystem

On failure, throws an exception or returns `Y_FILESCOUNT_INVALID`.

files→get_freeSpace()
files→freeSpace()

YFiles

Returns the free space for uploading new files to the filesystem, in bytes.

js	function **get_freeSpace**( )
cpp	int **get_freeSpace**( )
m	-(int) freeSpace
pas	function **get_freeSpace**( ): LongInt
vb	function **get_freeSpace**( ) As Integer
cs	int **get_freeSpace**( )
java	int **get_freeSpace**( )
uwp	async Task<int> **get_freeSpace**( )
py	**get_freeSpace**( )
php	function **get_freeSpace**( )
es	async **get_freeSpace**( )
cmd	YFiles **target** **get_freeSpace**

Returns :
an integer corresponding to the free space for uploading new files to the filesystem, in bytes

On failure, throws an exception or returns `Y_FREESPACE_INVALID`.

files→get_friendlyName()
files→friendlyName()

YFiles

Returns a global identifier of the filesystem in the format `MODULE_NAME.FUNCTION_NAME`.

js	function **get_friendlyName**( )
cpp	string **get_friendlyName**( )
m	-(NSString*) friendlyName
cs	string **get_friendlyName**( )
java	String **get_friendlyName**( )
py	**get_friendlyName**( )
php	function **get_friendlyName**( )
es	async **get_friendlyName**( )

The returned string uses the logical names of the module and of the filesystem if they are defined, otherwise the serial number of the module and the hardware identifier of the filesystem (for example: `MyCustomName.relay1`)

Returns :
a string that uniquely identifies the filesystem using logical names (ex: `MyCustomName.relay1`)

On failure, throws an exception or returns `Y_FRIENDLYNAME_INVALID`.

files→get_functionDescriptor()
files→functionDescriptor()

YFiles

Returns a unique identifier of type YFUN_DESCR corresponding to the function.

js	function **get_functionDescriptor**( )
cpp	YFUN_DESCR **get_functionDescriptor**( )
m	-(YFUN_DESCR) functionDescriptor
pas	function **get_functionDescriptor**( ): YFUN_DESCR
vb	function **get_functionDescriptor**( ) As YFUN_DESCR
cs	YFUN_DESCR **get_functionDescriptor**( )
java	String **get_functionDescriptor**( )
py	**get_functionDescriptor**( )
php	function **get_functionDescriptor**( )
es	async **get_functionDescriptor**( )

This identifier can be used to test if two instances of `YFunction` reference the same physical function on the same physical device.

Returns :

an identifier of type YFUN_DESCR.

If the function has never been contacted, the returned value is `Y_FUNCTIONDESCRIPTOR_INVALID`.

files→get_functionId()
files→functionId()

YFiles

Returns the hardware identifier of the filesystem, without reference to the module.

js	function **get_functionId**( )
cpp	string **get_functionId**( )
m	-(NSString*) functionId
vb	function **get_functionId**( ) As String
cs	string **get_functionId**( )
java	String **get_functionId**( )
py	**get_functionId**( )
php	function **get_functionId**( )
es	async **get_functionId**( )

For example `relay1`

Returns :

a string that identifies the filesystem (ex: `relay1`)

On failure, throws an exception or returns `Y_FUNCTIONID_INVALID`.

files→get_hardwareId()
files→hardwareId()

YFiles

Returns the unique hardware identifier of the filesystem in the form `SERIAL.FUNCTIONID`.

js	function **get_hardwareId**( )
cpp	string **get_hardwareId**( )
m	-(NSString*) hardwareId
vb	function **get_hardwareId**( ) As String
cs	string **get_hardwareId**( )
java	String **get_hardwareId**( )
py	**get_hardwareId**( )
php	function **get_hardwareId**( )
es	async **get_hardwareId**( )

The unique hardware identifier is composed of the device serial number and of the hardware identifier of the filesystem (for example `RELAYLO1-123456.relay1`).

Returns :
a string that uniquely identifies the filesystem (ex: `RELAYLO1-123456.relay1`)

On failure, throws an exception or returns `Y_HARDWAREID_INVALID`.

files→get_list() files→list() YFiles

Returns a list of YFileRecord objects that describe files currently loaded in the filesystem.

js	function **get_list**(**pattern**)
cpp	vector<YFileRecord> **get_list**(string **pattern**)
m	-(NSMutableArray*) list : (NSString*) **pattern**
pas	function **get_list**(**pattern**: string): TYFileRecordArray
vb	function **get_list**( ) As List
cs	YFileRecord[] **get_list**(string **pattern**)
java	ArrayList<YFileRecord> **get_list**(String **pattern**)
uwp	async Task<List<YFileRecord>> **get_list**(string **pattern**)
py	**get_list**(**pattern**)
php	function **get_list**(**$pattern**)
es	async **get_list**(**pattern**)
cmd	YFiles **target** **get_list** **pattern**

Parameters :

pattern an optional filter pattern, using star and question marks as wild cards. When an empty pattern is provided, all file records are returned.

Returns :

a list of `YFileRecord` objects, containing the file path and name, byte size and 32-bit CRC of the file content.

On failure, throws an exception or returns an empty list.

files→get_logicalName() files→logicalName()

YFiles

Returns the logical name of the filesystem.

js	function **get_logicalName**( )
cpp	string **get_logicalName**( )
m	-(NSString*) logicalName
pas	function **get_logicalName**( ): string
vb	function **get_logicalName**( ) As String
cs	string **get_logicalName**( )
java	String **get_logicalName**( )
uwp	async Task<string> **get_logicalName**( )
py	**get_logicalName**( )
php	function **get_logicalName**( )
es	async **get_logicalName**( )
cmd	YFiles **target** **get_logicalName**

Returns :
a string corresponding to the logical name of the filesystem.

On failure, throws an exception or returns `Y_LOGICALNAME_INVALID`.

files→get_module() files→module() YFiles

Gets the `YModule` object for the device on which the function is located.

js	function **get_module**( )
cpp	YModule * **get_module**( )
m	-(YModule*) module
pas	function **get_module**( ): TYModule
vb	function **get_module**( ) As YModule
cs	YModule **get_module**( )
java	YModule **get_module**( )
py	**get_module**( )
php	function **get_module**( )
es	async **get_module**( )

If the function cannot be located on any module, the returned instance of `YModule` is not shown as on-line.

Returns :
an instance of `YModule`

files→get_module_async() files→module_async()

YFiles

Gets the `YModule` object for the device on which the function is located (asynchronous version).

```
js function get_module_async( callback, context)
```

If the function cannot be located on any module, the returned `YModule` object does not show as on-line.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking Firefox JavaScript VM that does not implement context switching during blocking I/O calls. See the documentation section on asynchronous JavasSript calls for more details.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the requested `YModule` object

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

files→get_serialNumber()
files→serialNumber()

YFiles

Returns the serial number of the module, as set by the factory.

js	function **get_serialNumber**( )
cpp	string **get_serialNumber**( )
m	-(NSString*) serialNumber
pas	function **get_serialNumber**( ): string
vb	function **get_serialNumber**( ) As String
cs	string **get_serialNumber**( )
java	String **get_serialNumber**( )
uwp	async Task<string> **get_serialNumber**( )
py	**get_serialNumber**( )
php	function **get_serialNumber**( )
es	async **get_serialNumber**( )
cmd	YFiles **target** **get_serialNumber**

Returns :
a string corresponding to the serial number of the module, as set by the factory.

On failure, throws an exception or returns YModule.SERIALNUMBER_INVALID.

files→get_userData() files→userData()

YFiles

Returns the value of the userData attribute, as previously stored using method `set_userData`.

js	function **get_userData**( )
cpp	void * **get_userData**( )
m	-(id) userData
pas	function **get_userData**( ): Tobject
vb	function **get_userData**( ) As Object
cs	object **get_userData**( )
java	Object **get_userData**( )
py	**get_userData**( )
php	function **get_userData**( )
es	async **get_userData**( )

This attribute is never touched directly by the API, and is at disposal of the caller to store a context.

Returns :
the object stored previously by the caller.

files→isOnline() YFiles

Checks if the filesystem is currently reachable, without raising any error.

js	function **isOnline**( )
cpp	bool **isOnline**( )
m	-(BOOL) **isOnline**
pas	function **isOnline**( ): boolean
vb	function **isOnline**( ) As Boolean
cs	bool **isOnline**( )
java	boolean **isOnline**( )
py	**isOnline**( )
php	function **isOnline**( )
es	async **isOnline**( )

If there is a cached value for the filesystem in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the filesystem.

Returns :
`true` if the filesystem can be reached, and `false` otherwise

files→isOnline_async() YFiles

Checks if the filesystem is currently reachable, without raising any error (asynchronous version).

```
js function isOnline_async( callback, context)
```

If there is a cached value for the filesystem in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the requested function.

This asynchronous version exists only in Javascript. It uses a callback instead of a return value in order to avoid blocking the Javascript virtual machine.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the boolean result

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

files→isReadOnly() YFiles

Test if the function is readOnly.

cpp	bool **isReadOnly**( )
m	-(bool) **isReadOnly**
pas	function **isReadOnly**( ): boolean
vb	function **isReadOnly**( ) As Boolean
cs	bool **isReadOnly**( )
java	boolean **isReadOnly**( )
uwp	async Task<bool> **isReadOnly**( )
py	**isReadOnly**( )
php	function **isReadOnly**( )
es	async **isReadOnly**( )
cmd	YFiles **target** **isReadOnly**

Return `true` if the function is write protected or that the function is not available.

Returns :
`true` if the function is readOnly or not online.

files→load() YFiles

Preloads the filesystem cache with a specified validity duration.

js	function **load**(**msValidity**)
cpp	YRETCODE **load**(int **msValidity**)
m	-(YRETCODE) **load** : (u64) **msValidity**
pas	function **load**(**msValidity**: u64): YRETCODE
vb	function **load**(ByVal **msValidity** As Long) As YRETCODE
cs	YRETCODE **load**(ulong **msValidity**)
java	int **load**(long **msValidity**)
py	**load**(**msValidity**)
php	function **load**(**$msValidity**)
es	async **load**(**msValidity**)

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

Parameters :

msValidity an integer corresponding to the validity attributed to the loaded function parameters, in milliseconds

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

files→loadAttribute() YFiles

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

js	function **loadAttribute**(**attrName**)
cpp	string **loadAttribute**(string **attrName**)
m	-(NSString*) **loadAttribute** : (NSString*) **attrName**
pas	function **loadAttribute**(**attrName**: string): string
vb	function **loadAttribute**( ) As String
cs	string **loadAttribute**(string **attrName**)
java	String **loadAttribute**(String **attrName**)
uwp	async Task<string> **loadAttribute**(string **attrName**)
py	**loadAttribute**(**attrName**)
php	function **loadAttribute**(**$attrName**)
es	async **loadAttribute**(**attrName**)

Parameters :

attrName the name of the requested attribute

Returns :

a string with the value of the the attribute

On failure, throws an exception or returns an empty string.

files→load_async() YFiles

Preloads the filesystem cache with a specified validity duration (asynchronous version).

```
js  function load_async( msValidity, callback, context)
```

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking the JavaScript virtual machine.

Parameters :

msValidity an integer corresponding to the validity of the loaded function parameters, in milliseconds

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the error code (or `YAPI_SUCCESS`)

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

files→muteValueCallbacks() YFiles

Disables the propagation of every new advertised value to the parent hub.

js	function **muteValueCallbacks**( )
cpp	int **muteValueCallbacks**( )
m	-(int) **muteValueCallbacks**
pas	function **muteValueCallbacks**( ): LongInt
vb	function **muteValueCallbacks**( ) As Integer
cs	int **muteValueCallbacks**( )
java	int **muteValueCallbacks**( )
uwp	async Task<int> **muteValueCallbacks**( )
py	**muteValueCallbacks**( )
php	function **muteValueCallbacks**( )
es	async **muteValueCallbacks**( )
cmd	YFiles **target** **muteValueCallbacks**

You can use this function to save bandwidth and CPU on computers with limited resources, or to prevent unwanted invocations of the HTTP callback. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

files→nextFiles() YFiles

Continues the enumeration of filesystems started using `yFirstFiles()`.

js	function **nextFiles**( )
cpp	YFiles * **nextFiles**( )
m	-(YFiles*) **nextFiles**
pas	function **nextFiles**( ): TYFiles
vb	function **nextFiles**( ) As YFiles
cs	YFiles **nextFiles**( )
java	YFiles **nextFiles**( )
uwp	YFiles **nextFiles**( )
py	**nextFiles**( )
php	function **nextFiles**( )
es	**nextFiles**( )

Caution: You can't make any assumption about the returned filesystems order. If you want to find a specific a filesystem, use `Files.findFiles()` and a hardwareID or a logical name.

Returns :
a pointer to a `YFiles` object, corresponding to a filesystem currently online, or a `null` pointer if there are no more filesystems to enumerate.

files→registerValueCallback() YFiles

Registers the callback function that is invoked on every change of advertised value.

js	function **registerValueCallback**(**callback**)
cpp	int **registerValueCallback**(YFilesValueCallback **callback**)
m	-(int) **registerValueCallback** : (YFilesValueCallback) **callback**
pas	function **registerValueCallback**(**callback**: TYFilesValueCallback): LongInt
vb	function **registerValueCallback**( ) As Integer
cs	int **registerValueCallback**(ValueCallback **callback**)
java	int **registerValueCallback**(UpdateCallback **callback**)
uwp	async Task<int> **registerValueCallback**(ValueCallback **callback**)
py	**registerValueCallback**(**callback**)
php	function **registerValueCallback**(**$callback**)
es	async **registerValueCallback**(**callback**)

The callback is invoked only during the execution of `ySleep` or `yHandleEvents`. This provides control over the time when the callback is triggered. For good responsiveness, remember to call one of these two functions periodically. To unregister a callback, pass a null pointer as argument.

Parameters :

callback the callback function to call, or a null pointer. The callback function should take two arguments: the function object of which the value has changed, and the character string describing the new advertised value.

files→remove() YFiles

Deletes a file, given by its full path name, from the filesystem.

js	function **remove**(**pathname**)
cpp	int **remove**(string **pathname**)
m	-(int) **remove** : (NSString*) **pathname**
pas	function **remove**(**pathname**: string): LongInt
vb	function **remove**( ) As Integer
cs	int **remove**(string **pathname**)
java	int **remove**(String **pathname**)
uwp	async Task<int> **remove**(string **pathname**)
py	**remove**(**pathname**)
php	function **remove**(**$pathname**)
es	async **remove**(**pathname**)
cmd	YFiles **target** **remove** **pathname**

Because of filesystem fragmentation, deleting a file may not always free up the whole space used by the file. However, rewriting a file with the same path name will always reuse any space not freed previously. If you need to ensure that no space is taken by previously deleted files, you can use `format_fs` to fully reinitialize the filesystem.

Parameters :

pathname path and name of the file to remove.

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

files→set_logicalName()
files→setLogicalName()

YFiles

Changes the logical name of the filesystem.

js	function **set_logicalName**(**newval**)
cpp	int **set_logicalName**(const string& **newval**)
m	-(int) setLogicalName : (NSString*) **newval**
pas	function **set_logicalName**(**newval**: string): integer
vb	function **set_logicalName**(ByVal **newval** As String) As Integer
cs	int **set_logicalName**(string **newval**)
java	int **set_logicalName**(String **newval**)
uwp	async Task<int> **set_logicalName**(string **newval**)
py	**set_logicalName**(**newval**)
php	function **set_logicalName**(**$newval**)
es	async **set_logicalName**(**newval**)
cmd	YFiles **target** **set_logicalName** **newval**

You can use `yCheckLogicalName()` prior to this call to make sure that your parameter is valid. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the logical name of the filesystem.

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

files→set_userData()
files→setUserData()

YFiles

Stores a user context provided as argument in the userData attribute of the function.

js	function **set_userData**(**data**)
cpp	void **set_userData**(void* **data**)
m	-(void) setUserData : (id) **data**
pas	procedure **set_userData**(**data**: Tobject)
vb	procedure **set_userData**(ByVal **data** As Object)
cs	void **set_userData**(object **data**)
java	void **set_userData**(Object **data**)
py	**set_userData**(**data**)
php	function **set_userData**(**$data**)
es	async **set_userData**(**data**)

This attribute is never touched by the API, and is at disposal of the caller to store a context.

Parameters :

data any kind of object to be stored

files→unmuteValueCallbacks() YFiles

Re-enables the propagation of every new advertised value to the parent hub.

js	function **unmuteValueCallbacks**( )
cpp	int **unmuteValueCallbacks**( )
m	-(int) **unmuteValueCallbacks**
pas	function **unmuteValueCallbacks**( ): LongInt
vb	function **unmuteValueCallbacks**( ) As Integer
cs	int **unmuteValueCallbacks**( )
java	int **unmuteValueCallbacks**( )
uwp	async Task<int> **unmuteValueCallbacks**( )
py	**unmuteValueCallbacks**( )
php	function **unmuteValueCallbacks**( )
es	async **unmuteValueCallbacks**( )
cmd	YFiles **target** **unmuteValueCallbacks**

This function reverts the effect of a previous call to `muteValueCallbacks()`. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

files→upload() YFiles

Uploads a file to the filesystem, to the specified full path name.

js	function **upload**(**pathname**, **content**)
cpp	int **upload**(string **pathname**, string **content**)
m	-(int) **upload** : (NSString*) **pathname** : (NSData*) **content**
pas	function **upload**(**pathname**: string, **content**: TByteArray): LongInt
vb	procedure **upload**( )
cs	int **upload**(string **pathname**)
java	int **upload**(String **pathname**, byte[] **content**)
uwp	async Task<int> **upload**(string **pathname**)
py	**upload**(**pathname**, **content**)
php	function **upload**(**$pathname**, **$content**)
es	async **upload**(**pathname**, **content**)
cmd	YFiles **target** **upload** **pathname** **content**

If a file already exists with the same path name, its content is overwritten.

Parameters :

pathname path and name of the new file to create
content binary buffer with the content to set

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

files→wait_async() YFiles

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

js	function **wait_async**(**callback**, **context**)
es	**wait_async**(**callback**, **context**)

The callback function can therefore freely issue synchronous or asynchronous commands, without risking to block the JavaScript VM.

