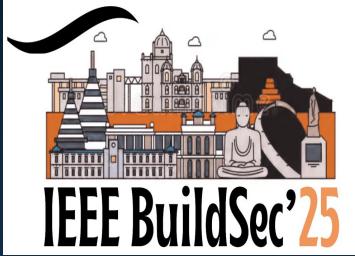




Presentation on:-> ARIES V 3.0 Peripherals Interface

Authors:Ganesh P. Karande





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ARIES V 3.0 Arduino Setup

Overview

This guide will provide you with a step by step walk-through of running a software on VEGA based development boards using Arduino IDE. In every language, generally, the first Hello World project is a simple program that prints “Hello World”. We will see what such a code would look like for ARIES using Arduino IDE.

ARIES v3.0

The ARIES v3.0 is a fully indigenous and a “Made in India” product to get started with basic microprocessor programming and embedded systems. This board is built upon a RISC-V ISA compliant VEGA Processor with easy-to-use hardware and software. For more details about ARIES v3.0 boards please refer to the [ARIES](#)

Prerequisites

- Windows 10 or above/Linux (64 bit)
- Arduino IDE
- [VEGA ARIES Board support package](#)

Components Required

- ARIES v3.0 Board
- USB type C to USB type A cable

ARIES V 3.0 Arduino Setup



Setup VEGA Ecosystem

Download and [install Arduino IDE 1.8.19](#)

Once installed Open Arduino IDE

Open File->Preferences, Add below JSON in “Additional Boards Manager URL”, Press OK

