Device support

With WebIOPi 0.6+, you can use Serial/I2C/SPI/1-Wire devices directly from the REST API without writing macros.

WebIOPi drivers inherit from a common devices abstraction set (Temperature, Analog converter, GPIO Expander...) providing a consistent and unique set of function. Low level access to Serial, I2C and SPI is provided by lightweights classes available in the WebIOPi core without dependencies. Configuration is provided with the /etc/webiopi/config (http://webiopi.googlecode.com/svn/trunk/python/config) file. Devices and bus drivers can also be directly used in your Python script.

Serial Interfaces

Python library *REST API* *Javascript library*

Name	RAW Access	Comment
Serial (SERIAL.html)		Supports native UART and USB adapters
I2C (I2C.html)		REST API provided with component drivers below
SPI (SPI.html)		REST API provided with component drivers below
1-Wire (1WIRE.html)		REST API provided with component drivers below

Analog

Product page *Datasheet* *Python library* *REST API* *Javascript library*

Name	Bus	Description	Links	Support	Comment
ADS1014 (ADS1000.html)	I2C	12-bits 1-channel ADC	(http://www.ti.com/product/ads1014) (http://www.ti.com/lit/ds/symlink/ads1014.pdf)		Not tested
ADS1015 (ADS1000.html)	I2C	12-bits 4-channels ADC	(http://www.ti.com/product/ads1015) (http://www.ti.com/lit/ds/symlink/ads1015.pdf)		
ADS1114 (ADS1000.html)	I2C	16-bits 1-channel ADC	(http://www.ti.com/product/ads1114) (http://www.ti.com/lit/ds/symlink/ads1114.pdf)		Not tested
ADS1115 (ADS1000.html)	I2C	16-bits 4-channels ADC	(http://www.ti.com/product/ads1115) (http://www.ti.com/lit/ds/symlink/ads1115.pdf)		Not tested
MCP3004 (MCP3000.html)	SPI	10-bits 4-channels ADC	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en010529) (http://ww1.microchip.com/downloads/en/DeviceDoc/21295d.pdf)		
MCP3008 (MCP3000.html)	SPI	10-bits 8-channels ADC	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en010530) (http://ww1.microchip.com/downloads/en/DeviceDoc/21295d.pdf)		
MCP3204 (MCP3000.html)	SPI	12-bits 4-channels ADC	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en010533) (http://ww1.microchip.com/downloads/en/DeviceDoc/21298e.pdf)		
MCP3208 (MCP3000.html)	SPI	12-bits 8-channels ADC	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en010534) (http://ww1.microchip.com/downloads/en/DeviceDoc/21298e.pdf)		
MCP4725 (MCP4725.html)	I2C	12-bits 1-channel DAC	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en532229) (http://ww1.microchip.com/downloads/en/DeviceDoc/22039d.pdf)		
MCP4921 (MCP492x.html)	SPI	12-bits 1-channel DAC	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en020398) (http://ww1.microchip.com/downloads/en/DeviceDoc/22248a.pdf)		
MCP4922 (MCP492x.html)	SPI	12-bits 2-channels DAC	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en020399) (http://ww1.microchip.com/downloads/en/DeviceDoc/22250A.pdf)		
PCA9685 (PCA9685.html)	I2C	12-bits 16-channels PWM	(http://www.nxp.com/products/lighting_driver_and_controller_ics/i2c_led_display_control/series/PCA9685.html) (http://www.nxp.com/documents/data_sheet/PCA9685.pdf)		

Digital

Product page *Datasheet* *Python library* *REST API* *Javascript library*

Name	Bus	Description	Links	Support	Comment

Name	Bus	Description	Links	Support	Comment
DS2408 (DS2408.html)	1-Wire	8-channels Addressable Switch	(http://www.maximintegrated.com/datasheet/index.mvp/id/3818) (http://datasheets.maximintegrated.com/en/ds/DS2408.pdf)		Driver submitted by Stuart Marsden
MCP23008 (MCP230xx.html)	I2C	8-bits I/O Expander	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en021393) (http://ww1.microchip.com/downloads/en/DeviceDoc/21919e.pdf)		
MCP23009 (MCP230xx.html)	I2C	8-bits I/O Expander with Open-Drain Output	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en538920) (http://ww1.microchip.com/downloads/en/DeviceDoc/22121b.pdf)		
MCP23017 (MCP230xx.html)	I2C	16-bits I/O Expander	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en023499) (http://ww1.microchip.com/downloads/en/DeviceDoc/21952b.pdf)		
MCP23018 (MCP230xx.html)	I2C	16-bits I/O Expander with Open-Drain Output	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en537375) (http://ww1.microchip.com/downloads/en/DeviceDoc/22103a.pdf)		
MCP23S08 (MCP23Sxx.html)	SPI	8-bits I/O Expander	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en021817) (http://ww1.microchip.com/downloads/en/DeviceDoc/21919e.pdf)		
MCP23S09 (MCP23Sxx.html)	SPI	8-bits I/O Expander with Open-Drain Output	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en538921) (http://ww1.microchip.com/downloads/en/DeviceDoc/22121b.pdf)		
MCP23S17 (MCP23Sxx.html)	SPI	16-bits I/O Expander	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en023500) (http://ww1.microchip.com/downloads/en/DeviceDoc/21952b.pdf)		
MCP23S18 (MCP23Sxx.html)	SPI	16-bits I/O Expander with Open-Drain Output	(http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en537376) (http://ww1.microchip.com/downloads/en/DeviceDoc/22103a.pdf)		
PCF8574 (PCF8574.html)	I2C	8-bits I/O Expander	(http://www.nxp.com/products/interface_and_connectivity/i2c/i2c_general_purpose_i_o/series/PCF8574.html) (http://www.nxp.com/documents/data_sheet/PCF8574.pdf)		