Parameters :

callback callback function that is invoked when all pending commands on the module are completed. The callback function receives two arguments: the caller-specific context object and the receiving function object.

context caller-specific object that is passed as-is to the callback function

Returns :

nothing.

11.5. Real Time Clock function interface

The YRealTimeClock class provide access to the embedded real-time clock available on some Yoctopuce devices, for instance using a YoctoHub-Wireless-g, a YoctoHub-GSM-3G-NA, a YoctoHub-GSM-3G-EU or a YoctoHub-Wireless-SR. It can provide current date and time, even after a power outage lasting several days. It is the base for automated wake-up functions provided by the WakeUpScheduler. The current time may represent a local time as well as an UTC time, but no automatic time change will occur to account for daylight saving time.

In order to use the functions described here, you should include:

es	in HTML: <script src="../../lib/yocto_realtimeclock.js"></script> in node.js: require('yoctolib-es2017/yocto_realtimeclock.js');
js	<script type='text/javascript' src='yocto_realtimeclock.js'></script>
cpp	#include "yocto_realtimeclock.h"
m	#import "yocto_realtimeclock.h"
pas	uses yocto_realtimeclock;
vb	yocto_realtimeclock.vb
cs	yocto_realtimeclock_proxy.cs
java	import com.yoctopuce.YoctoAPI.YRealTimeClock;
uwp	import com.yoctopuce.YoctoAPI.YRealTimeClock;
py	from yocto_realtimeclock import *
php	require_once('yocto_realtimeclock.php');
vi	YRealTimeClock.vi

Global functions

yFindRealTimeClock(func)
Retrieves a clock for a given identifier.

yFindRealTimeClockInContext(yctx, func)
Retrieves a clock for a given identifier in a YAPI context.

yFirstRealTimeClock()
Starts the enumeration of clocks currently accessible.

yFirstRealTimeClockInContext(yctx)
Starts the enumeration of clocks currently accessible.

`YRealTimeClock` methods

realtimeclock→clearCache()
Invalidates the cache.

realtimeclock→describe()
Returns a short text that describes unambiguously the instance of the clock in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

realtimeclock→get_advertisedValue()
Returns the current value of the clock (no more than 6 characters).

realtimeclock→get_dateTime()
Returns the current time in the form "YYYY/MM/DD hh:mm:ss".

realtimeclock→get_errorMessage()
Returns the error message of the latest error with the clock.

realtimeclock→get_errorType()
Returns the numerical error code of the latest error with the clock.

realtimeclock→get_friendlyName()

Returns a global identifier of the clock in the format `MODULE_NAME.FUNCTION_NAME`.

realtimeclock→get_functionDescriptor()

Returns a unique identifier of type `YFUN_DESCR` corresponding to the function.

realtimeclock→get_functionId()

Returns the hardware identifier of the clock, without reference to the module.

realtimeclock→get_hardwareId()

Returns the unique hardware identifier of the clock in the form `SERIAL.FUNCTIONID`.

realtimeclock→get_logicalName()

Returns the logical name of the clock.

realtimeclock→get_module()

Gets the `YModule` object for the device on which the function is located.

realtimeclock→get_module_async(**callback**, **context**)

Gets the `YModule` object for the device on which the function is located (asynchronous version).

realtimeclock→get_serialNumber()

Returns the serial number of the module, as set by the factory.

realtimeclock→get_timeSet()

Returns true if the clock has been set, and false otherwise.

realtimeclock→get_unixTime()

Returns the current time in Unix format (number of elapsed seconds since Jan 1st, 1970).

realtimeclock→get_userData()

Returns the value of the userData attribute, as previously stored using method `set_userData`.

realtimeclock→get_utcOffset()

Returns the number of seconds between current time and UTC time (time zone).

realtimeclock→isOnline()

Checks if the clock is currently reachable, without raising any error.

realtimeclock→isOnline_async(**callback**, **context**)

Checks if the clock is currently reachable, without raising any error (asynchronous version).

realtimeclock→isReadOnly()

Test if the function is readOnly.

realtimeclock→load(**msValidity**)

Preloads the clock cache with a specified validity duration.

realtimeclock→loadAttribute(**attrName**)

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

realtimeclock→load_async(**msValidity**, **callback**, **context**)

Preloads the clock cache with a specified validity duration (asynchronous version).

realtimeclock→muteValueCallbacks()

Disables the propagation of every new advertised value to the parent hub.

realtimeclock→nextRealTimeClock()

Continues the enumeration of clocks started using `yFirstRealTimeClock()`.

realtimeclock→registerValueCallback(**callback**)

Registers the callback function that is invoked on every change of advertised value.

realtimeclock→set_logicalName(**newval**)

Changes the logical name of the clock.

realtimeclock→set_unixTime(**newval**)

Changes the current time.

realtimeclock→set_userData(data)

Stores a user context provided as argument in the userData attribute of the function.

realtimeclock→set_utcOffset(newval)

Changes the number of seconds between current time and UTC time (time zone).

realtimeclock→unmuteValueCallbacks()

Re-enables the propagation of every new advertised value to the parent hub.

realtimeclock→wait_async(callback, context)

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

YRealTimeClock.FindRealTimeClock() yFindRealTimeClock()

YRealTimeClock

Retrieves a clock for a given identifier.

js	function **yFindRealTimeClock**(**func**)
cpp	YRealTimeClock* **yFindRealTimeClock**(string **func**)
m	+(YRealTimeClock*) **FindRealTimeClock** : (NSString*) **func**
pas	function **yFindRealTimeClock**(**func**: string): TYRealTimeClock
vb	function **yFindRealTimeClock**(ByVal **func** As String) As YRealTimeClock
cs	static YRealTimeClock **FindRealTimeClock**(string **func**)
java	static YRealTimeClock **FindRealTimeClock**(String **func**)
uwp	static YRealTimeClock **FindRealTimeClock**(string **func**)
py	**FindRealTimeClock**(**func**)
php	function **yFindRealTimeClock**(**$func**)
es	static **FindRealTimeClock**(**func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the clock is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YRealTimeClock.isOnline()` to test if the clock is indeed online at a given time. In case of ambiguity when looking for a clock by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

If a call to this object's is_online() method returns FALSE although you are certain that the matching device is plugged, make sure that you did call registerHub() at application initialization time.

Parameters :

func a string that uniquely characterizes the clock, for instance `YHUBWLN3.realTimeClock`.

Returns :

a `YRealTimeClock` object allowing you to drive the clock.

YRealTimeClock.FindRealTimeClockInContext() yFindRealTimeClockInContext()

YRealTimeClock

Retrieves a clock for a given identifier in a YAPI context.

java	static YRealTimeClock **FindRealTimeClockInContext**(YAPIContext **yctx**, String **func**)
uwp	static YRealTimeClock **FindRealTimeClockInContext**(YAPIContext **yctx**, string **func**)
es	static **FindRealTimeClockInContext**(**yctx**, **func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the clock is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YRealTimeClock.isOnline()` to test if the clock is indeed online at a given time. In case of ambiguity when looking for a clock by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

Parameters :

yctx a YAPI context

func a string that uniquely characterizes the clock, for instance `YHUBWLN3.realTimeClock`.

Returns :

a `YRealTimeClock` object allowing you to drive the clock.

YRealTimeClock.FirstRealTimeClock() yFirstRealTimeClock()

YRealTimeClock

Starts the enumeration of clocks currently accessible.

js	function **yFirstRealTimeClock**( )
cpp	YRealTimeClock* **yFirstRealTimeClock**( )
m	+(YRealTimeClock*) **FirstRealTimeClock**
pas	function **yFirstRealTimeClock**( ): TYRealTimeClock
vb	function **yFirstRealTimeClock**( ) As YRealTimeClock
cs	static YRealTimeClock **FirstRealTimeClock**( )
java	static YRealTimeClock **FirstRealTimeClock**( )
uwp	static YRealTimeClock **FirstRealTimeClock**( )
py	**FirstRealTimeClock**( )
php	function **yFirstRealTimeClock**( )
es	static **FirstRealTimeClock**( )

Use the method `YRealTimeClock.nextRealTimeClock()` to iterate on next clocks.

Returns :

a pointer to a `YRealTimeClock` object, corresponding to the first clock currently online, or a `null` pointer if there are none.

YRealTimeClock.FirstRealTimeClockInContext() yFirstRealTimeClockInContext() YRealTimeClock

Starts the enumeration of clocks currently accessible.

java	static YRealTimeClock **FirstRealTimeClockInContext**(YAPIContext **yctx**)
uwp	static YRealTimeClock **FirstRealTimeClockInContext**(YAPIContext **yctx**)
es	static **FirstRealTimeClockInContext**(**yctx**)

Use the method `YRealTimeClock.nextRealTimeClock()` to iterate on next clocks.

Parameters :

yctx a YAPI context.

Returns :

a pointer to a `YRealTimeClock` object, corresponding to the first clock currently online, or a `null` pointer if there are none.

realtimeclock→clearCache() YRealTimeClock

Invalidates the cache.

js	function **clearCache**( )
cpp	void **clearCache**( )
m	-(void) **clearCache**
pas	procedure **clearCache**( )
vb	procedure **clearCache**( )
cs	void **clearCache**( )
java	void **clearCache**( )
py	**clearCache**( )
php	function **clearCache**( )
es	async **clearCache**( )

Invalidates the cache of the clock attributes. Forces the next call to get_xxx() or loadxxx() to use values that come from the device.

realtimeclock→describe() YRealTimeClock

Returns a short text that describes unambiguously the instance of the clock in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

js	function **describe**( )
cpp	string **describe**( )
m	-(NSString*) **describe**
pas	function **describe**( ): string
vb	function **describe**( ) As String
cs	string **describe**( )
java	String **describe**( )
py	**describe**( )
php	function **describe**( )
es	async **describe**( )

More precisely, `TYPE` is the type of the function, `NAME` it the name used for the first access to the function, `SERIAL` is the serial number of the module if the module is connected or `"unresolved"`, and `FUNCTIONID` is the hardware identifier of the function if the module is connected. For example, this method returns `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1` if the module is already connected or `Relay(BadCustomeName.relay1)=unresolved` if the module has not yet been connected. This method does not trigger any USB or TCP transaction and can therefore be used in a debugger.

Returns :
a string that describes the clock (ex: `Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1`)

realtimeclock→get_advertisedValue() realtimeclock→advertisedValue()

YRealTimeClock

Returns the current value of the clock (no more than 6 characters).

js	function **get_advertisedValue**( )
cpp	string **get_advertisedValue**( )
m	-(NSString*) advertisedValue
pas	function **get_advertisedValue**( ): string
vb	function **get_advertisedValue**( ) As String
cs	string **get_advertisedValue**( )
java	String **get_advertisedValue**( )
uwp	async Task<string> **get_advertisedValue**( )
py	**get_advertisedValue**( )
php	function **get_advertisedValue**( )
es	async **get_advertisedValue**( )
cmd	YRealTimeClock **target** **get_advertisedValue**

Returns :
a string corresponding to the current value of the clock (no more than 6 characters).

On failure, throws an exception or returns `Y_ADVERTISEDVALUE_INVALID`.

realtimeclock→get_dateTime()
realtimeclock→dateTime()

YRealTimeClock

Returns the current time in the form "YYYY/MM/DD hh:mm:ss".

js	function **get_dateTime**( )
cpp	string **get_dateTime**( )
m	-(NSString*) dateTime
pas	function **get_dateTime**( ): string
vb	function **get_dateTime**( ) As String
cs	string **get_dateTime**( )
java	String **get_dateTime**( )
uwp	async Task<string> **get_dateTime**( )
py	**get_dateTime**( )
php	function **get_dateTime**( )
es	async **get_dateTime**( )
cmd	YRealTimeClock **target** **get_dateTime**

Returns :
a string corresponding to the current time in the form "YYYY/MM/DD hh:mm:ss"

On failure, throws an exception or returns `Y_DATETIME_INVALID`.

realtimeclock→get_errorMessage()
realtimeclock→errorMessage()

YRealTimeClock

Returns the error message of the latest error with the clock.

js	function **get_errorMessage**( )
cpp	string **get_errorMessage**( )
m	-(NSString*) errorMessage
pas	function **get_errorMessage**( ): string
vb	function **get_errorMessage**( ) As String
cs	string **get_errorMessage**( )
java	String **get_errorMessage**( )
py	**get_errorMessage**( )
php	function **get_errorMessage**( )
es	**get_errorMessage**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a string corresponding to the latest error message that occured while using the clock object

realtimeclock→get_errorType() realtimeclock→errorType()

YRealTimeClock

Returns the numerical error code of the latest error with the clock.

js	function **get_errorType**( )
cpp	YRETCODE **get_errorType**( )
m	-(YRETCODE) errorType
pas	function **get_errorType**( ): YRETCODE
vb	function **get_errorType**( ) As YRETCODE
cs	YRETCODE **get_errorType**( )
java	int **get_errorType**( )
py	**get_errorType**( )
php	function **get_errorType**( )
es	**get_errorType**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a number corresponding to the code of the latest error that occurred while using the clock object

realtimeclock→get_friendlyName()
realtimeclock→friendlyName()

YRealTimeClock

Returns a global identifier of the clock in the format `MODULE_NAME.FUNCTION_NAME`.

js	function **get_friendlyName**( )
cpp	string **get_friendlyName**( )
m	-(NSString*) friendlyName
cs	string **get_friendlyName**( )
java	String **get_friendlyName**( )
py	**get_friendlyName**( )
php	function **get_friendlyName**( )
es	async **get_friendlyName**( )

The returned string uses the logical names of the module and of the clock if they are defined, otherwise the serial number of the module and the hardware identifier of the clock (for example: `MyCustomName.relay1`)

Returns :

a string that uniquely identifies the clock using logical names (ex: `MyCustomName.relay1`)

On failure, throws an exception or returns `Y_FRIENDLYNAME_INVALID`.

realtimeclock→get_functionDescriptor()
realtimeclock→functionDescriptor()

YRealTimeClock

Returns a unique identifier of type YFUN_DESCR corresponding to the function.

js	function **get_functionDescriptor**( )
cpp	YFUN_DESCR **get_functionDescriptor**( )
m	-(YFUN_DESCR) functionDescriptor
pas	function **get_functionDescriptor**( ): YFUN_DESCR
vb	function **get_functionDescriptor**( ) As YFUN_DESCR
cs	YFUN_DESCR **get_functionDescriptor**( )
java	String **get_functionDescriptor**( )
py	**get_functionDescriptor**( )
php	function **get_functionDescriptor**( )
es	async **get_functionDescriptor**( )

This identifier can be used to test if two instances of `YFunction` reference the same physical function on the same physical device.

Returns :

an identifier of type `YFUN_DESCR`.

If the function has never been contacted, the returned value is `Y_FUNCTIONDESCRIPTOR_INVALID`.

realtimeclock→get_functionId()
realtimeclock→functionId()

YRealTimeClock

Returns the hardware identifier of the clock, without reference to the module.

js	function **get_functionId**( )
cpp	string **get_functionId**( )
m	-(NSString*) functionId
vb	function **get_functionId**( ) As String
cs	string **get_functionId**( )
java	String **get_functionId**( )
py	**get_functionId**( )
php	function **get_functionId**( )
es	async **get_functionId**( )

For example `relay1`

Returns :

a string that identifies the clock (ex: `relay1`)

On failure, throws an exception or returns `Y_FUNCTIONID_INVALID`.

realtimeclock→get_hardwareId()
realtimeclock→hardwareId()

YRealTimeClock

Returns the unique hardware identifier of the clock in the form `SERIAL.FUNCTIONID`.

js	function **get_hardwareId**( )
cpp	string **get_hardwareId**( )
m	-(NSString*) hardwareId
vb	function **get_hardwareId**( ) As String
cs	string **get_hardwareId**( )
java	String **get_hardwareId**( )
py	**get_hardwareId**( )
php	function **get_hardwareId**( )
es	async **get_hardwareId**( )

The unique hardware identifier is composed of the device serial number and of the hardware identifier of the clock (for example `RELAYLO1-123456.relay1`).

Returns :
a string that uniquely identifies the clock (ex: `RELAYLO1-123456.relay1`)

On failure, throws an exception or returns `Y_HARDWAREID_INVALID`.

realtimeclock→get_logicalName() realtimeclock→logicalName()

YRealTimeClock

Returns the logical name of the clock.

js	function **get_logicalName**( )
cpp	string **get_logicalName**( )
m	-(NSString*) logicalName
pas	function **get_logicalName**( ): string
vb	function **get_logicalName**( ) As String
cs	string **get_logicalName**( )
java	String **get_logicalName**( )
uwp	async Task<string> **get_logicalName**( )
py	**get_logicalName**( )
php	function **get_logicalName**( )
es	async **get_logicalName**( )
cmd	YRealTimeClock **target** **get_logicalName**

Returns :
a string corresponding to the logical name of the clock.

On failure, throws an exception or returns `Y_LOGICALNAME_INVALID`.

realtimeclock→get_module()
realtimeclock→module()

YRealTimeClock

Gets the `YModule` object for the device on which the function is located.

js	function **get_module**( )
cpp	YModule * **get_module**( )
m	-(YModule*) module
pas	function **get_module**( ): TYModule
vb	function **get_module**( ) As YModule
cs	YModule **get_module**( )
java	YModule **get_module**( )
py	**get_module**( )
php	function **get_module**( )
es	async **get_module**( )

If the function cannot be located on any module, the returned instance of `YModule` is not shown as on-line.

Returns :
an instance of `YModule`

realtimeclock→get_module_async()
realtimeclock→module_async()

YRealTimeClock

Gets the `YModule` object for the device on which the function is located (asynchronous version).

```
js  function get_module_async( callback, context)
```

If the function cannot be located on any module, the returned `YModule` object does not show as on-line.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking Firefox JavaScript VM that does not implement context switching during blocking I/O calls. See the documentation section on asynchronous JavasSript calls for more details.