https://gitlab.com/riscv-vega/vega-arduino/-/raw/main/package_vega_index.json

ARIES V 3.0 Arduino Setup



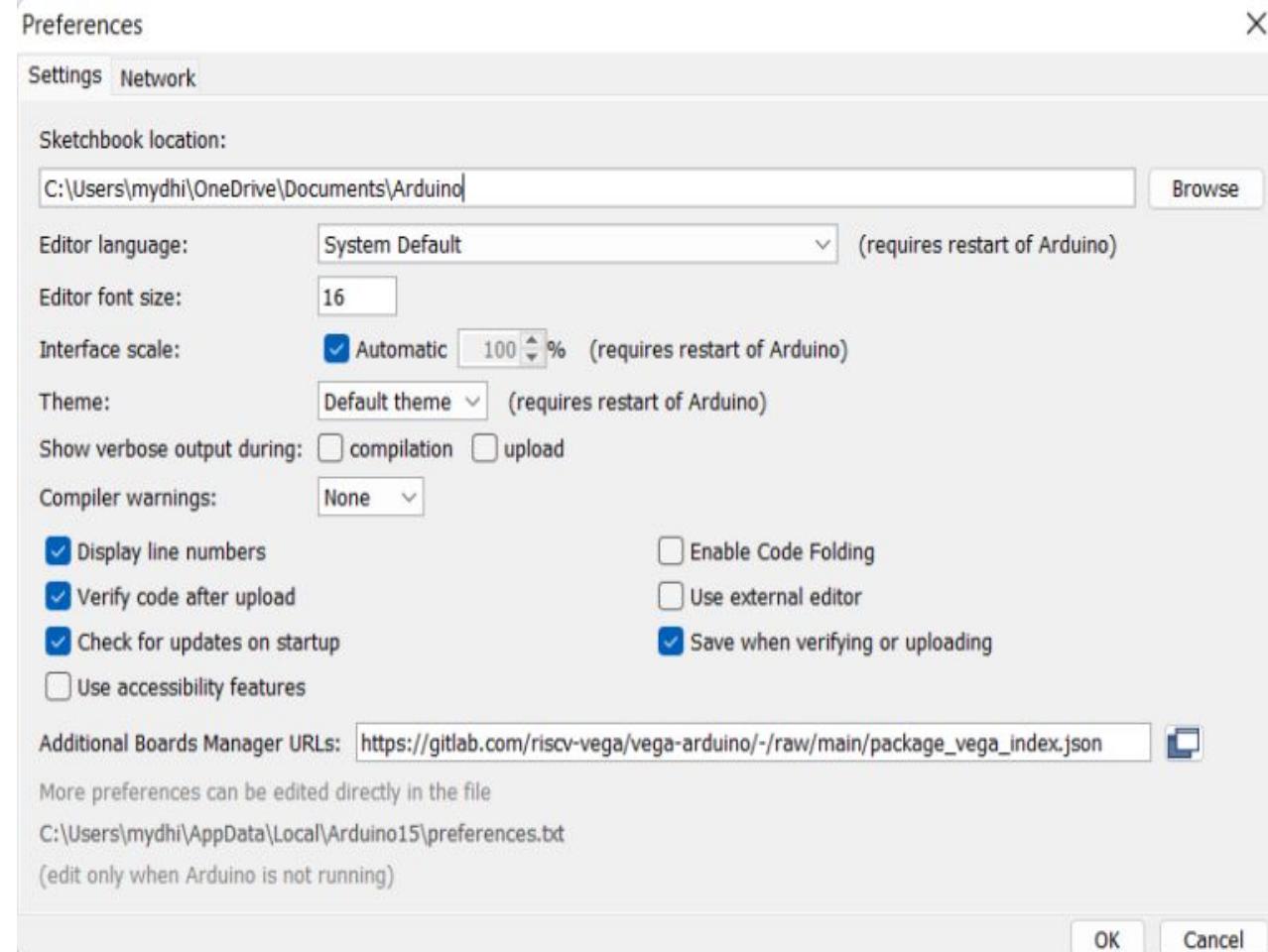
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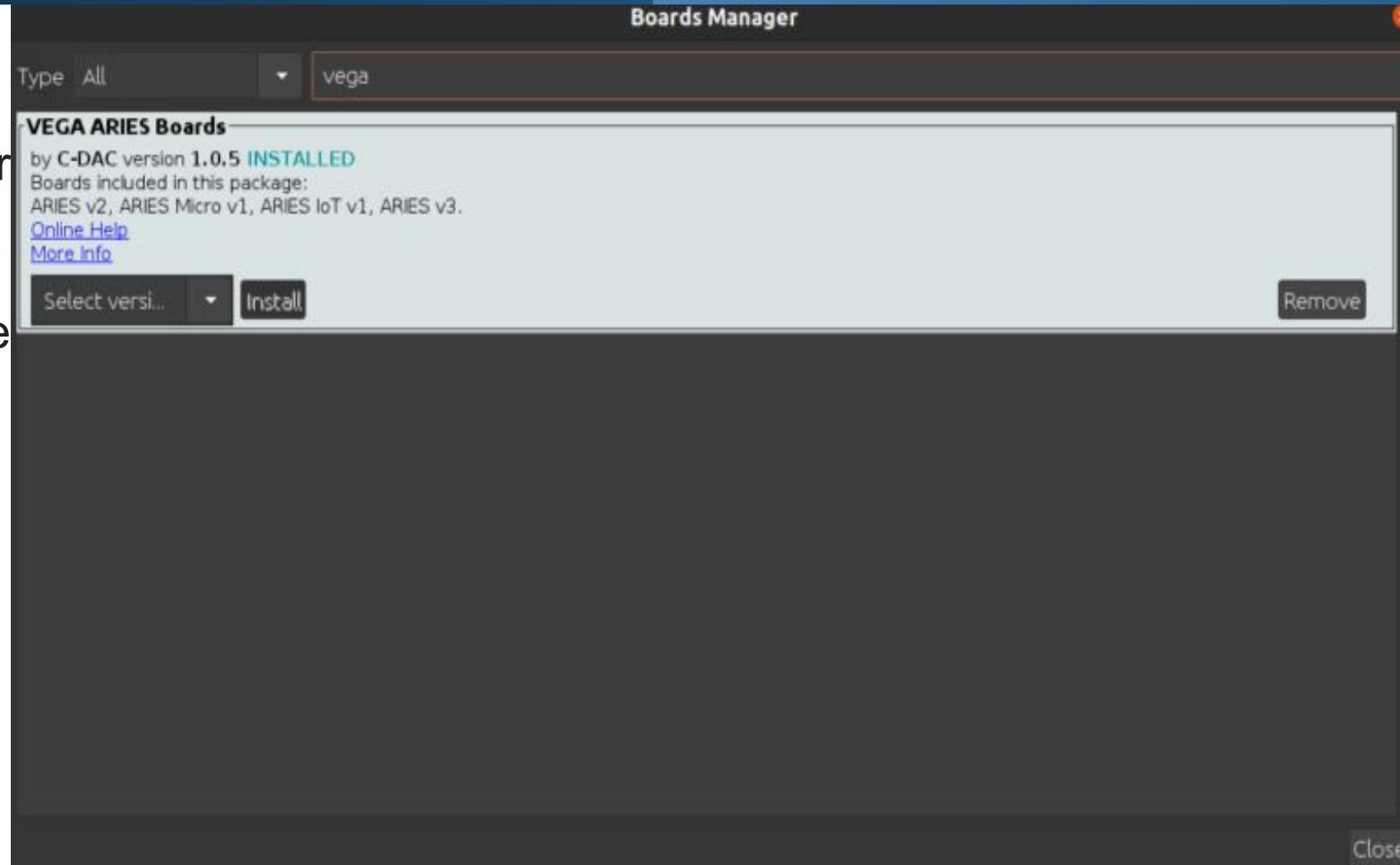


