Rawan maqadmi

IoT Path

What is ESP32 Chip?

ESP32 is the name of the chip that was developed by Espressif Systems. This provides Wi-Fi (and in some models) dual-mode Bluetooth connectivity to embedded devices.

What is the usage of ESP32?

Smart industrial devices, including Programmable Logic Controllers (PLCs)

Smart medical devices, including wearable health monitors.

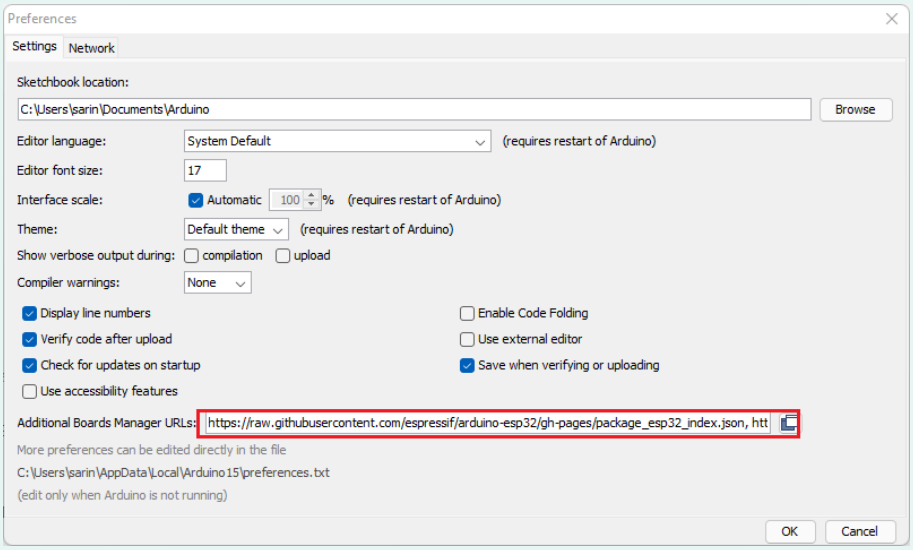
Smart energy devices, including HVAC and thermostats.

Smart security devices, including surveillance cameras and smart locks.

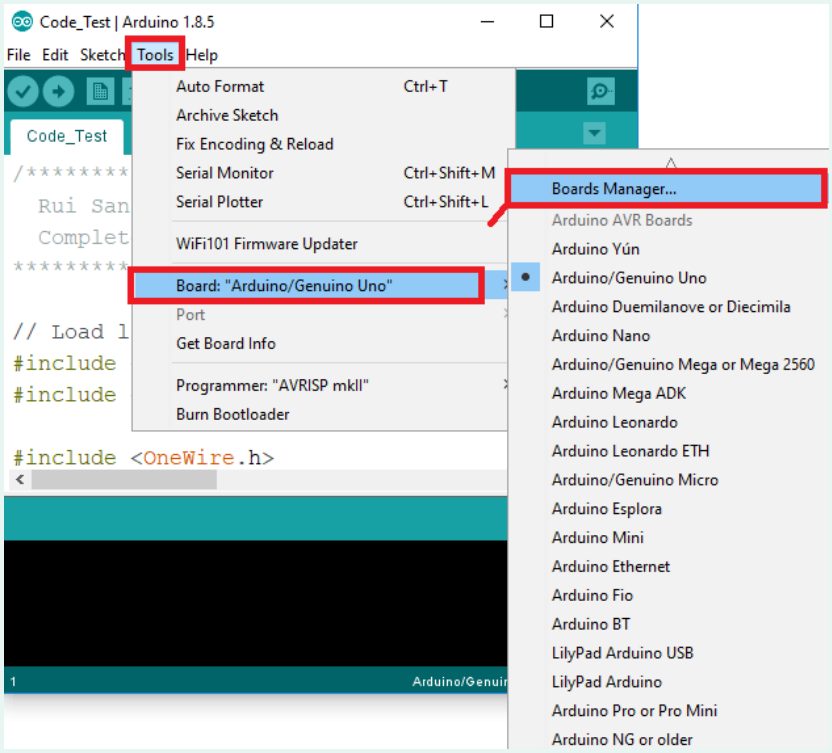
Installing ESP32 in Arduino IDE:

1. In Arduino IDE, go to File> Preferences
2. Enter the following into the "Additional Board Manager URLs" field:

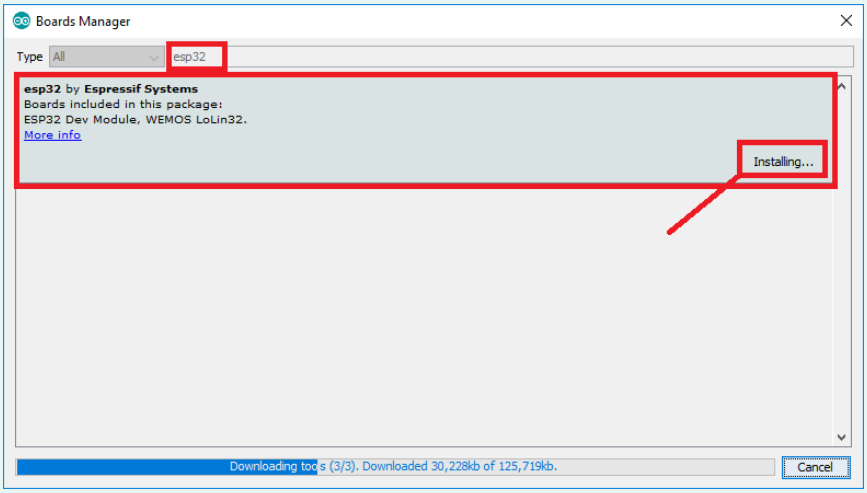
   https://raw.githubusercontent.com/espressif/arduino-esp32/gh-pages/package_esp32_index.json



3. Open the Boards Manager. Go to Tools > Board > Boards Manager...



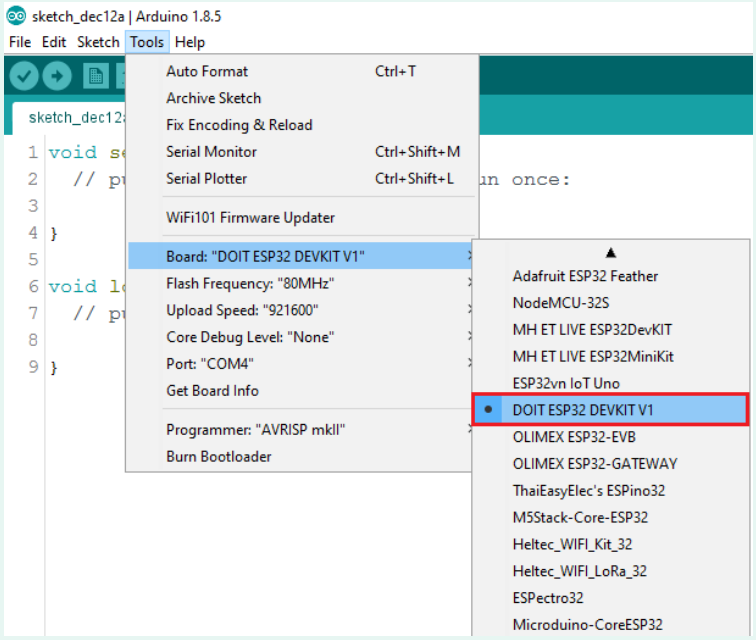
4. Search for **ESP32** and press install button for the "**ESP32 by Espressif Systems**" and install the extinction



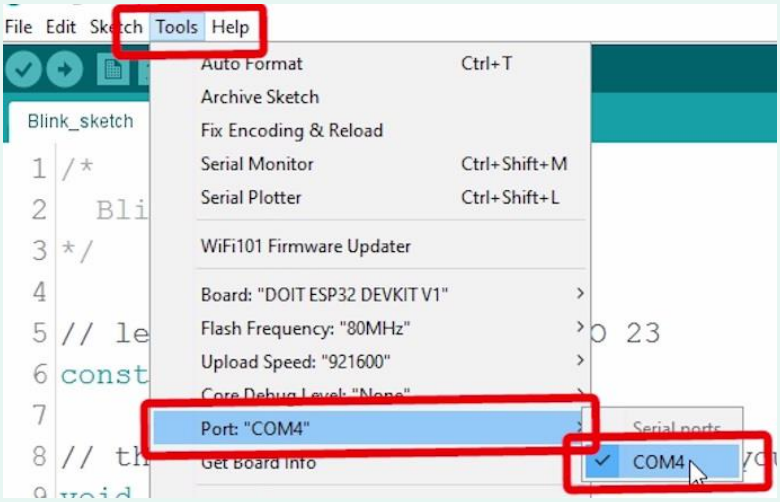
Testing the Installation:

Plug the ESP32 board to the computer. Then follow these steps:

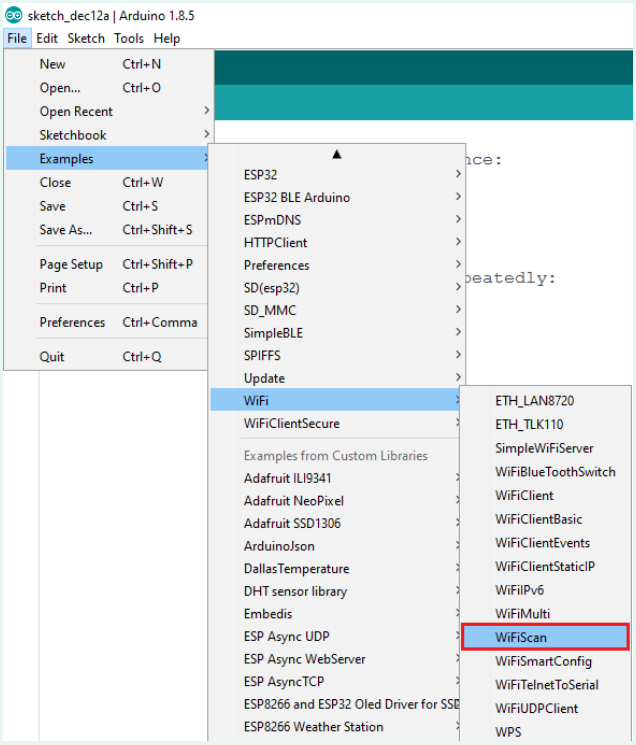
1. Select your Board in **Tools** > **Board** menu > **DOIT ESP32 DEVKIT V1**