Parameters :

- **callback** callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the requested `YModule` object
- **context** caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

realtimeclock→get_serialNumber()
realtimeclock→serialNumber()

YRealTimeClock

Returns the serial number of the module, as set by the factory.

js	function **get_serialNumber**( )
cpp	string **get_serialNumber**( )
m	-(NSString*) serialNumber
pas	function **get_serialNumber**( ): string
vb	function **get_serialNumber**( ) As String
cs	string **get_serialNumber**( )
java	String **get_serialNumber**( )
uwp	async Task<string> **get_serialNumber**( )
py	**get_serialNumber**( )
php	function **get_serialNumber**( )
es	async **get_serialNumber**( )
cmd	YRealTimeClock **target** **get_serialNumber**

Returns :
a string corresponding to the serial number of the module, as set by the factory.

On failure, throws an exception or returns YModule.SERIALNUMBER_INVALID.

realtimeclock→get_timeSet()
realtimeclock→timeSet()

YRealTimeClock

Returns true if the clock has been set, and false otherwise.

js	function **get_timeSet**( )
cpp	Y_TIMESET_enum **get_timeSet**( )
m	-(Y_TIMESET_enum) timeSet
pas	function **get_timeSet**( ): Integer
vb	function **get_timeSet**( ) As Integer
cs	int **get_timeSet**( )
java	int **get_timeSet**( )
uwp	async Task<int> **get_timeSet**( )
py	**get_timeSet**( )
php	function **get_timeSet**( )
es	async **get_timeSet**( )
cmd	YRealTimeClock **target** **get_timeSet**

Returns :

either `Y_TIMESET_FALSE` or `Y_TIMESET_TRUE`, according to true if the clock has been set, and false otherwise

On failure, throws an exception or returns `Y_TIMESET_INVALID`.

realtimeclock→get_unixTime()
realtimeclock→unixTime()

YRealTimeClock

Returns the current time in Unix format (number of elapsed seconds since Jan 1st, 1970).

js	function **get_unixTime**( )
cpp	s64 **get_unixTime**( )
m	-(s64) unixTime
pas	function **get_unixTime**( ): int64
vb	function **get_unixTime**( ) As Long
cs	long **get_unixTime**( )
java	long **get_unixTime**( )
uwp	async Task<long> **get_unixTime**( )
py	**get_unixTime**( )
php	function **get_unixTime**( )
es	async **get_unixTime**( )
cmd	YRealTimeClock **target** **get_unixTime**

Returns :

an integer corresponding to the current time in Unix format (number of elapsed seconds since Jan 1st, 1970)

On failure, throws an exception or returns `Y_UNIXTIME_INVALID`.

realtimeclock→get_userData() realtimeclock→userData()

YRealTimeClock

Returns the value of the userData attribute, as previously stored using method `set_userData`.

js	function **get_userData**( )
cpp	void * **get_userData**( )
m	-(id) userData
pas	function **get_userData**( ): Tobject
vb	function **get_userData**( ) As Object
cs	object **get_userData**( )
java	Object **get_userData**( )
py	**get_userData**( )
php	function **get_userData**( )
es	async **get_userData**( )

This attribute is never touched directly by the API, and is at disposal of the caller to store a context.

Returns :
the object stored previously by the caller.

realtimeclock→get_utcOffset() realtimeclock→utcOffset()

YRealTimeClock

Returns the number of seconds between current time and UTC time (time zone).

js	function **get_utcOffset**( )
cpp	int **get_utcOffset**( )
m	-(int) utcOffset
pas	function **get_utcOffset**( ): LongInt
vb	function **get_utcOffset**( ) As Integer
cs	int **get_utcOffset**( )
java	int **get_utcOffset**( )
uwp	async Task<int> **get_utcOffset**( )
py	**get_utcOffset**( )
php	function **get_utcOffset**( )
es	async **get_utcOffset**( )
cmd	YRealTimeClock **target** **get_utcOffset**

Returns :
an integer corresponding to the number of seconds between current time and UTC time (time zone)

On failure, throws an exception or returns `Y_UTCOFFSET_INVALID`.

realtimeclock→isOnline() YRealTimeClock

Checks if the clock is currently reachable, without raising any error.

js	function **isOnline**( )
cpp	bool **isOnline**( )
m	-(BOOL) **isOnline**
pas	function **isOnline**( ): boolean
vb	function **isOnline**( ) As Boolean
cs	bool **isOnline**( )
java	boolean **isOnline**( )
py	**isOnline**( )
php	function **isOnline**( )
es	async **isOnline**( )

If there is a cached value for the clock in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the clock.

Returns :
`true` if the clock can be reached, and `false` otherwise

realtimeclock→isOnline_async() YRealTimeClock

Checks if the clock is currently reachable, without raising any error (asynchronous version).

```
js function isOnline_async( callback, context)
```

If there is a cached value for the clock in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the requested function.

This asynchronous version exists only in Javascript. It uses a callback instead of a return value in order to avoid blocking the Javascript virtual machine.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the boolean result

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

realtimeclock→isReadOnly() YRealTimeClock

Test if the function is readOnly.

cpp	bool **isReadOnly**( )
m	-(bool) **isReadOnly**
pas	function **isReadOnly**( ): boolean
vb	function **isReadOnly**( ) As Boolean
cs	bool **isReadOnly**( )
java	boolean **isReadOnly**( )
uwp	async Task<bool> **isReadOnly**( )
py	**isReadOnly**( )
php	function **isReadOnly**( )
es	async **isReadOnly**( )
cmd	YRealTimeClock **target** **isReadOnly**

Return `true` if the function is write protected or that the function is not available.

Returns :
`true` if the function is readOnly or not online.

realtimeclock→load() YRealTimeClock

Preloads the clock cache with a specified validity duration.

js	function **load**(**msValidity**)
cpp	YRETCODE **load**(int **msValidity**)
m	-(YRETCODE) **load** : (u64) **msValidity**
pas	function **load**(**msValidity**: u64): YRETCODE
vb	function **load**(ByVal **msValidity** As Long) As YRETCODE
cs	YRETCODE **load**(ulong **msValidity**)
java	int **load**(long **msValidity**)
py	**load**(**msValidity**)
php	function **load**(**$msValidity**)
es	async **load**(**msValidity**)

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

Parameters :

msValidity an integer corresponding to the validity attributed to the loaded function parameters, in milliseconds

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

realtimeclock→loadAttribute() YRealTimeClock

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

js	function **loadAttribute**(**attrName**)
cpp	string **loadAttribute**(string **attrName**)
m	-(NSString*) **loadAttribute** : (NSString*) **attrName**
pas	function **loadAttribute**(**attrName**: string): string
vb	function **loadAttribute**( ) As String
cs	string **loadAttribute**(string **attrName**)
java	String **loadAttribute**(String **attrName**)
uwp	async Task<string> **loadAttribute**(string **attrName**)
py	**loadAttribute**(**attrName**)
php	function **loadAttribute**(**$attrName**)
es	async **loadAttribute**(**attrName**)

Parameters :

attrName the name of the requested attribute

Returns :

a string with the value of the the attribute

On failure, throws an exception or returns an empty string.

realtimeclock→load_async() YRealTimeClock

Preloads the clock cache with a specified validity duration (asynchronous version).

```
js function load_async( msValidity, callback, context)
```

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking the JavaScript virtual machine.

Parameters :

msValidity an integer corresponding to the validity of the loaded function parameters, in milliseconds

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the error code (or YAPI_SUCCESS)

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

realtimeclock→muteValueCallbacks() YRealTimeClock

Disables the propagation of every new advertised value to the parent hub.

js	function **muteValueCallbacks**( )
cpp	int **muteValueCallbacks**( )
m	-(int) **muteValueCallbacks**
pas	function **muteValueCallbacks**( ): LongInt
vb	function **muteValueCallbacks**( ) As Integer
cs	int **muteValueCallbacks**( )
java	int **muteValueCallbacks**( )
uwp	async Task<int> **muteValueCallbacks**( )
py	**muteValueCallbacks**( )
php	function **muteValueCallbacks**( )
es	async **muteValueCallbacks**( )
cmd	YRealTimeClock **target** **muteValueCallbacks**

You can use this function to save bandwidth and CPU on computers with limited resources, or to prevent unwanted invocations of the HTTP callback. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

realtimeclock→nextRealTimeClock() YRealTimeClock

Continues the enumeration of clocks started using `yFirstRealTimeClock()`.

js	function **nextRealTimeClock**( )
cpp	YRealTimeClock * **nextRealTimeClock**( )
m	-(YRealTimeClock*) **nextRealTimeClock**
pas	function **nextRealTimeClock**( ): TYRealTimeClock
vb	function **nextRealTimeClock**( ) As YRealTimeClock
cs	YRealTimeClock **nextRealTimeClock**( )
java	YRealTimeClock **nextRealTimeClock**( )
uwp	YRealTimeClock **nextRealTimeClock**( )
py	**nextRealTimeClock**( )
php	function **nextRealTimeClock**( )
es	**nextRealTimeClock**( )

Caution: You can't make any assumption about the returned clocks order. If you want to find a specific a clock, use `RealTimeClock.findRealTimeClock()` and a hardwareID or a logical name.

Returns :
a pointer to a `YRealTimeClock` object, corresponding to a clock currently online, or a `null` pointer if there are no more clocks to enumerate.

realtimeclock→registerValueCallback() YRealTimeClock

Registers the callback function that is invoked on every change of advertised value.

js	function **registerValueCallback**(**callback**)
cpp	int **registerValueCallback**(YRealTimeClockValueCallback **callback**)
m	-(int) **registerValueCallback** : (YRealTimeClockValueCallback) **callback**
pas	function **registerValueCallback**(**callback**: TYRealTimeClockValueCallback): LongInt
vb	function **registerValueCallback**( ) As Integer
cs	int **registerValueCallback**(ValueCallback **callback**)
java	int **registerValueCallback**(UpdateCallback **callback**)
uwp	async Task<int> **registerValueCallback**(ValueCallback **callback**)
py	**registerValueCallback**(**callback**)
php	function **registerValueCallback**(**$callback**)
es	async **registerValueCallback**(**callback**)

The callback is invoked only during the execution of `ySleep` or `yHandleEvents`. This provides control over the time when the callback is triggered. For good responsiveness, remember to call one of these two functions periodically. To unregister a callback, pass a null pointer as argument.

Parameters :

callback the callback function to call, or a null pointer. The callback function should take two arguments: the function object of which the value has changed, and the character string describing the new advertised value.

realtimeclock→set_logicalName() realtimeclock→setLogicalName()

YRealTimeClock

Changes the logical name of the clock.

js	function **set_logicalName**(**newval**)
cpp	int **set_logicalName**(const string& **newval**)
m	-(int) setLogicalName : (NSString*) **newval**
pas	function **set_logicalName**(**newval**: string): integer
vb	function **set_logicalName**(ByVal **newval** As String) As Integer
cs	int **set_logicalName**(string **newval**)
java	int **set_logicalName**(String **newval**)
uwp	async Task<int> **set_logicalName**(string **newval**)
py	**set_logicalName**(**newval**)
php	function **set_logicalName**(**$newval**)
es	async **set_logicalName**(**newval**)
cmd	YRealTimeClock **target set_logicalName newval**

You can use `yCheckLogicalName()` prior to this call to make sure that your parameter is valid. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the logical name of the clock.

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

realtimeclock→set_unixTime()
realtimeclock→setUnixTime()

YRealTimeClock

Changes the current time.

js	function **set_unixTime**(**newval**)
cpp	int **set_unixTime**(s64 **newval**)
m	-(int) setUnixTime : (s64) **newval**
pas	function **set_unixTime**(**newval**: int64): integer
vb	function **set_unixTime**(ByVal **newval** As Long) As Integer
cs	int **set_unixTime**(long **newval**)
java	int **set_unixTime**(long **newval**)
uwp	async Task<int> **set_unixTime**(long **newval**)
py	**set_unixTime**(**newval**)
php	function **set_unixTime**(**$newval**)
es	async **set_unixTime**(**newval**)
cmd	YRealTimeClock **target** **set_unixTime** **newval**

Time is specifid in Unix format (number of elapsed seconds since Jan 1st, 1970).

Parameters :

newval an integer corresponding to the current time

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

realtimeclock→set_userData()
realtimeclock→setUserData() YRealTimeClock

Stores a user context provided as argument in the userData attribute of the function.

js	function **set_userData**(**data**)
cpp	void **set_userData**(void* **data**)
m	-(void) setUserData : (id) **data**
pas	procedure **set_userData**(**data**: Tobject)
vb	procedure **set_userData**(ByVal **data** As Object)
cs	void **set_userData**(object **data**)
java	void **set_userData**(Object **data**)
py	**set_userData**(**data**)
php	function **set_userData**(**$data**)
es	async **set_userData**(**data**)

This attribute is never touched by the API, and is at disposal of the caller to store a context.

Parameters :

data any kind of object to be stored

realtimeclock→set_utcOffset()
realtimeclock→setUtcOffset()

YRealTimeClock

Changes the number of seconds between current time and UTC time (time zone).

js	function **set_utcOffset**(**newval**)
cpp	int **set_utcOffset**(int **newval**)
m	-(int) setUtcOffset : (int) **newval**
pas	function **set_utcOffset**(**newval**: LongInt): integer
vb	function **set_utcOffset**(ByVal **newval** As Integer) As Integer
cs	int **set_utcOffset**(int **newval**)
java	int **set_utcOffset**(int **newval**)
uwp	async Task<int> **set_utcOffset**(int **newval**)
py	**set_utcOffset**(**newval**)
php	function **set_utcOffset**(**$newval**)
es	async **set_utcOffset**(**newval**)
cmd	YRealTimeClock **target** **set_utcOffset** **newval**

The timezone is automatically rounded to the nearest multiple of 15 minutes. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the number of seconds between current time and UTC time (time zone)

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

realtimeclock→unmuteValueCallbacks() YRealTimeClock

Re-enables the propagation of every new advertised value to the parent hub.

js	function **unmuteValueCallbacks**( )
cpp	int **unmuteValueCallbacks**( )
m	-(int) **unmuteValueCallbacks**
pas	function **unmuteValueCallbacks**( ): LongInt
vb	function **unmuteValueCallbacks**( ) As Integer
cs	int **unmuteValueCallbacks**( )
java	int **unmuteValueCallbacks**( )
uwp	async Task<int> **unmuteValueCallbacks**( )
py	**unmuteValueCallbacks**( )
php	function **unmuteValueCallbacks**( )
es	async **unmuteValueCallbacks**( )
cmd	YRealTimeClock **target** **unmuteValueCallbacks**

This function reverts the effect of a previous call to `muteValueCallbacks()`. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

realtimeclock→wait_async() YRealTimeClock

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

js	function **wait_async(callback, context)**
es	**wait_async(callback, context)**

The callback function can therefore freely issue synchronous or asynchronous commands, without risking to block the JavaScript VM.

Parameters :

callback callback function that is invoked when all pending commands on the module are completed. The callback function receives two arguments: the caller-specific context object and the receiving function object.

context caller-specific object that is passed as-is to the callback function

Returns :

nothing.

11.6. WakeUpMonitor function interface

The YWakeUpMonitor class handles globally all wake-up sources, as well as automated sleep mode, for instance using a YoctoHub-Wireless-g, a YoctoHub-GSM-3G-NA, a YoctoHub-GSM-3G-EU or a YoctoHub-Wireless-SR.

In order to use the functions described here, you should include:

es	in HTML: <script src="../../lib/yocto_wakeupmonitor.js"></script> in node.js: require('yoctolib-es2017/yocto_wakeupmonitor.js');
js	<script type='text/javascript' src='yocto_wakeupmonitor.js'></script>
cpp	#include "yocto_wakeupmonitor.h"
m	#import "yocto_wakeupmonitor.h"
pas	uses yocto_wakeupmonitor;
vb	yocto_wakeupmonitor.vb
cs	yocto_wakeupmonitor_proxy.cs
java	import com.yoctopuce.YoctoAPI.YWakeUpMonitor;
uwp	import com.yoctopuce.YoctoAPI.YWakeUpMonitor;
py	from yocto_wakeupmonitor import *
php	require_once('yocto_wakeupmonitor.php');
vi	YWakeUpMonitor.vi

Global functions

yFindWakeUpMonitor(**func**)

Retrieves a monitor for a given identifier.

yFindWakeUpMonitorInContext(**yctx**, **func**)

Retrieves a monitor for a given identifier in a YAPI context.

yFirstWakeUpMonitor()

Starts the enumeration of monitors currently accessible.

yFirstWakeUpMonitorInContext(**yctx**)

Starts the enumeration of monitors currently accessible.