ARIES V 3.0 Arduino Setup

Open Tools->Boards->Board manager

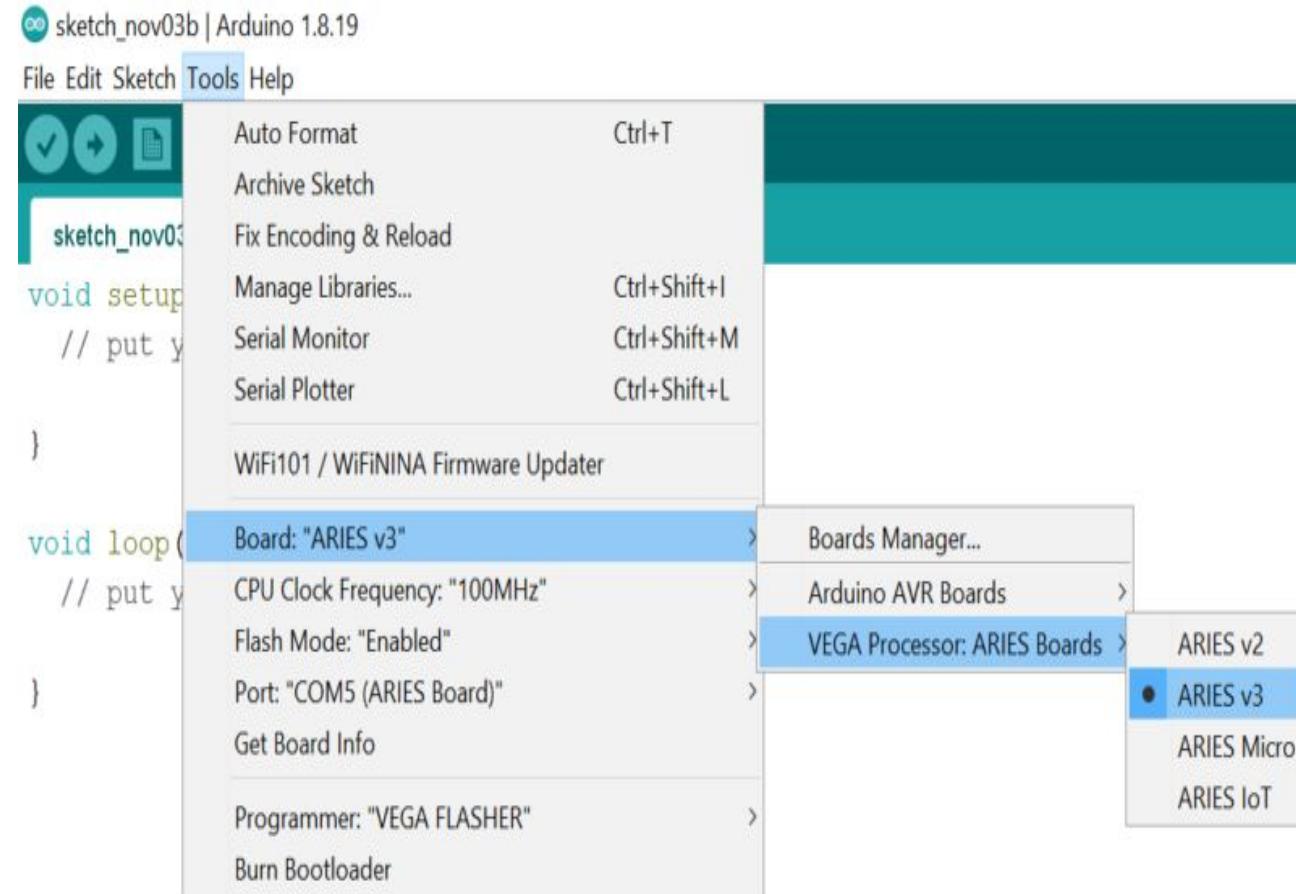
Search for “vega”

