# Application Note ArduiTouch ESP Simple Codelock



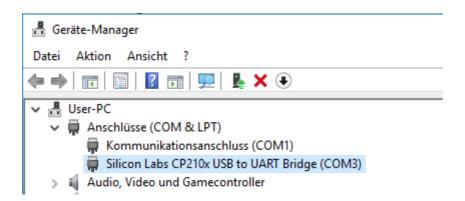
Rev.	Date	Description
Α	2019-10-28	First release

# 1. Install the USB drivers for NodeMCU or Wemos D1

The NodeMCU module includes a CP2102 chip for the USB interface. Usually the driver will be installed automatically if the NodeMCU is connected the first time with the PC. Sometimes this procedure failed. In this case you have to install the driver

http://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers

manually in the Windows device manager.

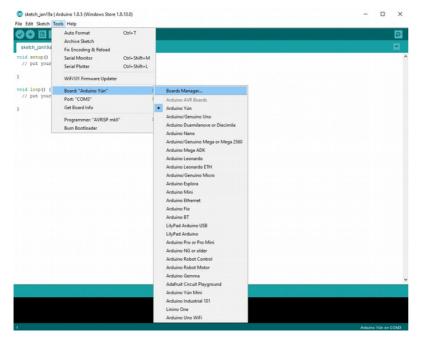


If you want to use the Wemos D1 you have to install the drivers for the CH340 USB interface instead:

http://www.wch.cn/download/CH341SER\_ZIP.html

## 2. Preparation of Arduino IDE

The ESP8266 and/or ESP32 isn't part of the Arduino-IDE. We have to install it first.



Open the board manager: Tools / Board / Board Manager

#### 2.1 ESP8266

Go to the ESP8266 entry and install it:

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Type All	~	Filter your searc	h							
Online help More info	aru uas	eo on Armega	2300 MCO.							^
Industruino SA Boards included Industruino D2: <u>Online help</u> <u>More info</u>	in this p		M Cortex-M0+	•) by Industru	ino					
esp8266 by ESI Boards included Generic ESP826 Adafruit HUZZA ESP-210, WeMc gen4 IoD Rang <u>Online help</u> More info	in this p 6 Module H ESP820 Is D1, W	package: e, Olimex MOD 56 (ESP-12), Es eMos D1 mini,	Presso Lite 1.	0, ESPresso L	ite 2.0, Phoe	nix 1.0, Phoe	anix 2.0, Spa	rkFun Thing	, SweetPea	
More mo							2.4.0	~	Install	~
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# Now you can choose **NodeMCU 1.0 (ESP-12E Module)**. Set the CPU frequency to 80MHz, Flash Size to "4M (3M SPIFFS)", the baud rate of your choice and the COM port.

	Auto Format	Ctrl+T		
	Archive Sketch			
ch_jan19a	Fix Encoding & Reload			
setup()	Serial Monitor	Ctrl+Shift+M		
put your	Serial Plotter	Ctrl+Shift+L		
	WiFi101 Firmware Updater			
oid loop() {	Board: "NodeMCU 1.0 (ESP-12E Module)" Flash Size: "4M (3M SPIFFS)"			
out your			Arduino Pro or Pro Mini	
	Debug port: "Disabled"	>	Arduino NG or older	
	Debug Level: "None"	>	Arduino Robot Control	
	lwIP Variant: "v2 Prebuilt (MSS=536)"	>	Arduino Robot Motor	
	CPU Frequency: "80 MHz"	>	Arduino Gemma	
	Upload Speed: "115200"	>	Adafruit Circuit Playground	
	Port: "COM3"	3	Arduino Yún Mini	
	Get Board Info		Arduino Industrial 101	
	Programmer: "AVRISP mkil" Burn Bootloader	,	Linino One	
		-	Arduino Uno WiFi	
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			Generic ESP8200 Module Generic ESP8285 Module	
			ESPDuino (ESP-13 Module)	
			Adafruit HUZZAH ESP8266	
			ESPresso Lite 1.0	
			ESPresso Lite 2.0	
			Phoenix 1.0	
			Phoenix 2.0	
			NodeMCU 0.9 (ESP-12 Module)	
			NodeMCU 1.0 (ESP-12E Module)	
			Olimex MOD-WIFI-ESP8266(-DEV)	
			SparkFun ESP8266 Thing	
			SparkFun ESP8266 Thing Dev	