`YWakeUpMonitor` methods

wakeupmonitor→clearCache()

Invalidates the cache.

wakeupmonitor→describe()

Returns a short text that describes unambiguously the instance of the monitor in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

wakeupmonitor→get_advertisedValue()

Returns the current value of the monitor (no more than 6 characters).

wakeupmonitor→get_errorMessage()

Returns the error message of the latest error with the monitor.

wakeupmonitor→get_errorType()

Returns the numerical error code of the latest error with the monitor.

wakeupmonitor→get_friendlyName()

Returns a global identifier of the monitor in the format `MODULE_NAME.FUNCTION_NAME`.

wakeupmonitor→get_functionDescriptor()

Returns a unique identifier of type `YFUN_DESCR` corresponding to the function.

wakeupmonitor→get_functionId()

Returns the hardware identifier of the monitor, without reference to the module.

wakeupmonitor→get_hardwareId()

Returns the unique hardware identifier of the monitor in the form `SERIAL.FUNCTIONID`.

wakeupmonitor→get_logicalName()

Returns the logical name of the monitor.

wakeupmonitor→get_module()

Gets the `YModule` object for the device on which the function is located.

wakeupmonitor→get_module_async(callback, context)

Gets the `YModule` object for the device on which the function is located (asynchronous version).

wakeupmonitor→get_nextWakeUp()

Returns the next scheduled wake up date/time (UNIX format).

wakeupmonitor→get_powerDuration()

Returns the maximal wake up time (in seconds) before automatically going to sleep.

wakeupmonitor→get_serialNumber()

Returns the serial number of the module, as set by the factory.

wakeupmonitor→get_sleepCountdown()

Returns the delay before the next sleep period.

wakeupmonitor→get_userData()

Returns the value of the userData attribute, as previously stored using method `set_userData`.

wakeupmonitor→get_wakeUpReason()

Returns the latest wake up reason.

wakeupmonitor→get_wakeUpState()

Returns the current state of the monitor.

wakeupmonitor→isOnline()

Checks if the monitor is currently reachable, without raising any error.

wakeupmonitor→isOnline_async(callback, context)

Checks if the monitor is currently reachable, without raising any error (asynchronous version).

wakeupmonitor→isReadOnly()

Test if the function is readOnly.

wakeupmonitor→load(msValidity)

Preloads the monitor cache with a specified validity duration.

wakeupmonitor→loadAttribute(attrName)

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

wakeupmonitor→load_async(msValidity, callback, context)

Preloads the monitor cache with a specified validity duration (asynchronous version).

wakeupmonitor→muteValueCallbacks()

Disables the propagation of every new advertised value to the parent hub.

wakeupmonitor→nextWakeUpMonitor()

Continues the enumeration of monitors started using `yFirstWakeUpMonitor()`.

wakeupmonitor→registerValueCallback(callback)

Registers the callback function that is invoked on every change of advertised value.

wakeupmonitor→resetSleepCountDown()

Resets the sleep countdown.

wakeupmonitor→set_logicalName(newval)

Changes the logical name of the monitor.

wakeupmonitor→set_nextWakeUp(newval)

Changes the days of the week when a wake up must take place.

wakeupmonitor→set_powerDuration(newval)

Changes the maximal wake up time (seconds) before automatically going to sleep.

wakeupmonitor→set_sleepCountdown(newval)

Changes the delay before the next sleep period.

wakeupmonitor→set_userData(data)

Stores a user context provided as argument in the userData attribute of the function.

wakeupmonitor→sleep(secBeforeSleep)

Goes to sleep until the next wake up condition is met, the RTC time must have been set before calling this function.

wakeupmonitor→sleepFor(secUntilWakeUp, secBeforeSleep)

Goes to sleep for a specific duration or until the next wake up condition is met, the RTC time must have been set before calling this function.

wakeupmonitor→sleepUntil(wakeUpTime, secBeforeSleep)

Go to sleep until a specific date is reached or until the next wake up condition is met, the RTC time must have been set before calling this function.

wakeupmonitor→unmuteValueCallbacks()

Re-enables the propagation of every new advertised value to the parent hub.

wakeupmonitor→wait_async(callback, context)

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

wakeupmonitor→wakeUp()

Forces a wake up.

YWakeUpMonitor.FindWakeUpMonitor() yFindWakeUpMonitor()

YWakeUpMonitor

Retrieves a monitor for a given identifier.

js	function **yFindWakeUpMonitor**(**func**)
cpp	YWakeUpMonitor* **yFindWakeUpMonitor**(string **func**)
m	+(YWakeUpMonitor*) **FindWakeUpMonitor** : (NSString*) **func**
pas	function **yFindWakeUpMonitor**(**func**: string): TYWakeUpMonitor
vb	function **yFindWakeUpMonitor**(ByVal **func** As String) As YWakeUpMonitor
cs	static YWakeUpMonitor **FindWakeUpMonitor**(string **func**)
java	static YWakeUpMonitor **FindWakeUpMonitor**(String **func**)
uwp	static YWakeUpMonitor **FindWakeUpMonitor**(string **func**)
py	**FindWakeUpMonitor**(**func**)
php	function **yFindWakeUpMonitor**(**$func**)
es	static **FindWakeUpMonitor**(**func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the monitor is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YWakeUpMonitor.isOnline()` to test if the monitor is indeed online at a given time. In case of ambiguity when looking for a monitor by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

If a call to this object's is_online() method returns FALSE although you are certain that the matching device is plugged, make sure that you did call registerHub() at application initialization time.

Parameters :

func a string that uniquely characterizes the monitor, for instance `YHUBWLN3.wakeUpMonitor`.

Returns :

a `YWakeUpMonitor` object allowing you to drive the monitor.

YWakeUpMonitor.FindWakeUpMonitorInContext() yFindWakeUpMonitorInContext() YWakeUpMonitor

Retrieves a monitor for a given identifier in a YAPI context.

`java`	static YWakeUpMonitor **FindWakeUpMonitorInContext**(YAPIContext **yctx**, String **func**)
`uwp`	static YWakeUpMonitor **FindWakeUpMonitorInContext**(YAPIContext **yctx**, string **func**)
`es`	static **FindWakeUpMonitorInContext**(**yctx**, **func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the monitor is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YWakeUpMonitor.isOnline()` to test if the monitor is indeed online at a given time. In case of ambiguity when looking for a monitor by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

Parameters :

yctx a YAPI context

func a string that uniquely characterizes the monitor, for instance `YHUBWLN3.wakeUpMonitor`.

Returns :

a `YWakeUpMonitor` object allowing you to drive the monitor.

YWakeUpMonitor.FirstWakeUpMonitor() yFirstWakeUpMonitor()

YWakeUpMonitor

Starts the enumeration of monitors currently accessible.

js	function **yFirstWakeUpMonitor**( )
cpp	YWakeUpMonitor* **yFirstWakeUpMonitor**( )
m	+(YWakeUpMonitor*) **FirstWakeUpMonitor**
pas	function **yFirstWakeUpMonitor**( ): TYWakeUpMonitor
vb	function **yFirstWakeUpMonitor**( ) As YWakeUpMonitor
cs	static YWakeUpMonitor **FirstWakeUpMonitor**( )
java	static YWakeUpMonitor **FirstWakeUpMonitor**( )
uwp	static YWakeUpMonitor **FirstWakeUpMonitor**( )
py	**FirstWakeUpMonitor**( )
php	function **yFirstWakeUpMonitor**( )
es	static **FirstWakeUpMonitor**( )

Use the method `YWakeUpMonitor.nextWakeUpMonitor()` to iterate on next monitors.

Returns :

a pointer to a `YWakeUpMonitor` object, corresponding to the first monitor currently online, or a `null` pointer if there are none.

YWakeUpMonitor.FirstWakeUpMonitorInContext() yFirstWakeUpMonitorInContext() — YWakeUpMonitor

Starts the enumeration of monitors currently accessible.

`java`	static YWakeUpMonitor **FirstWakeUpMonitorInContext**(YAPIContext **yctx**)
`uwp`	static YWakeUpMonitor **FirstWakeUpMonitorInContext**(YAPIContext **yctx**)
`es`	static **FirstWakeUpMonitorInContext**(**yctx**)

Use the method `YWakeUpMonitor.nextWakeUpMonitor()` to iterate on next monitors.

Parameters :

yctx a YAPI context.

Returns :

a pointer to a `YWakeUpMonitor` object, corresponding to the first monitor currently online, or a `null` pointer if there are none.

wakeupmonitor→clearCache() YWakeUpMonitor

Invalidates the cache.

js	function **clearCache**( )
cpp	void **clearCache**( )
m	-(void) **clearCache**
pas	procedure **clearCache**( )
vb	procedure **clearCache**( )
cs	void **clearCache**( )
java	void **clearCache**( )
py	**clearCache**( )
php	function **clearCache**( )
es	async **clearCache**( )

Invalidates the cache of the monitor attributes. Forces the next call to get_xxx() or loadxxx() to use values that come from the device.

wakeupmonitor→describe() YWakeUpMonitor

Returns a short text that describes unambiguously the instance of the monitor in the form TYPE(NAME)=SERIAL.FUNCTIONID.

js	function **describe**( )
cpp	string **describe**( )
m	-(NSString*) **describe**
pas	function **describe**( ): string
vb	function **describe**( ) As String
cs	string **describe**( )
java	String **describe**( )
py	**describe**( )
php	function **describe**( )
es	async **describe**( )

More precisely, TYPE is the type of the function, NAME it the name used for the first access to the function, SERIAL is the serial number of the module if the module is connected or "unresolved", and FUNCTIONID is the hardware identifier of the function if the module is connected. For example, this method returns Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1 if the module is already connected or Relay(BadCustomeName.relay1)=unresolved if the module has not yet been connected. This method does not trigger any USB or TCP transaction and can therefore be used in a debugger.

Returns :
a string that describes the monitor (ex: Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1)

wakeupmonitor→get_advertisedValue() wakeupmonitor→advertisedValue() YWakeUpMonitor

Returns the current value of the monitor (no more than 6 characters).

js	function **get_advertisedValue**( )
cpp	string **get_advertisedValue**( )
m	-(NSString*) advertisedValue
pas	function **get_advertisedValue**( ): string
vb	function **get_advertisedValue**( ) As String
cs	string **get_advertisedValue**( )
java	String **get_advertisedValue**( )
uwp	async Task<string> **get_advertisedValue**( )
py	**get_advertisedValue**( )
php	function **get_advertisedValue**( )
es	async **get_advertisedValue**( )
cmd	YWakeUpMonitor **target** **get_advertisedValue**

Returns :

a string corresponding to the current value of the monitor (no more than 6 characters).

On failure, throws an exception or returns `Y_ADVERTISEDVALUE_INVALID`.

wakeupmonitor→get_errorMessage() wakeupmonitor→errorMessage()

YWakeUpMonitor

Returns the error message of the latest error with the monitor.

js	function **get_errorMessage**( )
cpp	string **get_errorMessage**( )
m	-(NSString*) errorMessage
pas	function **get_errorMessage**( ): string
vb	function **get_errorMessage**( ) As String
cs	string **get_errorMessage**( )
java	String **get_errorMessage**( )
py	**get_errorMessage**( )
php	function **get_errorMessage**( )
es	**get_errorMessage**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a string corresponding to the latest error message that occured while using the monitor object

wakeupmonitor→get_errorType() wakeupmonitor→errorType()

YWakeUpMonitor

Returns the numerical error code of the latest error with the monitor.

js	function **get_errorType**( )
cpp	YRETCODE **get_errorType**( )
m	-(YRETCODE) errorType
pas	function **get_errorType**( ): YRETCODE
vb	function **get_errorType**( ) As YRETCODE
cs	YRETCODE **get_errorType**( )
java	int **get_errorType**( )
py	**get_errorType**( )
php	function **get_errorType**( )
es	**get_errorType**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :
a number corresponding to the code of the latest error that occurred while using the monitor object

wakeupmonitor→get_friendlyName()
wakeupmonitor→friendlyName()

YWakeUpMonitor

Returns a global identifier of the monitor in the format `MODULE_NAME.FUNCTION_NAME`.

js	function **get_friendlyName**( )
cpp	string **get_friendlyName**( )
m	-(NSString*) friendlyName
cs	string **get_friendlyName**( )
java	String **get_friendlyName**( )
py	**get_friendlyName**( )
php	function **get_friendlyName**( )
es	async **get_friendlyName**( )

The returned string uses the logical names of the module and of the monitor if they are defined, otherwise the serial number of the module and the hardware identifier of the monitor (for example: `MyCustomName.relay1`)

Returns :

a string that uniquely identifies the monitor using logical names (ex: `MyCustomName.relay1`)

On failure, throws an exception or returns `Y_FRIENDLYNAME_INVALID`.

wakeupmonitor→get_functionDescriptor()
wakeupmonitor→functionDescriptor()

YWakeUpMonitor

Returns a unique identifier of type YFUN_DESCR corresponding to the function.

js	function **get_functionDescriptor**( )
cpp	YFUN_DESCR **get_functionDescriptor**( )
m	-(YFUN_DESCR) functionDescriptor
pas	function **get_functionDescriptor**( ): YFUN_DESCR
vb	function **get_functionDescriptor**( ) As YFUN_DESCR
cs	YFUN_DESCR **get_functionDescriptor**( )
java	String **get_functionDescriptor**( )
py	**get_functionDescriptor**( )
php	function **get_functionDescriptor**( )
es	async **get_functionDescriptor**( )

This identifier can be used to test if two instances of YFunction reference the same physical function on the same physical device.

Returns :

an identifier of type YFUN_DESCR.

If the function has never been contacted, the returned value is Y_FUNCTIONDESCRIPTOR_INVALID.

wakeupmonitor→get_functionId()
wakeupmonitor→functionId()

YWakeUpMonitor

Returns the hardware identifier of the monitor, without reference to the module.

js	function **get_functionId**( )
cpp	string **get_functionId**( )
m	-(NSString*) functionId
vb	function **get_functionId**( ) As String
cs	string **get_functionId**( )
java	String **get_functionId**( )
py	**get_functionId**( )
php	function **get_functionId**( )
es	async **get_functionId**( )

For example `relay1`

Returns :

a string that identifies the monitor (ex: `relay1`)

On failure, throws an exception or returns `Y_FUNCTIONID_INVALID`.

wakeupmonitor→get_hardwareId()
wakeupmonitor→hardwareId()

YWakeUpMonitor

Returns the unique hardware identifier of the monitor in the form `SERIAL.FUNCTIONID`.

js	function **get_hardwareId**( )
cpp	string **get_hardwareId**( )
m	-(NSString*) hardwareId
vb	function **get_hardwareId**( ) As String
cs	string **get_hardwareId**( )
java	String **get_hardwareId**( )
py	**get_hardwareId**( )
php	function **get_hardwareId**( )
es	async **get_hardwareId**( )

The unique hardware identifier is composed of the device serial number and of the hardware identifier of the monitor (for example `RELAYLO1-123456.relay1`).

Returns :

a string that uniquely identifies the monitor (ex: `RELAYLO1-123456.relay1`)

On failure, throws an exception or returns `Y_HARDWAREID_INVALID`.

wakeupmonitor→get_logicalName() wakeupmonitor→logicalName()

YWakeUpMonitor

Returns the logical name of the monitor.

js	function **get_logicalName**( )
cpp	string **get_logicalName**( )
m	-(NSString*) logicalName
pas	function **get_logicalName**( ): string
vb	function **get_logicalName**( ) As String
cs	string **get_logicalName**( )
java	String **get_logicalName**( )
uwp	async Task<string> **get_logicalName**( )
py	**get_logicalName**( )
php	function **get_logicalName**( )
es	async **get_logicalName**( )
cmd	YWakeUpMonitor **target** **get_logicalName**

Returns :

a string corresponding to the logical name of the monitor.

On failure, throws an exception or returns `Y_LOGICALNAME_INVALID`.

wakeupmonitor→get_module()
wakeupmonitor→module()

YWakeUpMonitor

Gets the `YModule` object for the device on which the function is located.

js	function **get_module**( )
cpp	YModule * **get_module**( )
m	-(YModule*) module
pas	function **get_module**( ): TYModule
vb	function **get_module**( ) As YModule
cs	YModule **get_module**( )
java	YModule **get_module**( )
py	**get_module**( )
php	function **get_module**( )
es	async **get_module**( )

If the function cannot be located on any module, the returned instance of `YModule` is not shown as on-line.

Returns :
an instance of `YModule`

wakeupmonitor→get_module_async() wakeupmonitor→module_async()

YWakeUpMonitor

Gets the `YModule` object for the device on which the function is located (asynchronous version).

js	function **get_module_async**(**callback**, **context**)

If the function cannot be located on any module, the returned `YModule` object does not show as on-line.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking Firefox JavaScript VM that does not implement context switching during blocking I/O calls. See the documentation section on asynchronous JavasSript calls for more details.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the requested `YModule` object

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

wakeupmonitor→get_nextWakeUp() wakeupmonitor→nextWakeUp()

YWakeUpMonitor

Returns the next scheduled wake up date/time (UNIX format).

js	function **get_nextWakeUp**( )
cpp	s64 **get_nextWakeUp**( )
m	-(s64) nextWakeUp
pas	function **get_nextWakeUp**( ): int64
vb	function **get_nextWakeUp**( ) As Long
cs	long **get_nextWakeUp**( )
java	long **get_nextWakeUp**( )
uwp	async Task<long> **get_nextWakeUp**( )
py	**get_nextWakeUp**( )
php	function **get_nextWakeUp**( )
es	async **get_nextWakeUp**( )
cmd	YWakeUpMonitor **target** **get_nextWakeUp**

Returns :
an integer corresponding to the next scheduled wake up date/time (UNIX format)

On failure, throws an exception or returns `Y_NEXTWAKEUP_INVALID`.

wakeupmonitor→get_powerDuration()
wakeupmonitor→powerDuration()

YWakeUpMonitor

Returns the maximal wake up time (in seconds) before automatically going to sleep.

js	function **get_powerDuration**( )
cpp	int **get_powerDuration**( )
m	-(int) powerDuration
pas	function **get_powerDuration**( ): LongInt
vb	function **get_powerDuration**( ) As Integer
cs	int **get_powerDuration**( )
java	int **get_powerDuration**( )
uwp	async Task<int> **get_powerDuration**( )
py	**get_powerDuration**( )
php	function **get_powerDuration**( )
es	async **get_powerDuration**( )
cmd	YWakeUpMonitor **target** **get_powerDuration**

Returns :

an integer corresponding to the maximal wake up time (in seconds) before automatically going to sleep

On failure, throws an exception or returns `Y_POWERDURATION_INVALID`.

wakeupmonitor→get_serialNumber() wakeupmonitor→serialNumber()

YWakeUpMonitor

Returns the serial number of the module, as set by the factory.

js	function **get_serialNumber**( )
cpp	string **get_serialNumber**( )
m	-(NSString*) serialNumber
pas	function **get_serialNumber**( ): string
vb	function **get_serialNumber**( ) As String
cs	string **get_serialNumber**( )
java	String **get_serialNumber**( )
uwp	async Task<string> **get_serialNumber**( )
py	**get_serialNumber**( )
php	function **get_serialNumber**( )
es	async **get_serialNumber**( )
cmd	YWakeUpMonitor **target** **get_serialNumber**

Returns :
a string corresponding to the serial number of the module, as set by the factory.