Install “VEGA ARIES Boards” with latest version



ARIES V 3.0 Arduino Setup

Select Tools->Board->VEGA
 Processor: ARIES Boards->**ARIES Vx.0 e.g V3.0**



ARIES V 3.0 Arduino Setup

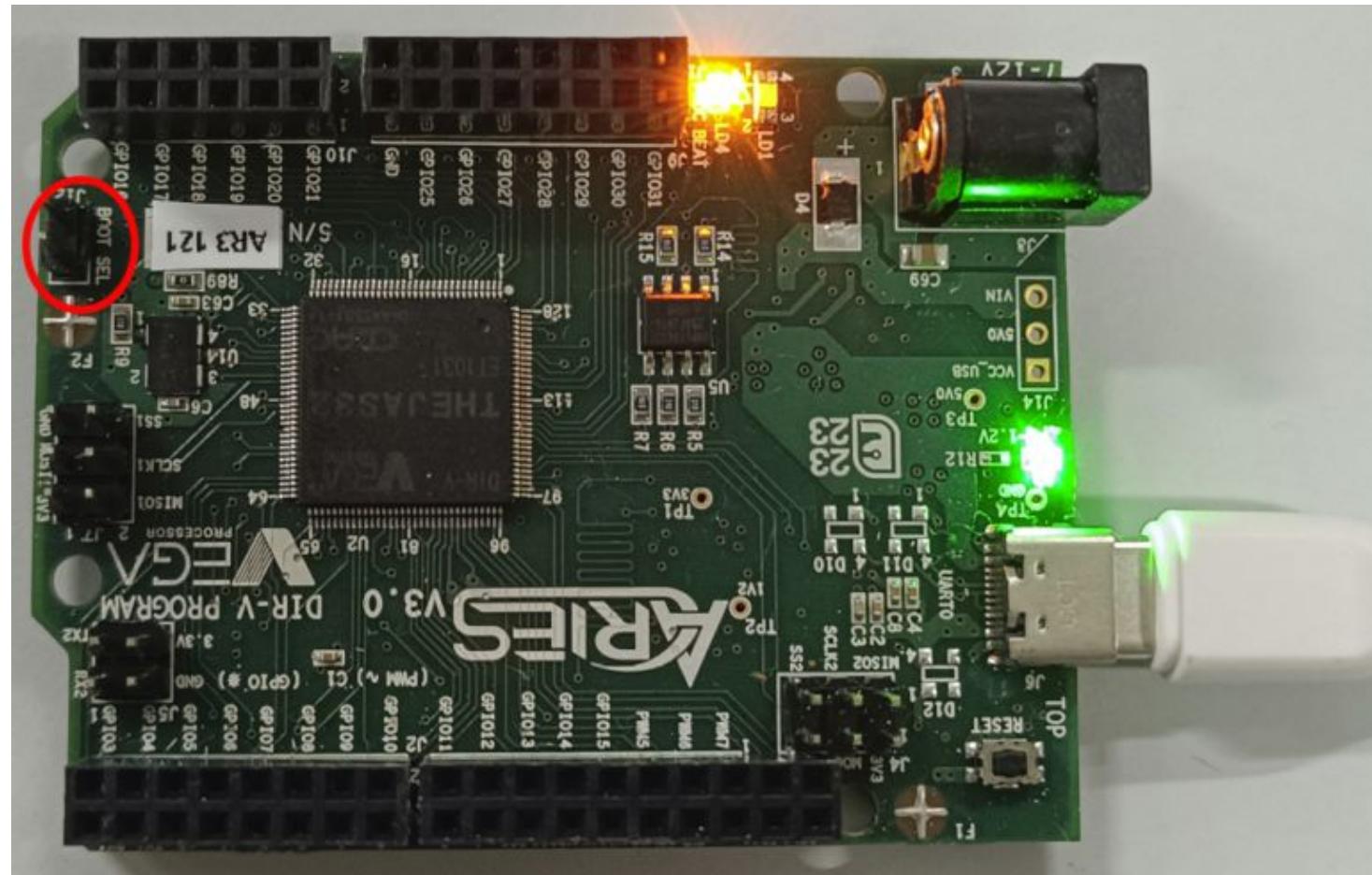
Check your ARIES board whether the **BOOT SEL pin is shorted using a jumper or not.**