For the Wemos D1 Mini you have to choose **WeMos D1 R2 & mini.** Set the CPU frequency to 80MHz, Flash Size to "4M (3M SPIFFS)", the baud rate of your choice and the COM port.

#### Application Note: ArduiTouch ESP Codelock Rev A

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<ul> <li>WeMos D1 R2 &amp; mini</li> </ul>				ESP8266 Modules Generic ESP8266 Module Generic ESP8285 Module ESPDuino (ESP-13 Module) Adafruit HUZZAH ESP8266 ESPresso Lite 1.0 ESPresso Lite 2.0 Phoenix 1.0 Phoenix 2.0 NodeMCU 0.9 (ESP-12 Module) NodeMCU 1.0 (ESP-12E Module) Olimex MOD-WIFI-ESP8266(-DEV) SparkFun ESP8266 Thing SparkFun ESP8266 Thing Dev	
				• WeMos D1 R2 & mini	

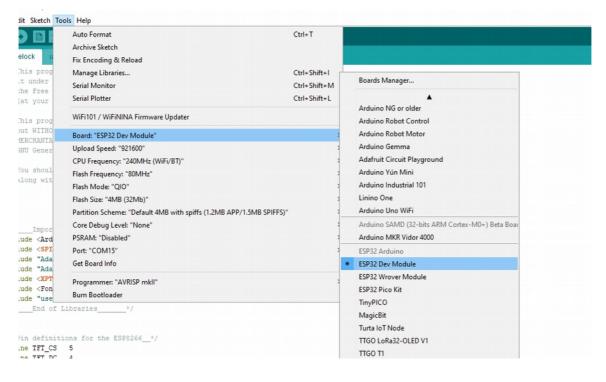
#### 💿 sketch\_oct28a | Arduino 1.8.7 (Windows Store 1.8.15.0)

#### 2.1 ESP32

Go to the ESP32 entry and install it:

💿 Boards Manager			×
Type All v esp32			
esp32 by Espressif Systems version 1.0.3 INSTALLED Boards included in this package: ESP32 Dev Module, WEMOS LoLin32, WEMOS D1 MINI ESP32. <u>More Info</u>			^
Select version 🗸 Install	Update R	Remove	
			~
		Close	

Now you can choose **ESR32 Dev Module**. Set the baud rate of your choice and the COM port.



# 3. Programming

# 3.1 Installation of additional libraries

Install the following libraries through Arduino Library Manager

Adafruit GFX Library https://github.com/adafruit/Adafruit-GFX-Library/archive/master.zip

Adafruit ILI9341 Library

https://github.com/adafruit/Adafruit\_ILI9341

XPT2046\_Touchscreen by Paul Stoffregen https://github.com/PaulStoffregen/XPT2046\_Touchscreen/blob/master/XPT2046\_Touchscreen.h

You can also download the library also directly as ZIP file and uncompress the folder under yourarduinosketchfolder/libraries/

After installing the Adafruit libraries, restart the Arduino IDE.

# 3.2 Source Code

You will find the source code on our website. <u>https://www.hwhardsoft.de/english/projects/arduitouch-esp/</u>

# 3.3 Custom settings in settings.h

In the source code you can set the code number :

#### #define codenum 42

42 is the answer for everything, but you can change this to any number between 0 and 999999.

### 3.4 Run the demo

Please open this sample in the Arduino IDE. After compilation and upload you will see the keypad. Now you can enter a code number and confirm with "OK" button.