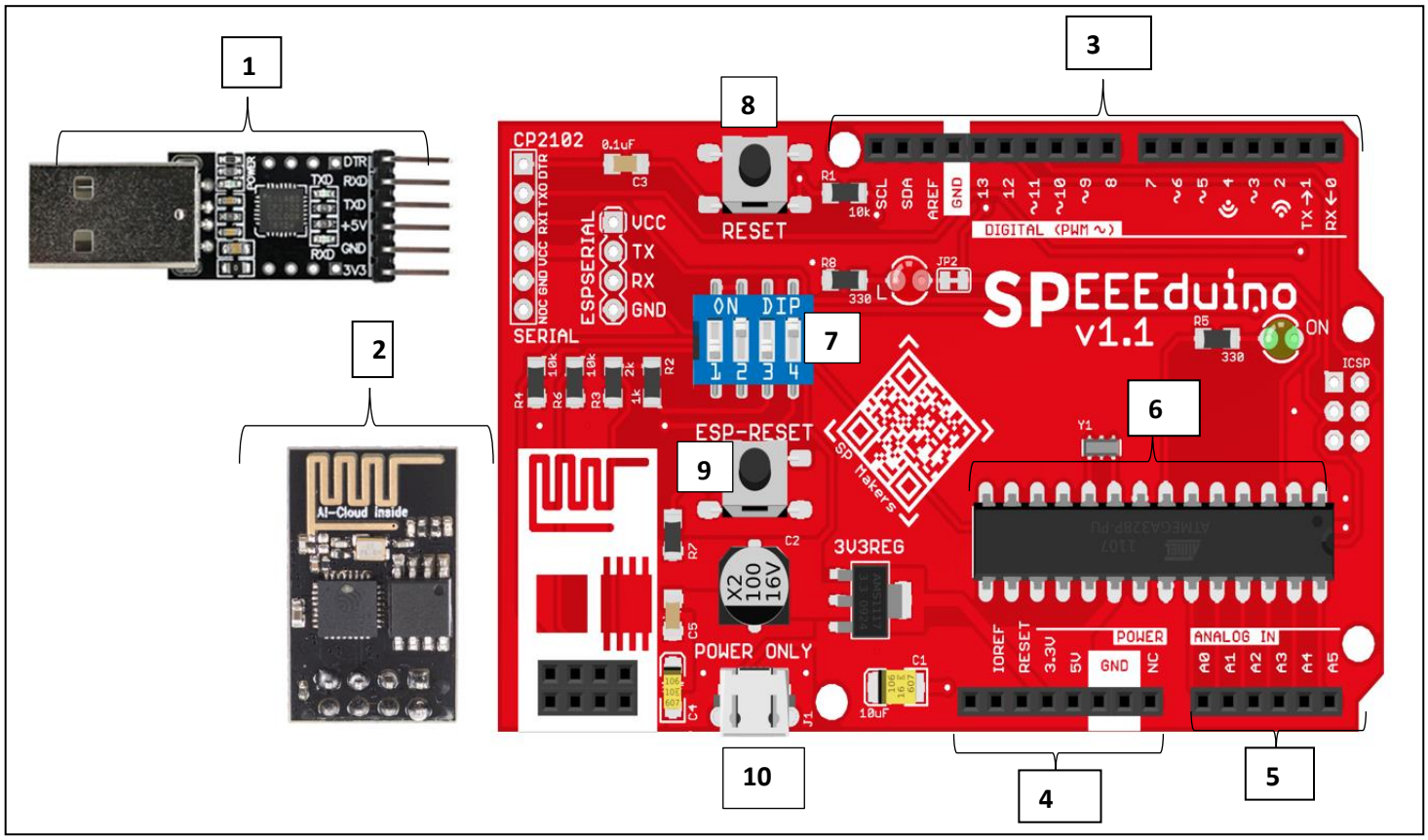
e5 comms: SPEEEduino + ESP8266

This experiment assumes Arduno IDE is installed on the computer/laptop, and SSID&Password for SPEEEduino to connect via WiFi.

The SPEEEduino: Getting to know



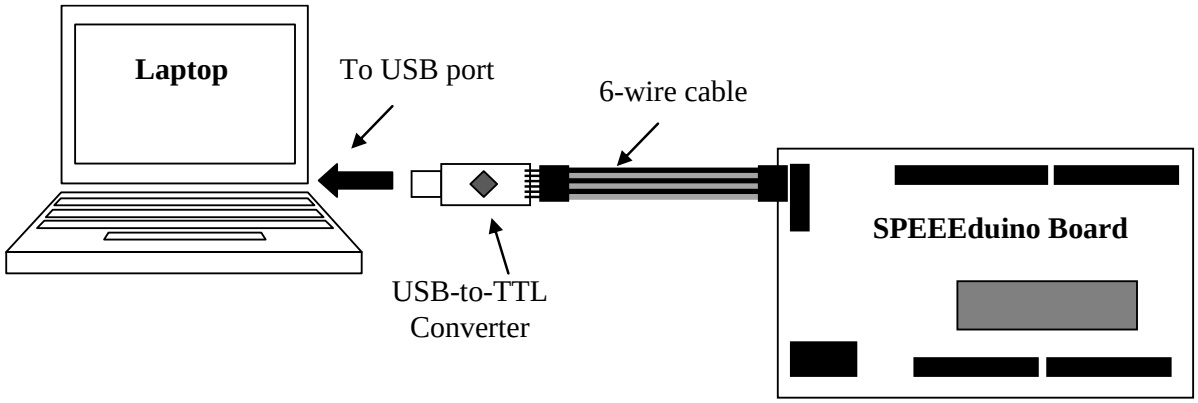
Task1: Examine the SPEEEduino and label the numbered parts