On failure, throws an exception or returns YModule.SERIALNUMBER_INVALID.

wakeupmonitor→get_sleepCountdown() wakeupmonitor→sleepCountdown()

YWakeUpMonitor

Returns the delay before the next sleep period.

js	function **get_sleepCountdown**( )
cpp	int **get_sleepCountdown**( )
m	-(int) sleepCountdown
pas	function **get_sleepCountdown**( ): LongInt
vb	function **get_sleepCountdown**( ) As Integer
cs	int **get_sleepCountdown**( )
java	int **get_sleepCountdown**( )
uwp	async Task<int> **get_sleepCountdown**( )
py	**get_sleepCountdown**( )
php	function **get_sleepCountdown**( )
es	async **get_sleepCountdown**( )
cmd	YWakeUpMonitor **target** **get_sleepCountdown**

Returns :

an integer corresponding to the delay before the next sleep period

On failure, throws an exception or returns `Y_SLEEPCOUNTDOWN_INVALID`.

wakeupmonitor→get_userData()
wakeupmonitor→userData()

YWakeUpMonitor

Returns the value of the userData attribute, as previously stored using method `set_userData`.

js	function **get_userData**( )
cpp	void * **get_userData**( )
m	-(id) userData
pas	function **get_userData**( ): Tobject
vb	function **get_userData**( ) As Object
cs	object **get_userData**( )
java	Object **get_userData**( )
py	**get_userData**( )
php	function **get_userData**( )
es	async **get_userData**( )

This attribute is never touched directly by the API, and is at disposal of the caller to store a context.

Returns :
the object stored previously by the caller.

wakeupmonitor→get_wakeUpReason() wakeupmonitor→wakeUpReason()

YWakeUpMonitor

Returns the latest wake up reason.

js	function **get_wakeUpReason**( )
cpp	Y_WAKEUPREASON_enum **get_wakeUpReason**( )
m	-(Y_WAKEUPREASON_enum) wakeUpReason
pas	function **get_wakeUpReason**( ): Integer
vb	function **get_wakeUpReason**( ) As Integer
cs	int **get_wakeUpReason**( )
java	int **get_wakeUpReason**( )
uwp	async Task<int> **get_wakeUpReason**( )
py	**get_wakeUpReason**( )
php	function **get_wakeUpReason**( )
es	async **get_wakeUpReason**( )
cmd	YWakeUpMonitor **target** **get_wakeUpReason**

Returns :

a value among `Y_WAKEUPREASON_USBPOWER`, `Y_WAKEUPREASON_EXTPOWER`, `Y_WAKEUPREASON_ENDOFSLEEP`, `Y_WAKEUPREASON_EXTSIG1`, `Y_WAKEUPREASON_SCHEDULE1` and `Y_WAKEUPREASON_SCHEDULE2` corresponding to the latest wake up reason

On failure, throws an exception or returns `Y_WAKEUPREASON_INVALID`.

wakeupmonitor→get_wakeUpState() wakeupmonitor→wakeUpState()

YWakeUpMonitor

Returns the current state of the monitor.

js	function **get_wakeUpState**( )
cpp	Y_WAKEUPSTATE_enum **get_wakeUpState**( )
m	-(Y_WAKEUPSTATE_enum) wakeUpState
pas	function **get_wakeUpState**( ): Integer
vb	function **get_wakeUpState**( ) As Integer
cs	int **get_wakeUpState**( )
java	int **get_wakeUpState**( )
uwp	async Task<int> **get_wakeUpState**( )
py	**get_wakeUpState**( )
php	function **get_wakeUpState**( )
es	async **get_wakeUpState**( )
cmd	YWakeUpMonitor **target** **get_wakeUpState**

Returns :
either `Y_WAKEUPSTATE_SLEEPING` or `Y_WAKEUPSTATE_AWAKE`, according to the current state of the monitor

On failure, throws an exception or returns `Y_WAKEUPSTATE_INVALID`.

wakeupmonitor→isOnline() YWakeUpMonitor

Checks if the monitor is currently reachable, without raising any error.

js	function **isOnline**( )
cpp	bool **isOnline**( )
m	-(BOOL) **isOnline**
pas	function **isOnline**( ): boolean
vb	function **isOnline**( ) As Boolean
cs	bool **isOnline**( )
java	boolean **isOnline**( )
py	**isOnline**( )
php	function **isOnline**( )
es	async **isOnline**( )

If there is a cached value for the monitor in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the monitor.

Returns :
`true` if the monitor can be reached, and `false` otherwise

wakeupmonitor→isOnline_async() YWakeUpMonitor

Checks if the monitor is currently reachable, without raising any error (asynchronous version).

js function **isOnline_async**(**callback**, **context**)

If there is a cached value for the monitor in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the requested function.

This asynchronous version exists only in Javascript. It uses a callback instead of a return value in order to avoid blocking the Javascript virtual machine.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the boolean result

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

wakeupmonitor→isReadOnly() YWakeUpMonitor

Test if the function is readOnly.

cpp	bool **isReadOnly**( )
m	-(bool) **isReadOnly**
pas	function **isReadOnly**( ): boolean
vb	function **isReadOnly**( ) As Boolean
cs	bool **isReadOnly**( )
java	boolean **isReadOnly**( )
uwp	async Task<bool> **isReadOnly**( )
py	**isReadOnly**( )
php	function **isReadOnly**( )
es	async **isReadOnly**( )
cmd	YWakeUpMonitor **target** **isReadOnly**

Return `true` if the function is write protected or that the function is not available.

Returns :
`true` if the function is readOnly or not online.

wakeupmonitor→load() YWakeUpMonitor

Preloads the monitor cache with a specified validity duration.

js	function **load**(**msValidity**)
cpp	YRETCODE **load**(int **msValidity**)
m	-(YRETCODE) **load** : (u64) **msValidity**
pas	function **load**(**msValidity**: u64): YRETCODE
vb	function **load**(ByVal **msValidity** As Long) As YRETCODE
cs	YRETCODE **load**(ulong **msValidity**)
java	int **load**(long **msValidity**)
py	**load**(**msValidity**)
php	function **load**(**$msValidity**)
es	async **load**(**msValidity**)

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

Parameters :

msValidity an integer corresponding to the validity attributed to the loaded function parameters, in milliseconds

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→loadAttribute() YWakeUpMonitor

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

js	function **loadAttribute**(**attrName**)
cpp	string **loadAttribute**(string **attrName**)
m	-(NSString*) **loadAttribute** : (NSString*) **attrName**
pas	function **loadAttribute**(**attrName**: string): string
vb	function **loadAttribute**( ) As String
cs	string **loadAttribute**(string **attrName**)
java	String **loadAttribute**(String **attrName**)
uwp	async Task<string> **loadAttribute**(string **attrName**)
py	**loadAttribute**(**attrName**)
php	function **loadAttribute**(**$attrName**)
es	async **loadAttribute**(**attrName**)

Parameters :

attrName the name of the requested attribute

Returns :

a string with the value of the the attribute

On failure, throws an exception or returns an empty string.

wakeupmonitor→load_async() YWakeUpMonitor

Preloads the monitor cache with a specified validity duration (asynchronous version).

```
js   function load_async( msValidity, callback, context)
```

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking the JavaScript virtual machine.

Parameters :

msValidity an integer corresponding to the validity of the loaded function parameters, in milliseconds

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the error code (or `YAPI_SUCCESS`)

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

wakeupmonitor→muteValueCallbacks() YWakeUpMonitor

Disables the propagation of every new advertised value to the parent hub.

js	function **muteValueCallbacks**( )
cpp	int **muteValueCallbacks**( )
m	-(int) **muteValueCallbacks**
pas	function **muteValueCallbacks**( ): LongInt
vb	function **muteValueCallbacks**( ) As Integer
cs	int **muteValueCallbacks**( )
java	int **muteValueCallbacks**( )
uwp	async Task<int> **muteValueCallbacks**( )
py	**muteValueCallbacks**( )
php	function **muteValueCallbacks**( )
es	async **muteValueCallbacks**( )
cmd	YWakeUpMonitor **target** **muteValueCallbacks**

You can use this function to save bandwidth and CPU on computers with limited resources, or to prevent unwanted invocations of the HTTP callback. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→nextWakeUpMonitor() YWakeUpMonitor

Continues the enumeration of monitors started using `yFirstWakeUpMonitor()`.

js	function **nextWakeUpMonitor**( )
cpp	YWakeUpMonitor * **nextWakeUpMonitor**( )
m	-(YWakeUpMonitor*) **nextWakeUpMonitor**
pas	function **nextWakeUpMonitor**( ): TYWakeUpMonitor
vb	function **nextWakeUpMonitor**( ) As YWakeUpMonitor
cs	YWakeUpMonitor **nextWakeUpMonitor**( )
java	YWakeUpMonitor **nextWakeUpMonitor**( )
uwp	YWakeUpMonitor **nextWakeUpMonitor**( )
py	**nextWakeUpMonitor**( )
php	function **nextWakeUpMonitor**( )
es	**nextWakeUpMonitor**( )

Caution: You can't make any assumption about the returned monitors order. If you want to find a specific a monitor, use `WakeUpMonitor.findWakeUpMonitor()` and a hardwareID or a logical name.

Returns :

a pointer to a `YWakeUpMonitor` object, corresponding to a monitor currently online, or a `null` pointer if there are no more monitors to enumerate.

wakeupmonitor→registerValueCallback() YWakeUpMonitor

Registers the callback function that is invoked on every change of advertised value.

js	function **registerValueCallback**(**callback**)
cpp	int **registerValueCallback**(YWakeUpMonitorValueCallback **callback**)
m	-(int) **registerValueCallback** : (YWakeUpMonitorValueCallback) **callback**
pas	function **registerValueCallback**(**callback**: TYWakeUpMonitorValueCallback): LongInt
vb	function **registerValueCallback**( ) As Integer
cs	int **registerValueCallback**(ValueCallback **callback**)
java	int **registerValueCallback**(UpdateCallback **callback**)
uwp	async Task<int> **registerValueCallback**(ValueCallback **callback**)
py	**registerValueCallback**(**callback**)
php	function **registerValueCallback**(**$callback**)
es	async **registerValueCallback**(**callback**)

The callback is invoked only during the execution of `ySleep` or `yHandleEvents`. This provides control over the time when the callback is triggered. For good responsiveness, remember to call one of these two functions periodically. To unregister a callback, pass a null pointer as argument.

Parameters :

callback the callback function to call, or a null pointer. The callback function should take two arguments: the function object of which the value has changed, and the character string describing the new advertised value.

wakeupmonitor→resetSleepCountDown() YWakeUpMonitor

Resets the sleep countdown.

js	function **resetSleepCountDown**( )
cpp	int **resetSleepCountDown**( )
m	-(int) **resetSleepCountDown**
pas	function **resetSleepCountDown**( ): LongInt
vb	function **resetSleepCountDown**( ) As Integer
cs	int **resetSleepCountDown**( )
java	int **resetSleepCountDown**( )
uwp	async Task<int> **resetSleepCountDown**( )
py	**resetSleepCountDown**( )
php	function **resetSleepCountDown**( )
es	async **resetSleepCountDown**( )
cmd	YWakeUpMonitor **target** **resetSleepCountDown**

Returns :
`YAPI_SUCCESS` if the call succeeds. On failure, throws an exception or returns a negative error code.

wakeupmonitor→set_logicalName()
wakeupmonitor→setLogicalName()

YWakeUpMonitor

Changes the logical name of the monitor.

js	function **set_logicalName**(**newval**)
cpp	int **set_logicalName**(const string& **newval**)
m	-(int) setLogicalName : (NSString*) **newval**
pas	function **set_logicalName**(**newval**: string): integer
vb	function **set_logicalName**(ByVal **newval** As String) As Integer
cs	int **set_logicalName**(string **newval**)
java	int **set_logicalName**(String **newval**)
uwp	async Task<int> **set_logicalName**(string **newval**)
py	**set_logicalName**(**newval**)
php	function **set_logicalName**(**$newval**)
es	async **set_logicalName**(**newval**)
cmd	YWakeUpMonitor **target** **set_logicalName** **newval**

You can use `yCheckLogicalName()` prior to this call to make sure that your parameter is valid. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the logical name of the monitor.

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→set_nextWakeUp() wakeupmonitor→setNextWakeUp()

YWakeUpMonitor

Changes the days of the week when a wake up must take place.

js	function **set_nextWakeUp**(**newval**)
cpp	int **set_nextWakeUp**(s64 **newval**)
m	-(int) setNextWakeUp : (s64) **newval**
pas	function **set_nextWakeUp**(**newval**: int64): integer
vb	function **set_nextWakeUp**(ByVal **newval** As Long) As Integer
cs	int **set_nextWakeUp**(long **newval**)
java	int **set_nextWakeUp**(long **newval**)
uwp	async Task<int> **set_nextWakeUp**(long **newval**)
py	**set_nextWakeUp**(**newval**)
php	function **set_nextWakeUp**(**$newval**)
es	async **set_nextWakeUp**(**newval**)
cmd	YWakeUpMonitor **target** **set_nextWakeUp** **newval**

Parameters :

newval an integer corresponding to the days of the week when a wake up must take place

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→set_powerDuration() wakeupmonitor→setPowerDuration()

YWakeUpMonitor

Changes the maximal wake up time (seconds) before automatically going to sleep.

js	function **set_powerDuration**(**newval**)
cpp	int **set_powerDuration**(int **newval**)
m	-(int) setPowerDuration : (int) **newval**
pas	function **set_powerDuration**(**newval**: LongInt): integer
vb	function **set_powerDuration**(ByVal **newval** As Integer) As Integer
cs	int **set_powerDuration**(int **newval**)
java	int **set_powerDuration**(int **newval**)
uwp	async Task<int> **set_powerDuration**(int **newval**)
py	**set_powerDuration**(**newval**)
php	function **set_powerDuration**(**$newval**)
es	async **set_powerDuration**(**newval**)
cmd	YWakeUpMonitor **target** **set_powerDuration** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the maximal wake up time (seconds) before automatically going to sleep

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→set_sleepCountdown()
wakeupmonitor→setSleepCountdown()

YWakeUpMonitor

Changes the delay before the next sleep period.

js	function **set_sleepCountdown**(**newval**)
cpp	int **set_sleepCountdown**(int **newval**)
m	-(int) setSleepCountdown : (int) **newval**
pas	function **set_sleepCountdown**(**newval**: LongInt): integer
vb	function **set_sleepCountdown**(ByVal **newval** As Integer) As Integer
cs	int **set_sleepCountdown**(int **newval**)
java	int **set_sleepCountdown**(int **newval**)
uwp	async Task<int> **set_sleepCountdown**(int **newval**)
py	**set_sleepCountdown**(**newval**)
php	function **set_sleepCountdown**(**$newval**)
es	async **set_sleepCountdown**(**newval**)
cmd	YWakeUpMonitor **target** **set_sleepCountdown** **newval**

Parameters :

newval an integer corresponding to the delay before the next sleep period

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→set_userData()
wakeupmonitor→setUserData()

YWakeUpMonitor

Stores a user context provided as argument in the userData attribute of the function.

js	function **set_userData**(**data**)
cpp	void **set_userData**(void* **data**)
m	-(void) setUserData : (id) **data**
pas	procedure **set_userData**(**data**: Tobject)
vb	procedure **set_userData**(ByVal **data** As Object)
cs	void **set_userData**(object **data**)
java	void **set_userData**(Object **data**)
py	**set_userData**(**data**)
php	function **set_userData**(**$data**)
es	async **set_userData**(**data**)

This attribute is never touched by the API, and is at disposal of the caller to store a context.

Parameters :

data any kind of object to be stored

wakeupmonitor→sleep() YWakeUpMonitor

Goes to sleep until the next wake up condition is met, the RTC time must have been set before calling this function.

js	function **sleep**(**secBeforeSleep**)
cpp	int **sleep**(int **secBeforeSleep**)
m	-(int) **sleep** : (int) **secBeforeSleep**
pas	function **sleep**(**secBeforeSleep**: LongInt): LongInt
vb	function **sleep**( ) As Integer
cs	int **sleep**(int **secBeforeSleep**)
java	int **sleep**(int **secBeforeSleep**)
uwp	async Task<int> **sleep**(int **secBeforeSleep**)
py	**sleep**(**secBeforeSleep**)
php	function **sleep**(**$secBeforeSleep**)
es	async **sleep**(**secBeforeSleep**)
cmd	YWakeUpMonitor **target** **sleep** **secBeforeSleep**

Parameters :

secBeforeSleep number of seconds before going into sleep mode,

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→sleepFor() YWakeUpMonitor

Goes to sleep for a specific duration or until the next wake up condition is met, the RTC time must have been set before calling this function.

js	function **sleepFor**(**secUntilWakeUp**, **secBeforeSleep**)
cpp	int **sleepFor**(int **secUntilWakeUp**, int **secBeforeSleep**)
m	-(int) **sleepFor** : (int) **secUntilWakeUp** : (int) **secBeforeSleep**
pas	function **sleepFor**(**secUntilWakeUp**: LongInt, **secBeforeSleep**: LongInt): LongInt
vb	function **sleepFor**( ) As Integer
cs	int **sleepFor**(int **secUntilWakeUp**, int **secBeforeSleep**)
java	int **sleepFor**(int **secUntilWakeUp**, int **secBeforeSleep**)
uwp	async Task<int> **sleepFor**(int **secUntilWakeUp**, int **secBeforeSleep**)
py	**sleepFor**(**secUntilWakeUp**, **secBeforeSleep**)
php	function **sleepFor**(**$secUntilWakeUp**, **$secBeforeSleep**)
es	async **sleepFor**(**secUntilWakeUp**, **secBeforeSleep**)
cmd	YWakeUpMonitor **target** **sleepFor** **secUntilWakeUp** **secBeforeSleep**

The count down before sleep can be canceled with resetSleepCountDown.

Parameters :

secUntilWakeUp number of seconds before next wake up

secBeforeSleep number of seconds before going into sleep mode

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→sleepUntil() YWakeUpMonitor

Go to sleep until a specific date is reached or until the next wake up condition is met, the RTC time must have been set before calling this function.

js	function **sleepUntil**(**wakeUpTime**, **secBeforeSleep**)
cpp	int **sleepUntil**(int **wakeUpTime**, int **secBeforeSleep**)
m	-(int) **sleepUntil** : (int) **wakeUpTime** : (int) **secBeforeSleep**
pas	function **sleepUntil**(**wakeUpTime**: LongInt, **secBeforeSleep**: LongInt): LongInt
vb	function **sleepUntil**( ) As Integer
cs	int **sleepUntil**(int **wakeUpTime**, int **secBeforeSleep**)
java	int **sleepUntil**(int **wakeUpTime**, int **secBeforeSleep**)
uwp	async Task<int> **sleepUntil**(int **wakeUpTime**, int **secBeforeSleep**)
py	**sleepUntil**(**wakeUpTime**, **secBeforeSleep**)
php	function **sleepUntil**(**$wakeUpTime**, **$secBeforeSleep**)
es	async **sleepUntil**(**wakeUpTime**, **secBeforeSleep**)
cmd	YWakeUpMonitor **target** **sleepUntil** **wakeUpTime** **secBeforeSleep**

The count down before sleep can be canceled with resetSleepCountDown.