Sensors

Product page *Datasheet* *Python library* *REST API* *Javascript library*

Name	Bus	Description	Links	Support	Comment
BMP085 (BMP085.html)	I2C	Pressure & Temperature sensor	(https://www.sparkfun.com/products/11282) (http://dlnmh9ip6v2uc.cloudfront.net/datasheets/Sensors/Pressure/BST-BMP085-DS000-06.pdf)		
DS1822 (OneWireTemp.html)	1-Wire	Temperature sensor	(http://www.maximintegrated.com/datasheet/index.mvp/id/2795) (http://datasheets.maximintegrated.com/en/ds/DS1822.pdf)		
DS1825 (OneWireTemp.html)	1-Wire	Temperature sensor	(http://www.maximintegrated.com/datasheet/index.mvp/id/4576) (http://datasheets.maximintegrated.com/en/ds/DS1825.pdf)		
DS18B20 (OneWireTemp.html)	1-Wire	Temperature sensor	(http://www.maximintegrated.com/datasheet/index.mvp/id/2812) (http://datasheets.maximintegrated.com/en/ds/DS18B20.pdf)		
DS18S20 (OneWireTemp.html)	1-Wire	Temperature sensor	(http://www.maximintegrated.com/datasheet/index.mvp/id/2815) (http://datasheets.maximintegrated.com/en/ds/DS18S20.pdf)		
DS28EA00 (OneWireTemp.html)	1-Wire	Temperature sensor	(http://www.maximintegrated.com/datasheet/index.mvp/id/5355) (http://datasheets.maximintegrated.com/en/ds/DS28EA00.pdf)		
TMP75 (TMPXXX.html)	I2C	Temperature sensor	(http://www.ti.com/product/tmp75) (http://www.ti.com/lit/ds/symlink/tmp75.pdf)		
TMP102 (TMPXXX.html)	I2C	Temperature sensor	(http://www.ti.com/product/tmp102) (http://www.ti.com/lit/ds/symlink/tmp102.pdf)		
TMP275 (TMPXXX.html)	I2C	Temperature sensor	(http://www.ti.com/product/tmp275) (http://www.ti.com/lit/ds/symlink/tmp275.pdf)		
TSL2561 (TSL2561.html)	I2C	Luminosity sensor	(http://www.ams.com/eng/Products/Light-Sensors/Ambient-Light-Sensor-ALS/TSL2561) (http://www.ams.com/eng/content/download/250093/975477/142937)		Driver submitted by Andreas Riegg
TSL4531 (TSL4531.html)	I2C	Luminosity sensor	(http://www.ams.com/eng/Products/Light-Sensors/Ambient-Light-Sensor-ALS/TSL45317) (http://ams.com/eng/content/download/250085/975413/142835)		Driver submitted by Andreas Riegg

Name	Bus	Description	Links	Support	Comment
VCNL4000 (VCNL4000.html)	I2C	Luminosity and Distance sensor with IR	(http://www.vishay.com/ppg?83798) (http://www.vishay.com/docs/83798/vcnl4000.pdf)		Driver submitted by Andreas Riegg

Expansion Boards

Product page *Datasheet* *Python library* *REST API* *Javascript library*

Name	Bus	Description	Links	Support	Comment
Arduino	Serial	I/O, ADC, PWM	(http://arduino.cc) (http://firmata.org/wiki/Protocol)		Planned
MOD-IO2	I2C	I/O board with external power	(https://www.olimex.com/Products/Modules/IO/MOD-IO2/) (https://www.olimex.com/Products/Modules/IO/MOD-IO2/resources/MOD-IO2.pdf)		Community proposal
Pi-Face	SPI	I/O board with Open-Drain Output	(https://github.com/thomasmacpherson/piface) (http://www.farnell.com/datasheets/1684425.pdf)		Planned
RPIDOMI	I2C	Téléinfo and 1-Wire controller	(http://www.yadom.fr/carte-rpidom.html)		Planned - Board gracefully provided by Yadom

Device not listed ?

I cannot write a driver for all components, mainly because I don't have them, and I cannot buy everything. I could write drivers simply reading specs, but I will not be able to certify it work.

Submit your devices

Feel free to submit any component you use and/or would like to use with WebIOPi on the forum (http://groups.google.com/group/webiopi). Depending on demands, I may write the driver if I can have a sample.

How to help

If you know how the device work on it's low level interface, look on the source repository (http://code.google.com/p/webiopi/source/checkout), starting with PCF8574 (http://webiopi.googlecode.com/svn/trunk/python/webiopi/devices/digital/pcf8574.py), write your own and submit it. You can also provide me a sample so I can write the driver.