#	Part Name/Number	Purpose
1		
2		
3		
4		

5		
6		
7		
8		
9		
10		

Pins with special function		
Pin	**Other function**	**Description**
A4	SDA	
A5	SCL	
D0	Rx	
D1	Tx	
D2	INT0 Wi-Fi-Tx	
D3	INT1	
D4	Wi-Fi-Rx	

USB-TTL Converter	SPEEEduino	Purpose of connection
VCC		
	GND	
TX		
	TX	
DTR		



Connection diagram between SPEEEduino and Computer

Task2: Setup Driver for USB-TTL

1. Plug in the USB TTL converter into host computer
2. Determine USB TTL driver is installed on host computer
    a. Open the Device Manager window.
    b. Under the “Ports (COM & LPT)” directory
    c. Locate “CP2102 USB to UART Bridge Controller”
    d. Logo with exclamation mark on device needs the driver to be installed.
3. The USB TTL used is manufactured by Silicon Labs
4. Part number of USB-TTL is useful to identify the drivers to install
5. Determine the OS of the host computer
6. Go to https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers and download the zip file that meets the host’s operating system.
7. Unpackage the zip file to folder of choice
8. Return to the "Device Manager" of computer (with USB-TTL converter plugged in).
9. Right-click "CP2102..." and choose "Update driver".
10. Navigate to the folder where the CP2102 driver is stored.
11. The computer will install the driver for the CP2102 USB-TTL converter.
12. Driver installation is completed, the newly added device will be renamed to “Silicon Labs CP210x USB to UART Bridge (COM?)”.
13. Observe the COM port number (e.g. COM3).
14. SPEEEduino board is connected to the computer via this COM port

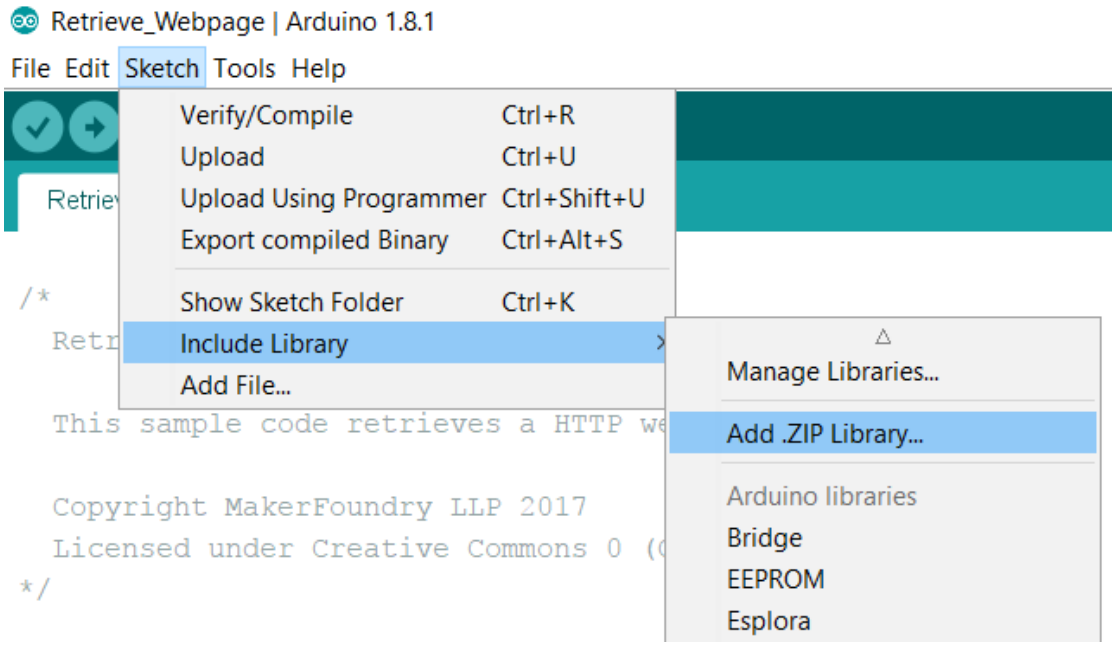
Task3: Your first SPEEEduino exercise with LM35

1. LM35 wiring schematic draw in the space provided below

2. Locate open source LM35 for Arduino Uno, and apply to SPEEEduino
3. Observe the output on Serial Monitor

Task4: Setup SPEEEduino Low Level Library

1. Navigate to https://drive.google.com/file/d/0B1b6Ob0_FnFLbHZMTGREMXFmQU0/view
2. Download the SPEEEduino Low Level Library
3. Install the library to Arduino IDE
    a. Click on Sketch->Include Library->Add .zip library



    b. Locate SPEEEduino Low Level Library zip file
    c. Click add
    d. Verify library is added