Parameters :

wakeUpTime wake-up datetime (UNIX format)

secBeforeSleep number of seconds before going into sleep mode

Returns :

YAPI_SUCCESS if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→unmuteValueCallbacks() YWakeUpMonitor

Re-enables the propagation of every new advertised value to the parent hub.

js	function **unmuteValueCallbacks**( )
cpp	int **unmuteValueCallbacks**( )
m	-(int) **unmuteValueCallbacks**
pas	function **unmuteValueCallbacks**( ): LongInt
vb	function **unmuteValueCallbacks**( ) As Integer
cs	int **unmuteValueCallbacks**( )
java	int **unmuteValueCallbacks**( )
uwp	async Task<int> **unmuteValueCallbacks**( )
py	**unmuteValueCallbacks**( )
php	function **unmuteValueCallbacks**( )
es	async **unmuteValueCallbacks**( )
cmd	YWakeUpMonitor **target** **unmuteValueCallbacks**

This function reverts the effect of a previous call to `muteValueCallbacks()`. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupmonitor→wait_async() YWakeUpMonitor

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

js	function **wait_async**(**callback**, **context**)
es	**wait_async**(**callback**, **context**)

The callback function can therefore freely issue synchronous or asynchronous commands, without risking to block the JavaScript VM.

Parameters :

callback callback function that is invoked when all pending commands on the module are completed. The callback function receives two arguments: the caller-specific context object and the receiving function object.

context caller-specific object that is passed as-is to the callback function

Returns :

nothing.

wakeupmonitor→wakeUp() YWakeUpMonitor

Forces a wake up.

js	function **wakeUp**( )
cpp	int **wakeUp**( )
m	-(int) **wakeUp**
pas	function **wakeUp**( ): LongInt
vb	function **wakeUp**( ) As Integer
cs	int **wakeUp**( )
java	int **wakeUp**( )
uwp	async Task<int> **wakeUp**( )
py	**wakeUp**( )
php	function **wakeUp**( )
es	async **wakeUp**( )
cmd	YWakeUpMonitor **target** **wakeUp**

11.7. WakeUpSchedule function interface

The YWakeUpSchedule class implements a wake up condition, for instance using a YoctoHub-Wireless-g, a YoctoHub-GSM-3G-NA, a YoctoHub-GSM-3G-EU or a YoctoHub-Wireless-SR. The wake up time is specified as a set of months and/or days and/or hours and/or minutes when the wake up should happen.

In order to use the functions described here, you should include:

es	in HTML: <script src="../../lib/yocto_wakeupschedule.js"></script> in node.js: require('yoctolib-es2017/yocto_wakeupschedule.js');
js	<script type='text/javascript' src='yocto_wakeupschedule.js'></script>
cpp	#include "yocto_wakeupschedule.h"
m	#import "yocto_wakeupschedule.h"
pas	uses yocto_wakeupschedule;
vb	yocto_wakeupschedule.vb
cs	yocto_wakeupschedule_proxy.cs
java	import com.yoctopuce.YoctoAPI.YWakeUpSchedule;
uwp	import com.yoctopuce.YoctoAPI.YWakeUpSchedule;
py	from yocto_wakeupschedule import *
php	require_once('yocto_wakeupschedule.php');
vi	YWakeUpSchedule.vi

Global functions

yFindWakeUpSchedule(func)

Retrieves a wake up schedule for a given identifier.

yFindWakeUpScheduleInContext(yctx, func)

Retrieves a wake up schedule for a given identifier in a YAPI context.

yFirstWakeUpSchedule()

Starts the enumeration of wake up schedules currently accessible.

yFirstWakeUpScheduleInContext(yctx)

Starts the enumeration of wake up schedules currently accessible.

`YWakeUpSchedule` methods

wakeupschedule→clearCache()

Invalidates the cache.

wakeupschedule→describe()

Returns a short text that describes unambiguously the instance of the wake up schedule in the form `TYPE(NAME)=SERIAL.FUNCTIONID`.

wakeupschedule→get_advertisedValue()

Returns the current value of the wake up schedule (no more than 6 characters).

wakeupschedule→get_errorMessage()

Returns the error message of the latest error with the wake up schedule.

wakeupschedule→get_errorType()

Returns the numerical error code of the latest error with the wake up schedule.

wakeupschedule→get_friendlyName()

Returns a global identifier of the wake up schedule in the format `MODULE_NAME.FUNCTION_NAME`.

wakeupschedule→get_functionDescriptor()

Returns a unique identifier of type `YFUN_DESCR` corresponding to the function.

wakeupschedule→get_functionId()

Returns the hardware identifier of the wake up schedule, without reference to the module.

wakeupschedule→get_hardwareId()

Returns the unique hardware identifier of the wake up schedule in the form `SERIAL.FUNCTIONID`.

wakeupschedule→get_hours()

Returns the hours scheduled for wake up.

wakeupschedule→get_logicalName()

Returns the logical name of the wake up schedule.

wakeupschedule→get_minutes()

Returns all the minutes of each hour that are scheduled for wake up.

wakeupschedule→get_minutesA()

Returns the minutes in the 00-29 interval of each hour scheduled for wake up.

wakeupschedule→get_minutesB()

Returns the minutes in the 30-59 interval of each hour scheduled for wake up.

wakeupschedule→get_module()

Gets the `YModule` object for the device on which the function is located.

wakeupschedule→get_module_async(callback, context)

Gets the `YModule` object for the device on which the function is located (asynchronous version).

wakeupschedule→get_monthDays()

Returns the days of the month scheduled for wake up.

wakeupschedule→get_months()

Returns the months scheduled for wake up.

wakeupschedule→get_nextOccurence()

Returns the date/time (seconds) of the next wake up occurrence.

wakeupschedule→get_serialNumber()

Returns the serial number of the module, as set by the factory.

wakeupschedule→get_userData()

Returns the value of the userData attribute, as previously stored using method `set_userData`.

wakeupschedule→get_weekDays()

Returns the days of the week scheduled for wake up.

wakeupschedule→isOnline()

Checks if the wake up schedule is currently reachable, without raising any error.

wakeupschedule→isOnline_async(callback, context)

Checks if the wake up schedule is currently reachable, without raising any error (asynchronous version).

wakeupschedule→isReadOnly()

Test if the function is readOnly.

wakeupschedule→load(msValidity)

Preloads the wake up schedule cache with a specified validity duration.

wakeupschedule→loadAttribute(attrName)

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

wakeupschedule→load_async(msValidity, callback, context)

Preloads the wake up schedule cache with a specified validity duration (asynchronous version).

wakeupschedule→muteValueCallbacks()

Disables the propagation of every new advertised value to the parent hub.

wakeupschedule→nextWakeUpSchedule()

Continues the enumeration of wake up schedules started using `yFirstWakeUpSchedule()`.

wakeupschedule→registerValueCallback(callback)

Registers the callback function that is invoked on every change of advertised value.

wakeupschedule→set_hours(newval)

Changes the hours when a wake up must take place.

wakeupschedule→set_logicalName(newval)

Changes the logical name of the wake up schedule.

wakeupschedule→set_minutes(bitmap)

Changes all the minutes where a wake up must take place.

wakeupschedule→set_minutesA(newval)

Changes the minutes in the 00-29 interval when a wake up must take place.

wakeupschedule→set_minutesB(newval)

Changes the minutes in the 30-59 interval when a wake up must take place.

wakeupschedule→set_monthDays(newval)

Changes the days of the month when a wake up must take place.

wakeupschedule→set_months(newval)

Changes the months when a wake up must take place.

wakeupschedule→set_userData(data)

Stores a user context provided as argument in the userData attribute of the function.

wakeupschedule→set_weekDays(newval)

Changes the days of the week when a wake up must take place.

wakeupschedule→unmuteValueCallbacks()

Re-enables the propagation of every new advertised value to the parent hub.

wakeupschedule→wait_async(callback, context)

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

YWakeUpSchedule.FindWakeUpSchedule() yFindWakeUpSchedule()

YWakeUpSchedule

Retrieves a wake up schedule for a given identifier.

js	function **yFindWakeUpSchedule**(**func**)
cpp	YWakeUpSchedule* **yFindWakeUpSchedule**(string **func**)
m	+(YWakeUpSchedule*) **FindWakeUpSchedule** : (NSString*) **func**
pas	function **yFindWakeUpSchedule**(**func**: string): TYWakeUpSchedule
vb	function **yFindWakeUpSchedule**(ByVal **func** As String) As YWakeUpSchedule
cs	static YWakeUpSchedule **FindWakeUpSchedule**(string **func**)
java	static YWakeUpSchedule **FindWakeUpSchedule**(String **func**)
uwp	static YWakeUpSchedule **FindWakeUpSchedule**(string **func**)
py	**FindWakeUpSchedule**(**func**)
php	function **yFindWakeUpSchedule**(**$func**)
es	static **FindWakeUpSchedule**(**func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the wake up schedule is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YWakeUpSchedule.isOnline()` to test if the wake up schedule is indeed online at a given time. In case of ambiguity when looking for a wake up schedule by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

If a call to this object's is_online() method returns FALSE although you are certain that the matching device is plugged, make sure that you did call registerHub() at application initialization time.

Parameters :

func a string that uniquely characterizes the wake up schedule, for instance `YHUBWLN3.wakeUpSchedule1`.

Returns :

a `YWakeUpSchedule` object allowing you to drive the wake up schedule.

YWakeUpSchedule.FindWakeUpScheduleInContext() yFindWakeUpScheduleInContext() — YWakeUpSchedule

Retrieves a wake up schedule for a given identifier in a YAPI context.

java	static YWakeUpSchedule **FindWakeUpScheduleInContext**(YAPIContext **yctx**, String **func**)
uwp	static YWakeUpSchedule **FindWakeUpScheduleInContext**(YAPIContext **yctx**, string **func**)
es	static **FindWakeUpScheduleInContext**(**yctx**, **func**)

The identifier can be specified using several formats:

- FunctionLogicalName
- ModuleSerialNumber.FunctionIdentifier
- ModuleSerialNumber.FunctionLogicalName
- ModuleLogicalName.FunctionIdentifier
- ModuleLogicalName.FunctionLogicalName

This function does not require that the wake up schedule is online at the time it is invoked. The returned object is nevertheless valid. Use the method `YWakeUpSchedule.isOnline()` to test if the wake up schedule is indeed online at a given time. In case of ambiguity when looking for a wake up schedule by logical name, no error is notified: the first instance found is returned. The search is performed first by hardware name, then by logical name.

Parameters :

yctx a YAPI context

func a string that uniquely characterizes the wake up schedule, for instance `YHUBWLN3.wakeUpSchedule1`.

Returns :

a `YWakeUpSchedule` object allowing you to drive the wake up schedule.

YWakeUpSchedule.FirstWakeUpSchedule() yFirstWakeUpSchedule()

YWakeUpSchedule

Starts the enumeration of wake up schedules currently accessible.

js	function **yFirstWakeUpSchedule**( )
cpp	YWakeUpSchedule* **yFirstWakeUpSchedule**( )
m	+(YWakeUpSchedule*) **FirstWakeUpSchedule**
pas	function **yFirstWakeUpSchedule**( ): TYWakeUpSchedule
vb	function **yFirstWakeUpSchedule**( ) As YWakeUpSchedule
cs	static YWakeUpSchedule **FirstWakeUpSchedule**( )
java	static YWakeUpSchedule **FirstWakeUpSchedule**( )
uwp	static YWakeUpSchedule **FirstWakeUpSchedule**( )
py	**FirstWakeUpSchedule**( )
php	function **yFirstWakeUpSchedule**( )
es	static **FirstWakeUpSchedule**( )

Use the method `YWakeUpSchedule.nextWakeUpSchedule()` to iterate on next wake up schedules.

Returns :
a pointer to a `YWakeUpSchedule` object, corresponding to the first wake up schedule currently online, or a `null` pointer if there are none.

YWakeUpSchedule.FirstWakeUpScheduleInContext() yFirstWakeUpScheduleInContext()

YWakeUpSchedule

Starts the enumeration of wake up schedules currently accessible.

java	static YWakeUpSchedule **FirstWakeUpScheduleInContext**(YAPIContext **yctx**)
uwp	static YWakeUpSchedule **FirstWakeUpScheduleInContext**(YAPIContext **yctx**)
es	static **FirstWakeUpScheduleInContext**(**yctx**)

Use the method `YWakeUpSchedule.nextWakeUpSchedule()` to iterate on next wake up schedules.

Parameters :

yctx a YAPI context.

Returns :

a pointer to a `YWakeUpSchedule` object, corresponding to the first wake up schedule currently online, or a `null` pointer if there are none.

wakeupschedule→clearCache() YWakeUpSchedule

Invalidates the cache.

js	function **clearCache**( )
cpp	void **clearCache**( )
m	-(void) **clearCache**
pas	procedure **clearCache**( )
vb	procedure **clearCache**( )
cs	void **clearCache**( )
java	void **clearCache**( )
py	**clearCache**( )
php	function **clearCache**( )
es	async **clearCache**( )

Invalidates the cache of the wake up schedule attributes. Forces the next call to get_xxx() or loadxxx() to use values that come from the device.

wakeupschedule→describe() YWakeUpSchedule

Returns a short text that describes unambiguously the instance of the wake up schedule in the form TYPE(NAME)=SERIAL.FUNCTIONID.

js	function **describe**( )
cpp	string **describe**( )
m	-(NSString*) **describe**
pas	function **describe**( ): string
vb	function **describe**( ) As String
cs	string **describe**( )
java	String **describe**( )
py	**describe**( )
php	function **describe**( )
es	async **describe**( )

More precisely, TYPE is the type of the function, NAME it the name used for the first access to the function, SERIAL is the serial number of the module if the module is connected or "unresolved", and FUNCTIONID is the hardware identifier of the function if the module is connected. For example, this method returns Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1 if the module is already connected or Relay(BadCustomeName.relay1)=unresolved if the module has not yet been connected. This method does not trigger any USB or TCP transaction and can therefore be used in a debugger.

Returns :
a string that describes the wake up schedule (ex: Relay(MyCustomName.relay1)=RELAYLO1-123456.relay1)

wakeupschedule→get_advertisedValue() wakeupschedule→advertisedValue()

YWakeUpSchedule

Returns the current value of the wake up schedule (no more than 6 characters).

js	function **get_advertisedValue**( )
cpp	string **get_advertisedValue**( )
m	-(NSString*) advertisedValue
pas	function **get_advertisedValue**( ): string
vb	function **get_advertisedValue**( ) As String
cs	string **get_advertisedValue**( )
java	String **get_advertisedValue**( )
uwp	async Task<string> **get_advertisedValue**( )
py	**get_advertisedValue**( )
php	function **get_advertisedValue**( )
es	async **get_advertisedValue**( )
cmd	YWakeUpSchedule **target** **get_advertisedValue**

Returns :

a string corresponding to the current value of the wake up schedule (no more than 6 characters).

On failure, throws an exception or returns `Y_ADVERTISEDVALUE_INVALID`.

wakeupschedule→get_errorMessage()
wakeupschedule→errorMessage()

YWakeUpSchedule

Returns the error message of the latest error with the wake up schedule.

js	function **get_errorMessage**( )
cpp	string **get_errorMessage**( )
m	-(NSString*) errorMessage
pas	function **get_errorMessage**( ): string
vb	function **get_errorMessage**( ) As String
cs	string **get_errorMessage**( )
java	String **get_errorMessage**( )
py	**get_errorMessage**( )
php	function **get_errorMessage**( )
es	**get_errorMessage**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :

a string corresponding to the latest error message that occured while using the wake up schedule object

wakeupschedule→get_errorType() wakeupschedule→errorType() YWakeUpSchedule

Returns the numerical error code of the latest error with the wake up schedule.

js	function **get_errorType**( )
cpp	YRETCODE **get_errorType**( )
m	-(YRETCODE) errorType
pas	function **get_errorType**( ): YRETCODE
vb	function **get_errorType**( ) As YRETCODE
cs	YRETCODE **get_errorType**( )
java	int **get_errorType**( )
py	**get_errorType**( )
php	function **get_errorType**( )
es	**get_errorType**( )

This method is mostly useful when using the Yoctopuce library with exceptions disabled.

Returns :

a number corresponding to the code of the latest error that occurred while using the wake up schedule object

wakeupschedule→get_friendlyName() wakeupschedule→friendlyName()

YWakeUpSchedule

Returns a global identifier of the wake up schedule in the format MODULE_NAME.FUNCTION_NAME.

js	function **get_friendlyName**( )
cpp	string **get_friendlyName**( )
m	-(NSString*) friendlyName
cs	string **get_friendlyName**( )
java	String **get_friendlyName**( )
py	**get_friendlyName**( )
php	function **get_friendlyName**( )
es	async **get_friendlyName**( )

The returned string uses the logical names of the module and of the wake up schedule if they are defined, otherwise the serial number of the module and the hardware identifier of the wake up schedule (for example: `MyCustomName.relay1`)

Returns :

a string that uniquely identifies the wake up schedule using logical names (ex: `MyCustomName.relay1`)

On failure, throws an exception or returns `Y_FRIENDLYNAME_INVALID`.

wakeupschedule→get_functionDescriptor() wakeupschedule→functionDescriptor()

YWakeUpSchedule

Returns a unique identifier of type YFUN_DESCR corresponding to the function.

js	function **get_functionDescriptor**( )
cpp	YFUN_DESCR **get_functionDescriptor**( )
m	-(YFUN_DESCR) functionDescriptor
pas	function **get_functionDescriptor**( ): YFUN_DESCR
vb	function **get_functionDescriptor**( ) As YFUN_DESCR
cs	YFUN_DESCR **get_functionDescriptor**( )
java	String **get_functionDescriptor**( )
py	**get_functionDescriptor**( )
php	function **get_functionDescriptor**( )
es	async **get_functionDescriptor**( )

This identifier can be used to test if two instances of `YFunction` reference the same physical function on the same physical device.

