

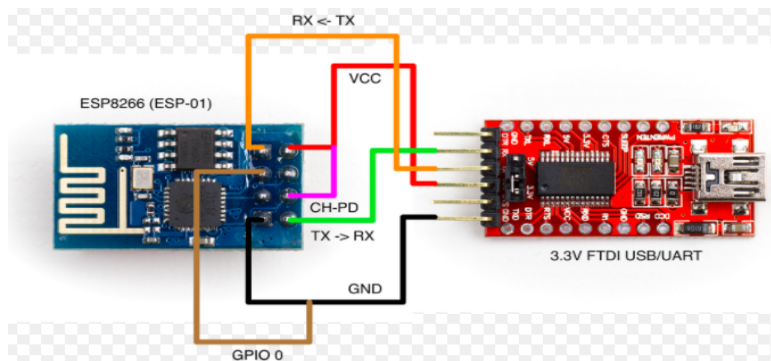
Midterm 1

The Goal

- Write, simulate, and demonstrate using AVRStudio6/7 an C code for the AVR ATMEGA328p microcontroller that performs the following functions:
 1. Program the ADC of ATmega328/p to read the LM34/35 temperature sensor. (DA3)
 2. Display the value to UART. (DA3)
 3. Make sure the AT Firmware is downloaded into the ESP8266-01 module.
 4. Register for a free Thingspeak account with MATHWORK. Setup and get the channel Key.
 5. Transmit temperature sensor value to ESP8266-01 through UART port using AT Commands.
 6. Display the temperature sensor value as a graph in Thingspeak

Working with ESP8266-01 Module

- Make sure the AT Firmware is downloaded into the ESP8266-01 module.
- Follow documentation @ [class website](#)
- Firmware:
 - Download Link for Latest Ai-Thinker firmware:
http://www.electrodragon.com/w/ESP8266_AT_Commands
 - Alternative Download Link for older version Ai-Thinker firmware:
http://wiki.aprbrother.com/wiki/Firmware_For_ESP8266
- Use Flash Software
 - ESP Flash Download Tool (Software) -
<http://bbs.espressif.com/viewtopic.php?f=57&t=433>



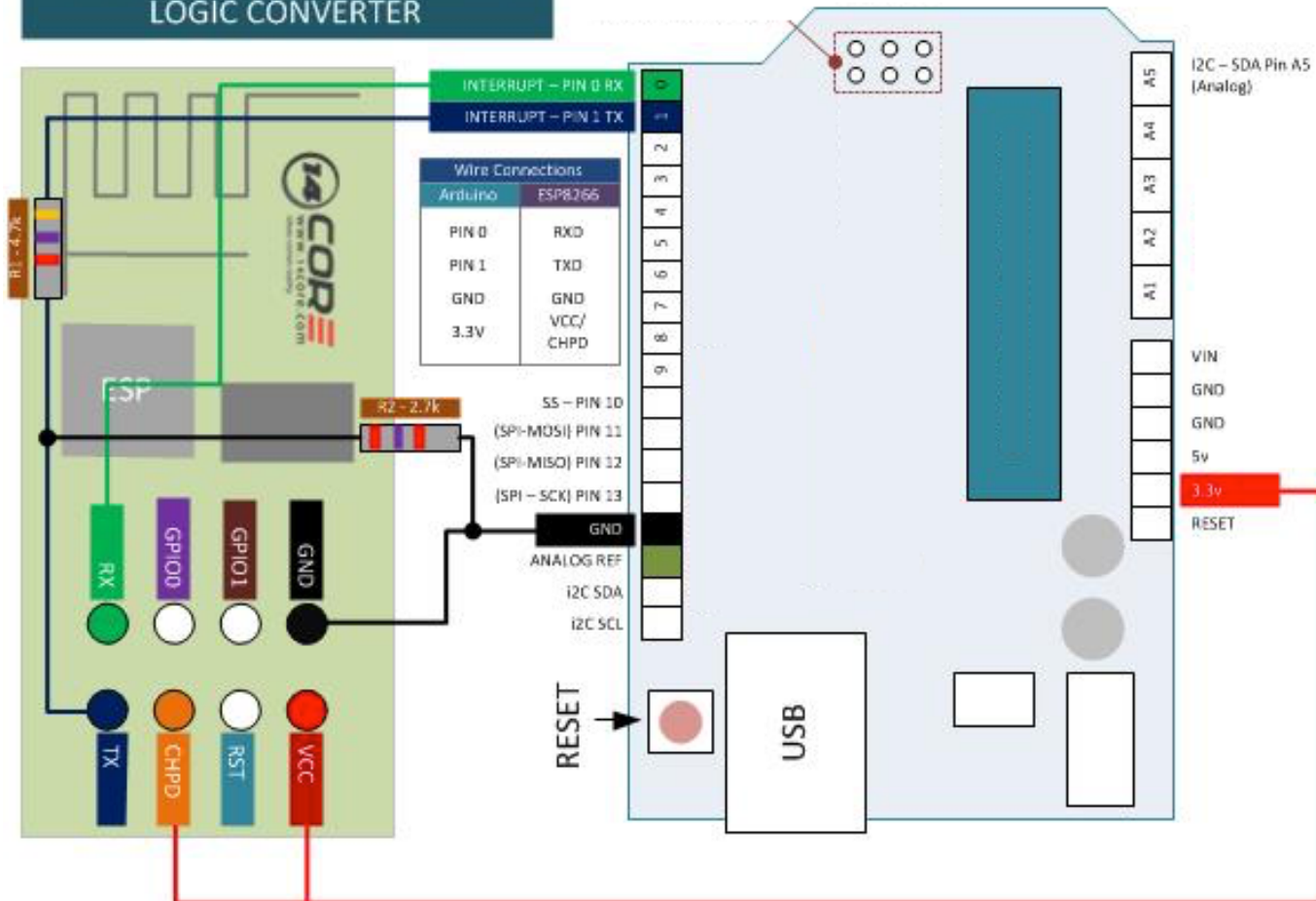
Use only 3.3V FTDI!!!

