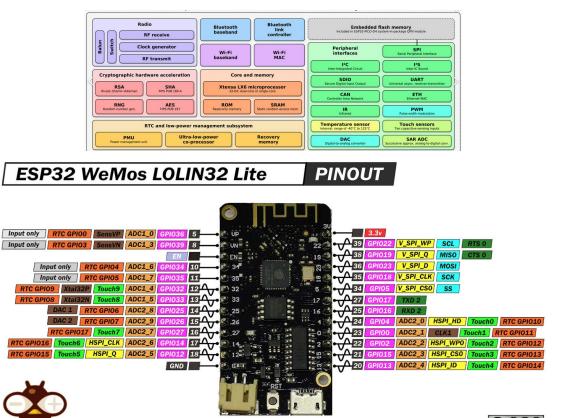
IoT Labs with PYCOM-X: SmartComputerLab

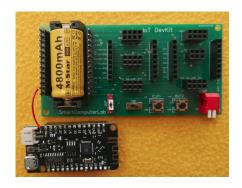
0.1 ESP32 Soc – an advanced unit for IoT architectures

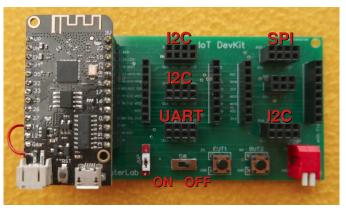


As we can see in the figure above, the board exposes 2x13 pins. These pins carry the I2C (SDA-12,SCL-14), UART (RX-16,TX-17), SPI (SCK-18,MISO-19,MOSI-23) busses, plus control signals (NSS-5,RST-15,INT-26,..). The LED is connected to pin 22.

0.3 IoT DevKit PYCOM-V and IoT development platform

www.mischianti.org (cc) BY-NC-ND





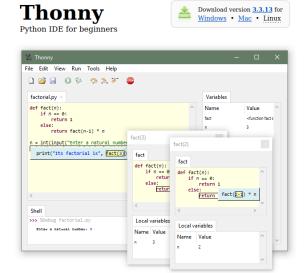
Display, sensors and modems: **OLED** –

SSD1306, T/H - SHT21, L - BH1750, PIR - SR604; LoRa-RA-01

0.4 Software - Thonny IDE - thonny.org

The installation of Thonny IDE includes the installation of Python 3.7 (built in).

After this installation, we are therefore ready to program in Python with the Python version 3 interpreter installed on your PC.



Preparing the ESP32 LOLIN32 board

In the interpreter installation phase, you must **connect** your card to the PC and choose the **USB interface**.

Then you have to **download the binary code** of the interpreter on the page:

https://micropython.org/download/.

For our card we choose MCU and esp32:

https://micropython.org/download/?mcu=esp32.

On this page we will select: ESP32 with **OTA** support:

https://micropython.org/download/esp32-ota/

General Interpreter Editor Theme & Font Run & Debug Terminal Shell Assistant

Which interpreter or device should Thonny use for running your code?

MicroPython (ESP32)

Details

Connect Connect (look fo If you can be your code)

If you can be your code if your can be your code?

Note that there are many variants of MicroPython for ESP devices. If the firmware provided at micropython.org/download doesn't work for your device, then there may exist better alternatives -- look around in your device's documentation or at MicroPython forum.

Port or V

Try to

Port USB2.0-Serial (/dev/ttyUSB0)

Firmware /home/bako/esptool/esp32-ota-20220117-v1.18.bin

Browse...

Flash mode

From image file (keep) O Quad I/O (qio)

Dual I/O (dio)

Dual I/O (dio)

Dual Output (dout)

Ease of lash before installing

After loading the MicroPython interpreter on the ESP32 board we can connect our board with the USB cable to our PC and launch Thonny IDE again.

This time we go to Tools->Options to look for Interpreter and we will choose MicroPython (ESP32).