Returns :
an identifier of type `YFUN_DESCR`.

If the function has never been contacted, the returned value is `Y_FUNCTIONDESCRIPTOR_INVALID`.

wakeupschedule→get_functionId() wakeupschedule→functionId()

YWakeUpSchedule

Returns the hardware identifier of the wake up schedule, without reference to the module.

js	function **get_functionId**( )
cpp	string **get_functionId**( )
m	-(NSString*) functionId
vb	function **get_functionId**( ) As String
cs	string **get_functionId**( )
java	String **get_functionId**( )
py	**get_functionId**( )
php	function **get_functionId**( )
es	async **get_functionId**( )

For example `relay1`

Returns :
a string that identifies the wake up schedule (ex: `relay1`)

On failure, throws an exception or returns `Y_FUNCTIONID_INVALID`.

wakeupschedule→get_hardwareId() wakeupschedule→hardwareId()

YWakeUpSchedule

Returns the unique hardware identifier of the wake up schedule in the form `SERIAL.FUNCTIONID`.

js	function **get_hardwareId**( )
cpp	string **get_hardwareId**( )
m	-(NSString*) hardwareId
vb	function **get_hardwareId**( ) As String
cs	string **get_hardwareId**( )
java	String **get_hardwareId**( )
py	**get_hardwareId**( )
php	function **get_hardwareId**( )
es	async **get_hardwareId**( )

The unique hardware identifier is composed of the device serial number and of the hardware identifier of the wake up schedule (for example `RELAYLO1-123456.relay1`).

Returns :

a string that uniquely identifies the wake up schedule (ex: `RELAYLO1-123456.relay1`)

On failure, throws an exception or returns `Y_HARDWAREID_INVALID`.

wakeupschedule→get_hours() wakeupschedule→hours() — YWakeUpSchedule

Returns the hours scheduled for wake up.

js	function **get_hours**( )
cpp	int **get_hours**( )
m	-(int) hours
pas	function **get_hours**( ): LongInt
vb	function **get_hours**( ) As Integer
cs	int **get_hours**( )
java	int **get_hours**( )
uwp	async Task<int> **get_hours**( )
py	**get_hours**( )
php	function **get_hours**( )
es	async **get_hours**( )
cmd	YWakeUpSchedule **target** **get_hours**

Returns :
an integer corresponding to the hours scheduled for wake up

On failure, throws an exception or returns `Y_HOURS_INVALID`.

wakeupschedule→get_logicalName() wakeupschedule→logicalName()

YWakeUpSchedule

Returns the logical name of the wake up schedule.

js	function **get_logicalName**( )
cpp	string **get_logicalName**( )
m	-(NSString*) logicalName
pas	function **get_logicalName**( ): string
vb	function **get_logicalName**( ) As String
cs	string **get_logicalName**( )
java	String **get_logicalName**( )
uwp	async Task<string> **get_logicalName**( )
py	**get_logicalName**( )
php	function **get_logicalName**( )
es	async **get_logicalName**( )
cmd	YWakeUpSchedule **target** **get_logicalName**

Returns :
a string corresponding to the logical name of the wake up schedule.

On failure, throws an exception or returns `Y_LOGICALNAME_INVALID`.

wakeupschedule→get_minutes()
wakeupschedule→minutes()

YWakeUpSchedule

Returns all the minutes of each hour that are scheduled for wake up.

js	function **get_minutes**( )
cpp	s64 **get_minutes**( )
m	-(s64) minutes
pas	function **get_minutes**( ): int64
vb	function **get_minutes**( ) As Long
cs	long **get_minutes**( )
java	long **get_minutes**( )
uwp	async Task<long> **get_minutes**( )
py	**get_minutes**( )
php	function **get_minutes**( )
es	async **get_minutes**( )
cmd	YWakeUpSchedule **target** **get_minutes**

wakeupschedule→get_minutesA() wakeupschedule→minutesA()

YWakeUpSchedule

Returns the minutes in the 00-29 interval of each hour scheduled for wake up.

js	function **get_minutesA**( )
cpp	int **get_minutesA**( )
m	-(int) minutesA
pas	function **get_minutesA**( ): LongInt
vb	function **get_minutesA**( ) As Integer
cs	int **get_minutesA**( )
java	int **get_minutesA**( )
uwp	async Task<int> **get_minutesA**( )
py	**get_minutesA**( )
php	function **get_minutesA**( )
es	async **get_minutesA**( )
cmd	YWakeUpSchedule **target** **get_minutesA**

Returns :
an integer corresponding to the minutes in the 00-29 interval of each hour scheduled for wake up

On failure, throws an exception or returns `Y_MINUTESA_INVALID`.

wakeupschedule→get_minutesB()
wakeupschedule→minutesB()

YWakeUpSchedule

Returns the minutes in the 30-59 interval of each hour scheduled for wake up.

js	function **get_minutesB**( )
cpp	int **get_minutesB**( )
m	-(int) minutesB
pas	function **get_minutesB**( ): LongInt
vb	function **get_minutesB**( ) As Integer
cs	int **get_minutesB**( )
java	int **get_minutesB**( )
uwp	async Task<int> **get_minutesB**( )
py	**get_minutesB**( )
php	function **get_minutesB**( )
es	async **get_minutesB**( )
cmd	YWakeUpSchedule **target** **get_minutesB**

Returns :
an integer corresponding to the minutes in the 30-59 interval of each hour scheduled for wake up

On failure, throws an exception or returns `Y_MINUTESB_INVALID`.

wakeupschedule→get_module()
wakeupschedule→module()

YWakeUpSchedule

Gets the YModule object for the device on which the function is located.

js	function **get_module**( )
cpp	YModule * **get_module**( )
m	-(YModule*) module
pas	function **get_module**( ): TYModule
vb	function **get_module**( ) As YModule
cs	YModule **get_module**( )
java	YModule **get_module**( )
py	**get_module**( )
php	function **get_module**( )
es	async **get_module**( )

If the function cannot be located on any module, the returned instance of YModule is not shown as on-line.

Returns :
an instance of YModule

wakeupschedule→get_module_async() wakeupschedule→module_async()

YWakeUpSchedule

Gets the `YModule` object for the device on which the function is located (asynchronous version).

```
js   function get_module_async( callback, context)
```

If the function cannot be located on any module, the returned `YModule` object does not show as on-line.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking Firefox JavaScript VM that does not implement context switching during blocking I/O calls. See the documentation section on asynchronous JavasSript calls for more details.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the requested `YModule` object

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

wakeupschedule→get_monthDays()
wakeupschedule→monthDays()

YWakeUpSchedule

Returns the days of the month scheduled for wake up.

js	function **get_monthDays**( )
cpp	int **get_monthDays**( )
m	-(int) monthDays
pas	function **get_monthDays**( ): LongInt
vb	function **get_monthDays**( ) As Integer
cs	int **get_monthDays**( )
java	int **get_monthDays**( )
uwp	async Task<int> **get_monthDays**( )
py	**get_monthDays**( )
php	function **get_monthDays**( )
es	async **get_monthDays**( )
cmd	YWakeUpSchedule **target** **get_monthDays**

Returns :
an integer corresponding to the days of the month scheduled for wake up

On failure, throws an exception or returns `Y_MONTHDAYS_INVALID`.

wakeupschedule→get_months() wakeupschedule→months()

YWakeUpSchedule

Returns the months scheduled for wake up.

js	function **get_months**( )
cpp	int **get_months**( )
m	-(int) months
pas	function **get_months**( ): LongInt
vb	function **get_months**( ) As Integer
cs	int **get_months**( )
java	int **get_months**( )
uwp	async Task<int> **get_months**( )
py	**get_months**( )
php	function **get_months**( )
es	async **get_months**( )
cmd	YWakeUpSchedule **target** **get_months**

Returns :
an integer corresponding to the months scheduled for wake up

On failure, throws an exception or returns `Y_MONTHS_INVALID`.

wakeupschedule→get_nextOccurence() wakeupschedule→nextOccurence() YWakeUpSchedule

Returns the date/time (seconds) of the next wake up occurrence.

js	function **get_nextOccurence**( )
cpp	s64 **get_nextOccurence**( )
m	-(s64) nextOccurence
pas	function **get_nextOccurence**( ): int64
vb	function **get_nextOccurence**( ) As Long
cs	long **get_nextOccurence**( )
java	long **get_nextOccurence**( )
uwp	async Task<long> **get_nextOccurence**( )
py	**get_nextOccurence**( )
php	function **get_nextOccurence**( )
es	async **get_nextOccurence**( )
cmd	YWakeUpSchedule **target** **get_nextOccurence**

Returns :
an integer corresponding to the date/time (seconds) of the next wake up occurrence

On failure, throws an exception or returns `Y_NEXTOCCURENCE_INVALID`.

wakeupschedule→get_serialNumber()
wakeupschedule→serialNumber()

YWakeUpSchedule

Returns the serial number of the module, as set by the factory.

js	function **get_serialNumber**( )
cpp	string **get_serialNumber**( )
m	-(NSString*) serialNumber
pas	function **get_serialNumber**( ): string
vb	function **get_serialNumber**( ) As String
cs	string **get_serialNumber**( )
java	String **get_serialNumber**( )
uwp	async Task<string> **get_serialNumber**( )
py	**get_serialNumber**( )
php	function **get_serialNumber**( )
es	async **get_serialNumber**( )
cmd	YWakeUpSchedule **target** **get_serialNumber**

Returns :
a string corresponding to the serial number of the module, as set by the factory.

On failure, throws an exception or returns YModule.SERIALNUMBER_INVALID.

wakeupschedule→get_userData() wakeupschedule→userData()

YWakeUpSchedule

Returns the value of the userData attribute, as previously stored using method `set_userData`.

js	function **get_userData**( )
cpp	void * **get_userData**( )
m	-(id) userData
pas	function **get_userData**( ): Tobject
vb	function **get_userData**( ) As Object
cs	object **get_userData**( )
java	Object **get_userData**( )
py	**get_userData**( )
php	function **get_userData**( )
es	async **get_userData**( )

This attribute is never touched directly by the API, and is at disposal of the caller to store a context.

Returns :
the object stored previously by the caller.

wakeupschedule→get_weekDays() wakeupschedule→weekDays() YWakeUpSchedule

Returns the days of the week scheduled for wake up.

js	function **get_weekDays**( )
cpp	int **get_weekDays**( )
m	-(int) weekDays
pas	function **get_weekDays**( ): LongInt
vb	function **get_weekDays**( ) As Integer
cs	int **get_weekDays**( )
java	int **get_weekDays**( )
uwp	async Task<int> **get_weekDays**( )
py	**get_weekDays**( )
php	function **get_weekDays**( )
es	async **get_weekDays**( )
cmd	YWakeUpSchedule **target** **get_weekDays**

Returns :
an integer corresponding to the days of the week scheduled for wake up

On failure, throws an exception or returns `Y_WEEKDAYS_INVALID`.

wakeupschedule→isOnline() YWakeUpSchedule

Checks if the wake up schedule is currently reachable, without raising any error.

js	function **isOnline**( )
cpp	bool **isOnline**( )
m	-(BOOL) **isOnline**
pas	function **isOnline**( ): boolean
vb	function **isOnline**( ) As Boolean
cs	bool **isOnline**( )
java	boolean **isOnline**( )
py	**isOnline**( )
php	function **isOnline**( )
es	async **isOnline**( )

If there is a cached value for the wake up schedule in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the wake up schedule.

Returns :
`true` if the wake up schedule can be reached, and `false` otherwise

wakeupschedule→isOnline_async() YWakeUpSchedule

Checks if the wake up schedule is currently reachable, without raising any error (asynchronous version).

js function **isOnline_async**(**callback**, **context**)

If there is a cached value for the wake up schedule in cache, that has not yet expired, the device is considered reachable. No exception is raised if there is an error while trying to contact the device hosting the requested function.

This asynchronous version exists only in Javascript. It uses a callback instead of a return value in order to avoid blocking the Javascript virtual machine.

Parameters :

callback callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the boolean result

context caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

wakeupschedule→isReadOnly() YWakeUpSchedule

Test if the function is readOnly.

cpp	bool **isReadOnly**( )
m	-(bool) **isReadOnly**
pas	function **isReadOnly**( ): boolean
vb	function **isReadOnly**( ) As Boolean
cs	bool **isReadOnly**( )
java	boolean **isReadOnly**( )
uwp	async Task<bool> **isReadOnly**( )
py	**isReadOnly**( )
php	function **isReadOnly**( )
es	async **isReadOnly**( )
cmd	YWakeUpSchedule **target** **isReadOnly**

Return `true` if the function is write protected or that the function is not available.

Returns :
`true` if the function is readOnly or not online.

wakeupschedule→load() YWakeUpSchedule

Preloads the wake up schedule cache with a specified validity duration.

js	function **load**(**msValidity**)
cpp	YRETCODE **load**(int **msValidity**)
m	-(YRETCODE) **load** : (u64) **msValidity**
pas	function **load**(**msValidity**: u64): YRETCODE
vb	function **load**(ByVal **msValidity** As Long) As YRETCODE
cs	YRETCODE **load**(ulong **msValidity**)
java	int **load**(long **msValidity**)
py	**load**(**msValidity**)
php	function **load**(**$msValidity**)
es	async **load**(**msValidity**)

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

Parameters :

msValidity an integer corresponding to the validity attributed to the loaded function parameters, in milliseconds

Returns :

`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→loadAttribute() YWakeUpSchedule

Returns the current value of a single function attribute, as a text string, as quickly as possible but without using the cached value.

js	function **loadAttribute**(**attrName**)
cpp	string **loadAttribute**(string **attrName**)
m	-(NSString*) **loadAttribute** : (NSString*) **attrName**
pas	function **loadAttribute**(**attrName**: string): string
vb	function **loadAttribute**( ) As String
cs	string **loadAttribute**(string **attrName**)
java	String **loadAttribute**(String **attrName**)
uwp	async Task<string> **loadAttribute**(string **attrName**)
py	**loadAttribute**(**attrName**)
php	function **loadAttribute**(**$attrName**)
es	async **loadAttribute**(**attrName**)

Parameters :

attrName the name of the requested attribute

Returns :

a string with the value of the the attribute

On failure, throws an exception or returns an empty string.

wakeupschedule→load_async() YWakeUpSchedule

Preloads the wake up schedule cache with a specified validity duration (asynchronous version).

js function **load_async**(**msValidity**, **callback**, **context**)

By default, whenever accessing a device, all function attributes are kept in cache for the standard duration (5 ms). This method can be used to temporarily mark the cache as valid for a longer period, in order to reduce network traffic for instance.

This asynchronous version exists only in JavaScript. It uses a callback instead of a return value in order to avoid blocking the JavaScript virtual machine.

Parameters :

- **msValidity** an integer corresponding to the validity of the loaded function parameters, in milliseconds
- **callback** callback function that is invoked when the result is known. The callback function receives three arguments: the caller-specific context object, the receiving function object and the error code (or `YAPI_SUCCESS`)
- **context** caller-specific object that is passed as-is to the callback function

Returns :

nothing : the result is provided to the callback.

wakeupschedule→muteValueCallbacks() YWakeUpSchedule

Disables the propagation of every new advertised value to the parent hub.

js	function **muteValueCallbacks**( )
cpp	int **muteValueCallbacks**( )
m	-(int) **muteValueCallbacks**
pas	function **muteValueCallbacks**( ): LongInt
vb	function **muteValueCallbacks**( ) As Integer
cs	int **muteValueCallbacks**( )
java	int **muteValueCallbacks**( )
uwp	async Task<int> **muteValueCallbacks**( )
py	**muteValueCallbacks**( )
php	function **muteValueCallbacks**( )
es	async **muteValueCallbacks**( )
cmd	YWakeUpSchedule **target** **muteValueCallbacks**

You can use this function to save bandwidth and CPU on computers with limited resources, or to prevent unwanted invocations of the HTTP callback. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→nextWakeUpSchedule() YWakeUpSchedule

Continues the enumeration of wake up schedules started using `yFirstWakeUpSchedule()`.

js	function **nextWakeUpSchedule**( )
cpp	YWakeUpSchedule * **nextWakeUpSchedule**( )
m	-(YWakeUpSchedule*) **nextWakeUpSchedule**
pas	function **nextWakeUpSchedule**( ): TYWakeUpSchedule
vb	function **nextWakeUpSchedule**( ) As YWakeUpSchedule
cs	YWakeUpSchedule **nextWakeUpSchedule**( )
java	YWakeUpSchedule **nextWakeUpSchedule**( )
uwp	YWakeUpSchedule **nextWakeUpSchedule**( )
py	**nextWakeUpSchedule**( )
php	function **nextWakeUpSchedule**( )
es	**nextWakeUpSchedule**( )

Caution: You can't make any assumption about the returned wake up schedules order. If you want to find a specific a wake up schedule, use `WakeUpSchedule.findWakeUpSchedule()` and a hardwareID or a logical name.

Returns :

a pointer to a `YWakeUpSchedule` object, corresponding to a wake up schedule currently online, or a `null` pointer if there are no more wake up schedules to enumerate.

wakeupschedule→registerValueCallback() YWakeUpSchedule

Registers the callback function that is invoked on every change of advertised value.

js	function **registerValueCallback**(**callback**)
cpp	int **registerValueCallback**(YWakeUpScheduleValueCallback **callback**)
m	-(int) **registerValueCallback** : (YWakeUpScheduleValueCallback) **callback**
pas	function **registerValueCallback**(**callback**: TYWakeUpScheduleValueCallback): LongInt
vb	function **registerValueCallback**( ) As Integer
cs	int **registerValueCallback**(ValueCallback **callback**)
java	int **registerValueCallback**(UpdateCallback **callback**)
uwp	async Task<int> **registerValueCallback**(ValueCallback **callback**)
py	**registerValueCallback**(**callback**)
php	function **registerValueCallback**(**$callback**)
es	async **registerValueCallback**(**callback**)

The callback is invoked only during the execution of `ySleep` or `yHandleEvents`. This provides control over the time when the callback is triggered. For good responsiveness, remember to call one of these two functions periodically. To unregister a callback, pass a null pointer as argument.