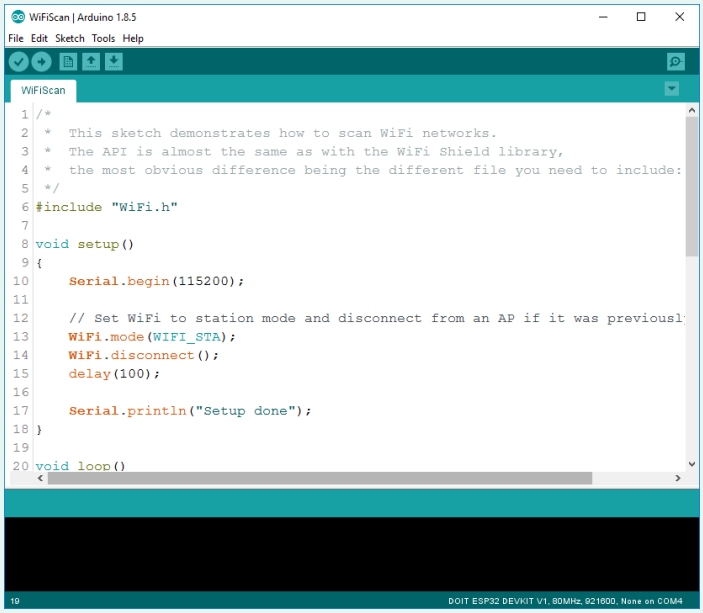
2. Select the Port



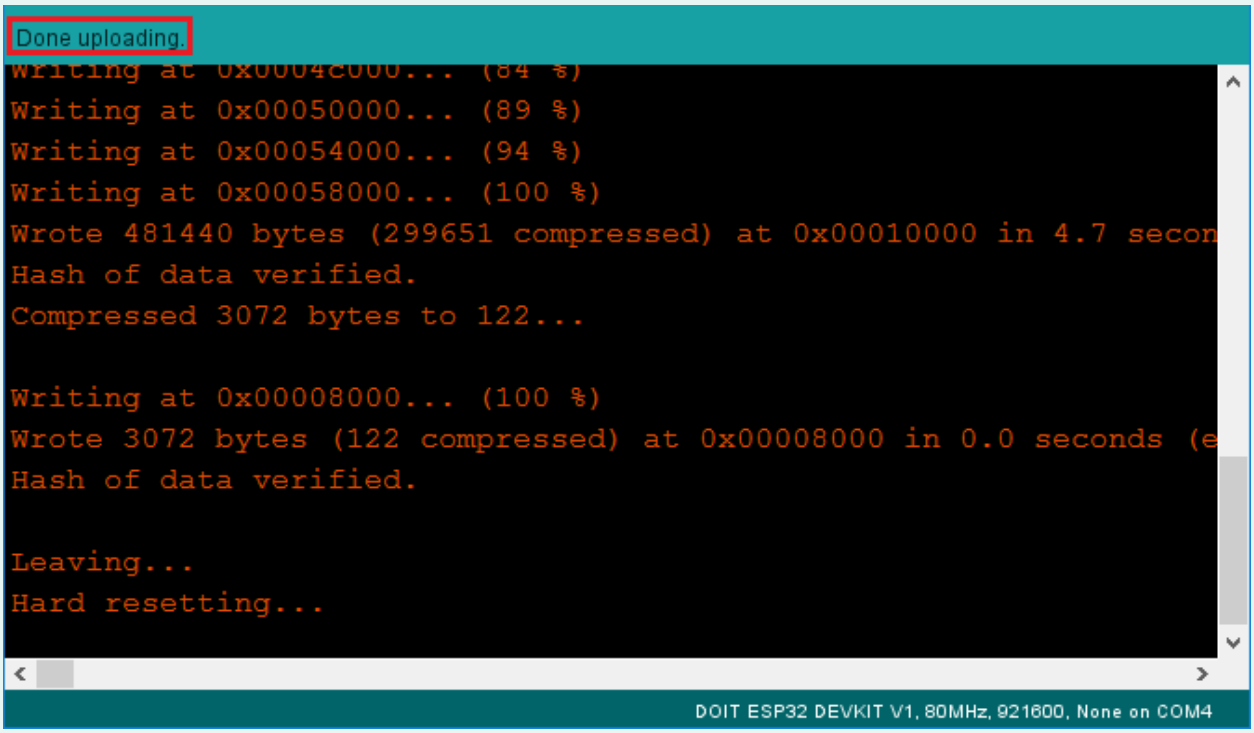
3. Open the following example under **File** > **Examples** > **WiFi (ESP32)** > **WiFiScan**



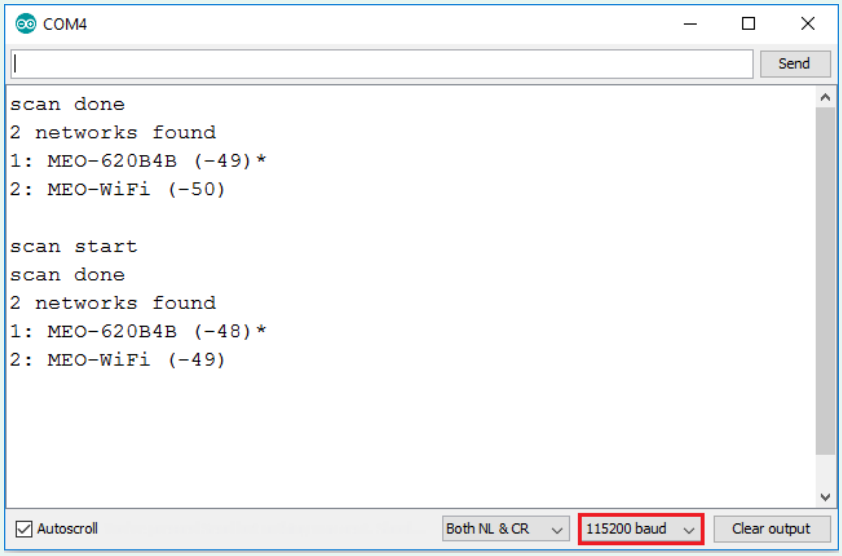
4. A new sketch opens in your Arduino IDE, Press the **Upload** button in the Arduino IDE. Wait a few seconds while the code compiles and uploads to the board.



5. If everything went as expected, you should see a "**Done uploading.**" message.



6. Open the Arduino IDE Serial Monitor at a baud rate of 115200, then Press the ESP32 on-board **Enable** button and you should see the networks available near your ESP32:



References:

- ESP32: Technical Reference Manual **:** https://www.espressif.com/sites/default/files/documentation/esp32_technical_reference_manual_en.pdf
- ESP32 for IoT: A Complete Guide: https://www.nabto.com/guide-to-iot-esp-32/
- Installing the ESP32 Board in Arduino IDE (Windows, Mac OS X, Linux): https://randomnerdtutorials.com/installing-the-esp32-board-in-arduino-ide-windows-instructions/