Connecting to ATmega328p

Configure the ESP8266 w/d
ATMEGA328

For 5v supply you need to used
LOGIC CONVERTER

Xplained-Mini Board



Sign up for ThingSpeak

Create MathWorks Account

i To access your organization's MATLAB license, use your school or work email.


By clicking continue, you agree to our [privacy policy](#)

My Channels

Add new channel

New Channel

Name

 MyHomeData

Private

Public

Settings

Sharing

API Keys

Data Import / Export

Get API keys

Write API Key

Key

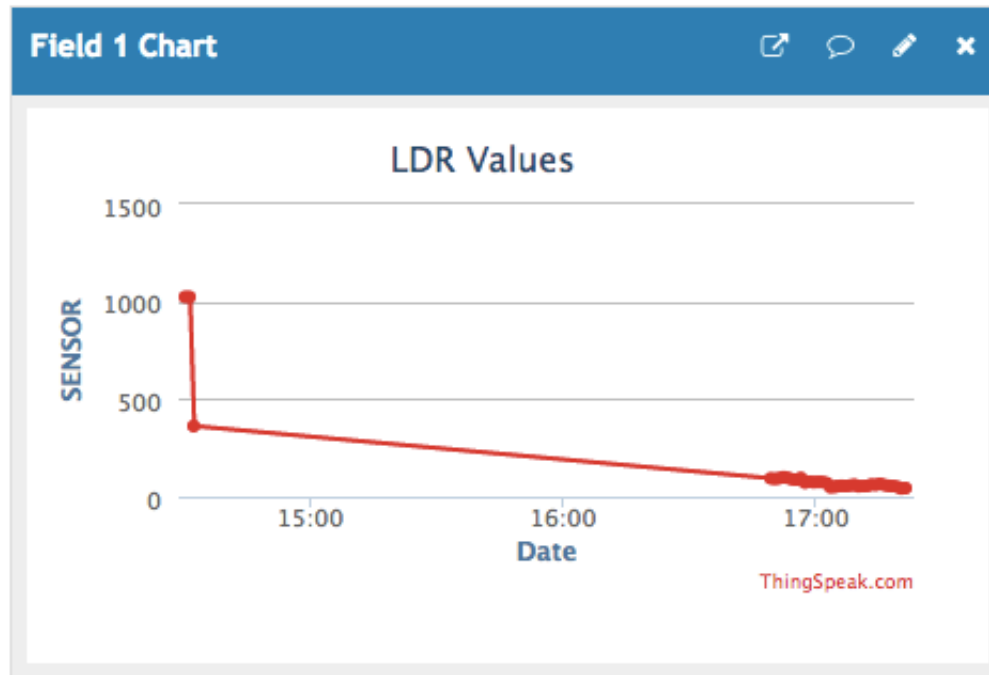
Generate New Write API Key

Read API Keys

Key

Upload Data

5. Connect to your WiFi router & transmit temperature sensor value to ESP8266-01 through UART port using AT Commands.
6. Display the temperature sensor value as a graph in Thingspeak



PS: Do not upload assignment with personal WiFi SSID & password