Parameters :

callback the callback function to call, or a null pointer. The callback function should take two arguments: the function object of which the value has changed, and the character string describing the new advertised value.

wakeupschedule→set_hours() wakeupschedule→setHours()

YWakeUpSchedule

Changes the hours when a wake up must take place.

js	function **set_hours**(**newval**)
cpp	int **set_hours**(int **newval**)
m	-(int) setHours : (int) **newval**
pas	function **set_hours**(**newval**: LongInt): integer
vb	function **set_hours**(ByVal **newval** As Integer) As Integer
cs	int **set_hours**(int **newval**)
java	int **set_hours**(int **newval**)
uwp	async Task<int> **set_hours**(int **newval**)
py	**set_hours**(**newval**)
php	function **set_hours**(**$newval**)
es	async **set_hours**(**newval**)
cmd	YWakeUpSchedule **target** **set_hours** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the hours when a wake up must take place

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→set_logicalName()
wakeupschedule→setLogicalName() YWakeUpSchedule

Changes the logical name of the wake up schedule.

js	function **set_logicalName**(**newval**)
cpp	int **set_logicalName**(const string& **newval**)
m	-(int) setLogicalName : (NSString*) **newval**
pas	function **set_logicalName**(**newval**: string): integer
vb	function **set_logicalName**(ByVal **newval** As String) As Integer
cs	int **set_logicalName**(string **newval**)
java	int **set_logicalName**(String **newval**)
uwp	async Task<int> **set_logicalName**(string **newval**)
py	**set_logicalName**(**newval**)
php	function **set_logicalName**(**$newval**)
es	async **set_logicalName**(**newval**)
cmd	YWakeUpSchedule **target** **set_logicalName** **newval**

You can use `yCheckLogicalName()` prior to this call to make sure that your parameter is valid. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval a string corresponding to the logical name of the wake up schedule.

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→set_minutes()
wakeupschedule→setMinutes()

YWakeUpSchedule

Changes all the minutes where a wake up must take place.

js	function **set_minutes**(**bitmap**)
cpp	int **set_minutes**(s64 **bitmap**)
m	-(int) setMinutes : (s64) **bitmap**
pas	function **set_minutes**(**bitmap**: int64): LongInt
vb	function **set_minutes**( ) As Integer
cs	int **set_minutes**(long **bitmap**)
java	int **set_minutes**(long **bitmap**)
uwp	async Task<int> **set_minutes**(long **bitmap**)
py	**set_minutes**(**bitmap**)
php	function **set_minutes**(**$bitmap**)
es	async **set_minutes**(**bitmap**)
cmd	YWakeUpSchedule **target** **set_minutes** **bitmap**

Parameters :

bitmap Minutes 00-59 of each hour scheduled for wake up.

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→set_minutesA() wakeupschedule→setMinutesA()

YWakeUpSchedule

Changes the minutes in the 00-29 interval when a wake up must take place.

js	function **set_minutesA**(**newval**)
cpp	int **set_minutesA**(int **newval**)
m	-(int) setMinutesA : (int) **newval**
pas	function **set_minutesA**(**newval**: LongInt): integer
vb	function **set_minutesA**(ByVal **newval** As Integer) As Integer
cs	int **set_minutesA**(int **newval**)
java	int **set_minutesA**(int **newval**)
uwp	async Task<int> **set_minutesA**(int **newval**)
py	**set_minutesA**(**newval**)
php	function **set_minutesA**(**$newval**)
es	async **set_minutesA**(**newval**)
cmd	YWakeUpSchedule **target** **set_minutesA** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the minutes in the 00-29 interval when a wake up must take place

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→set_minutesB()
wakeupschedule→setMinutesB() — YWakeUpSchedule

Changes the minutes in the 30-59 interval when a wake up must take place.

js	function **set_minutesB**(**newval**)
cpp	int **set_minutesB**(int **newval**)
m	-(int) setMinutesB : (int) **newval**
pas	function **set_minutesB**(**newval**: LongInt): integer
vb	function **set_minutesB**(ByVal **newval** As Integer) As Integer
cs	int **set_minutesB**(int **newval**)
java	int **set_minutesB**(int **newval**)
uwp	async Task<int> **set_minutesB**(int **newval**)
py	**set_minutesB**(**newval**)
php	function **set_minutesB**(**$newval**)
es	async **set_minutesB**(**newval**)
cmd	YWakeUpSchedule **target set_minutesB newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the minutes in the 30-59 interval when a wake up must take place

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→set_monthDays()
wakeupschedule→setMonthDays()

YWakeUpSchedule

Changes the days of the month when a wake up must take place.

js	function **set_monthDays**(**newval**)
cpp	int **set_monthDays**(int **newval**)
m	-(int) setMonthDays : (int) **newval**
pas	function **set_monthDays**(**newval**: LongInt): integer
vb	function **set_monthDays**(ByVal **newval** As Integer) As Integer
cs	int **set_monthDays**(int **newval**)
java	int **set_monthDays**(int **newval**)
uwp	async Task<int> **set_monthDays**(int **newval**)
py	**set_monthDays**(**newval**)
php	function **set_monthDays**(**$newval**)
es	async **set_monthDays**(**newval**)
cmd	YWakeUpSchedule **target set_monthDays newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the days of the month when a wake up must take place

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→set_months()
wakeupschedule→setMonths() — YWakeUpSchedule

Changes the months when a wake up must take place.

js	function **set_months**(**newval**)
cpp	int **set_months**(int **newval**)
m	-(int) setMonths : (int) **newval**
pas	function **set_months**(**newval**: LongInt): integer
vb	function **set_months**(ByVal **newval** As Integer) As Integer
cs	int **set_months**(int **newval**)
java	int **set_months**(int **newval**)
uwp	async Task<int> **set_months**(int **newval**)
py	**set_months**(**newval**)
php	function **set_months**(**$newval**)
es	async **set_months**(**newval**)
cmd	YWakeUpSchedule **target** **set_months** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the months when a wake up must take place

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→set_userData() wakeupschedule→setUserData()

YWakeUpSchedule

Stores a user context provided as argument in the userData attribute of the function.

js	function **set_userData**(**data**)
cpp	void **set_userData**(void* **data**)
m	-(void) setUserData : (id) **data**
pas	procedure **set_userData**(**data**: Tobject)
vb	procedure **set_userData**(ByVal **data** As Object)
cs	void **set_userData**(object **data**)
java	void **set_userData**(Object **data**)
py	**set_userData**(**data**)
php	function **set_userData**(**$data**)
es	async **set_userData**(**data**)

This attribute is never touched by the API, and is at disposal of the caller to store a context.

Parameters :

data any kind of object to be stored

wakeupschedule→set_weekDays()
wakeupschedule→setWeekDays()

YWakeUpSchedule

Changes the days of the week when a wake up must take place.

js	function **set_weekDays**(**newval**)
cpp	int **set_weekDays**(int **newval**)
m	-(int) setWeekDays : (int) **newval**
pas	function **set_weekDays**(**newval**: LongInt): integer
vb	function **set_weekDays**(ByVal **newval** As Integer) As Integer
cs	int **set_weekDays**(int **newval**)
java	int **set_weekDays**(int **newval**)
uwp	async Task<int> **set_weekDays**(int **newval**)
py	**set_weekDays**(**newval**)
php	function **set_weekDays**(**$newval**)
es	async **set_weekDays**(**newval**)
cmd	YWakeUpSchedule **target** **set_weekDays** **newval**

Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Parameters :

newval an integer corresponding to the days of the week when a wake up must take place

Returns :

`YAPI_SUCCESS` if the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→unmuteValueCallbacks() YWakeUpSchedule

Re-enables the propagation of every new advertised value to the parent hub.

js	function **unmuteValueCallbacks**( )
cpp	int **unmuteValueCallbacks**( )
m	-(int) **unmuteValueCallbacks**
pas	function **unmuteValueCallbacks**( ): LongInt
vb	function **unmuteValueCallbacks**( ) As Integer
cs	int **unmuteValueCallbacks**( )
java	int **unmuteValueCallbacks**( )
uwp	async Task<int> **unmuteValueCallbacks**( )
py	**unmuteValueCallbacks**( )
php	function **unmuteValueCallbacks**( )
es	async **unmuteValueCallbacks**( )
cmd	YWakeUpSchedule **target** **unmuteValueCallbacks**

This function reverts the effect of a previous call to `muteValueCallbacks()`. Remember to call the `saveToFlash()` method of the module if the modification must be kept.

Returns :
`YAPI_SUCCESS` when the call succeeds.

On failure, throws an exception or returns a negative error code.

wakeupschedule→wait_async() YWakeUpSchedule

Waits for all pending asynchronous commands on the module to complete, and invoke the user-provided callback function.

js	function **wait_async**(**callback**, **context**)
es	**wait_async**(**callback**, **context**)

The callback function can therefore freely issue synchronous or asynchronous commands, without risking to block the JavaScript VM.

Parameters :

callback callback function that is invoked when all pending commands on the module are completed. The callback function receives two arguments: the caller-specific context object and the receiving function object.

context caller-specific object that is passed as-is to the callback function

Returns :

nothing.

12. Troubleshooting

12.1. Where to start?

If it is the first time that you use a Yoctopuce module and you do not really know where to start, have a look at the Yoctopuce blog. There is a section dedicated to beginners [1].

12.2. Programming examples don't seem to work

Most of Yoctopuce API programming examples are command line programs and require some parameters to work properly. You have to start them from your operationg system command prompt, or configure your IDE to run them with the proper parameters. [2].

12.3. Linux and USB

To work correctly under Linux, the the library needs to have write access to all the Yoctopuce USB peripherals. However, by default under Linux, USB privileges of the non-root users are limited to read access. To avoid having to run the *VirtualHub* as root, you need to create a new *udev* rule to authorize one or several users to have write access to the Yoctopuce peripherals.

To add a new *udev* rule to your installation, you must add a file with a name following the "`##-arbitraryName.rules`" format, in the "`/etc/udev/rules.d`" directory. When the system is starting, *udev* reads all the files with a "`.rules`" extension in this directory, respecting the alphabetical order (for example, the "`51-custom.rules`" file is interpreted AFTER the "`50-udev-default.rules`" file).

The "`50-udev-default`" file contains the system default *udev* rules. To modify the default behavior, you therefore need to create a file with a name that starts with a number larger than 50, that will override the system default rules. Note that to add a rule, you need a root access on the system.

In the `udev_conf` directory of the *VirtualHub* for Linux[3] archive, there are two rule examples which you can use as a basis.

1 see: http://www.yoctopuce.com/EN/blog_by_categories/for-the-beginners
2 see: http://www.yoctopuce.com/EN/article/about-programming-examples
3 http://www.yoctopuce.com/FR/virtualhub.php

Example 1: 51-yoctopuce.rules

This rule provides all the users with read and write access to the Yoctopuce USB peripherals. Access rights for all other peripherals are not modified. If this scenario suits you, you only need to copy the "`51-yoctopuce_all.rules`" file into the "`/etc/udev/rules.d`" directory and to restart your system.

```
# udev rules to allow write access to all users
# for Yoctopuce USB devices
SUBSYSTEM=="usb", ATTR{idVendor}=="24e0", MODE="0666"
```

Example 2: 51-yoctopuce_group.rules

This rule authorizes the "yoctogroup" group to have read and write access to Yoctopuce USB peripherals. Access rights for all other peripherals are not modified. If this scenario suits you, you only need to copy the "`51-yoctopuce_group.rules`" file into the "`/etc/udev/rules.d`" directory and restart your system.

```
# udev rules to allow write access to all users of "yoctogroup"
# for Yoctopuce USB devices
SUBSYSTEM=="usb", ATTR{idVendor}=="24e0", MODE="0664", GROUP="yoctogroup"
```

12.4. ARM Platforms: HF and EL

There are two main flavors of executable on ARM: HF (Hard Float) binaries, and EL (EABI Little Endian) binaries. These two families are not compatible at all. The compatibility of a given ARM platform with of one of these two families depends on the hardware and on the OS build. ArmHL and ArmEL compatibility problems are quite difficult to detect. Most of the time, the OS itself is unable to make a difference between an HF and an EL executable and will return meaningless messages when you try to use the wrong type of binary.

All pre-compiled Yoctopuce binaries are provided in both formats, as two separate ArmHF et ArmEL executables. If you do not know what family your ARM platform belongs to, just try one executable from each family.

12.5. Powered module but invisible for the OS

If your YoctoHub-Wireless-g is connected by USB, if its blue led is on, but if the operating system cannot see the module, check that you are using a true USB cable with data wires, and not a charging cable. Charging cables have only power wires.

12.6. Another process named xxx is already using yAPI

If when initializing the Yoctopuce API, you obtain the "*Another process named xxx is already using yAPI*" error message, it means that another application is already using Yoctopuce USB modules. On a single machine only one process can access Yoctopuce modules by USB at a time. You can easily work around this limitation by using a VirtualHub and the network mode [4].

12.7. Disconnections, erratic behavior

If you YoctoHub-Wireless-g behaves erratically and/or disconnects itself from the USB bus without apparent reason, check that it is correctly powered. Avoid cables with a length above 2 meters. If needed, insert a powered USB hub [5] [6].

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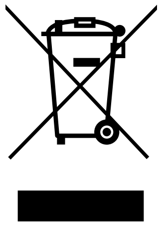
[4] see: http://www.yoctopuce.com/EN/article/error-message-another-process-is-already-using-yapi
[5] see: http://www.yoctopuce.com/EN/article/usb-cables-size-matters
[6] see: http://www.yoctopuce.com/EN/article/how-many-usb-devices-can-you-connect

12.8. Can't contzect sub devices by USB

The point of the YoctoHub-Wireless-g is to provide network access to connected sub-devices, it does not behave like a common USB hub. The YoctoHub-Wireless-g's USB port is just meant for power and Hub configuration. Access to sub device is only possible through a network connection.

12.9. Damaged device

Yoctopuce strives to reduce the production of electronic waste. If you believe that your YoctoHub-Wireless-g is not working anymore, start by contacting Yoctopuce support by e-mail to diagnose the failure. Even if you know that the device was damaged by mistake, Yoctopuce engineers might be able to repair it, and thus avoid creating electronic waste.



Waste Electrical and Electronic Equipment (WEEE) If you really want to get rid of your YoctoHub-Wireless-g, do not throw it away in a trash bin but bring it to your local WEEE recycling point. In this way, it will be disposed properly by a specialized WEEE recycling center.

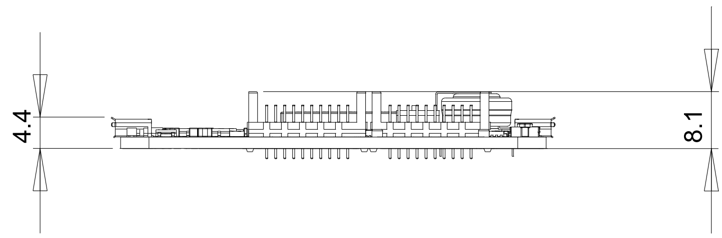
13. Characteristics

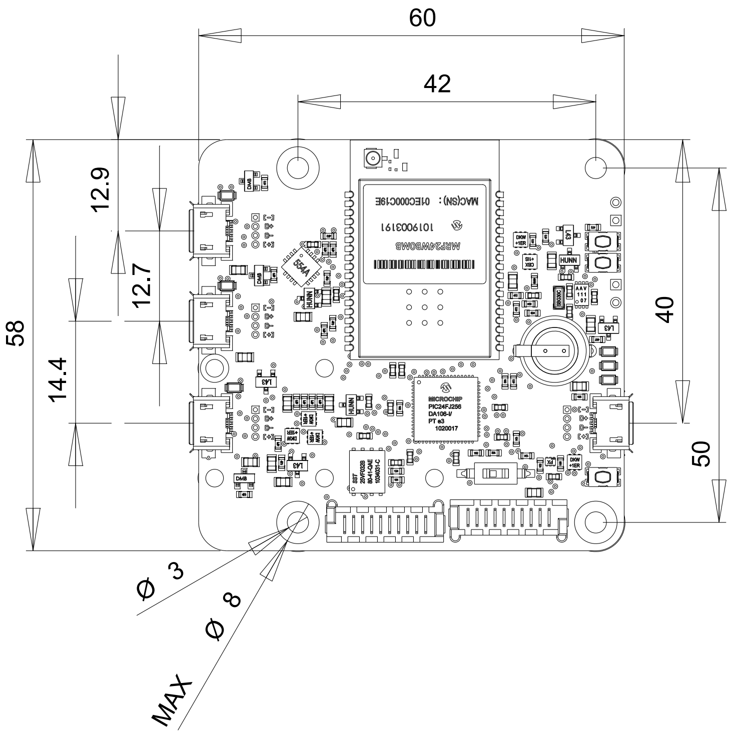
You can find below a summary of the main technical characteristics of your YoctoHub-Wireless-g module.

Product ID	YHUBWLN3
Hardware release†	Rev. C
USB connector	micro-B
Thickness	8.1 mm
Width	58 mm
Length	60 mm
Weight	34 g
IEC protection class	class III
Normal operating temperature	5...40 °C
Extended operating temperature‡	-30...85 °C
USB consumption	160 mA
RoHS compliance	RoHS III (2011/65/UE+2015/863)
USB Vendor ID	0x24E0
USB Device ID	0x0046
Suggested enclosure	YoctoBox-HubWlan-Transp
Harmonized tariff code	8542.3190
Made in	Switzerland

† These specifications are for the current hardware revision. Specifications for earlier revisions may differ.

‡ The extended temperature range is defined based on components specifications and has been tested during a limited duration (1h). When using the device in harsh environments for a long period of time, we strongly advise to run extensive tests before going to production.





All dimensions are in mm
Toutes les dimensions sont en mm

YoctoHub-Wireless

A4

Scale
1:1
Echelle