If

BOOT-SEL jumper (J12) is shorted :

- a)Select **Flash Mode -> Enabled**
 - b)Select Tools -> **Programmer -> VEGA FLASHER**
- Else
- a)Select **Flash Mode -> Disabled**
 - b)Select Tools -> **Programmer -> VEGA XMODEM**

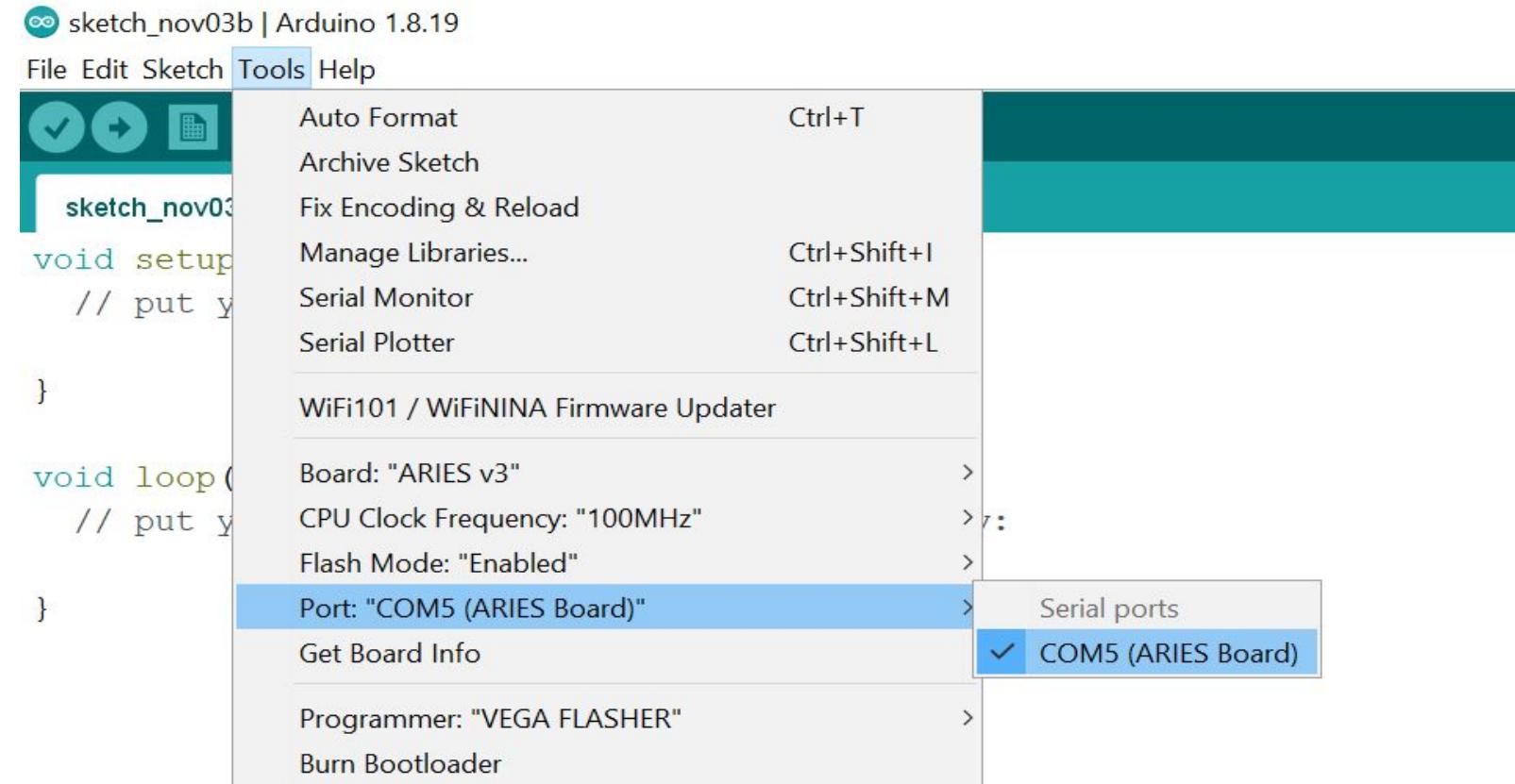
Here the **BOOT SEL** pin is shorted, so we have enabled the flash mode and selected VEGA FLASHER from programmer option.



ARIES V 3.0 Arduino Setup

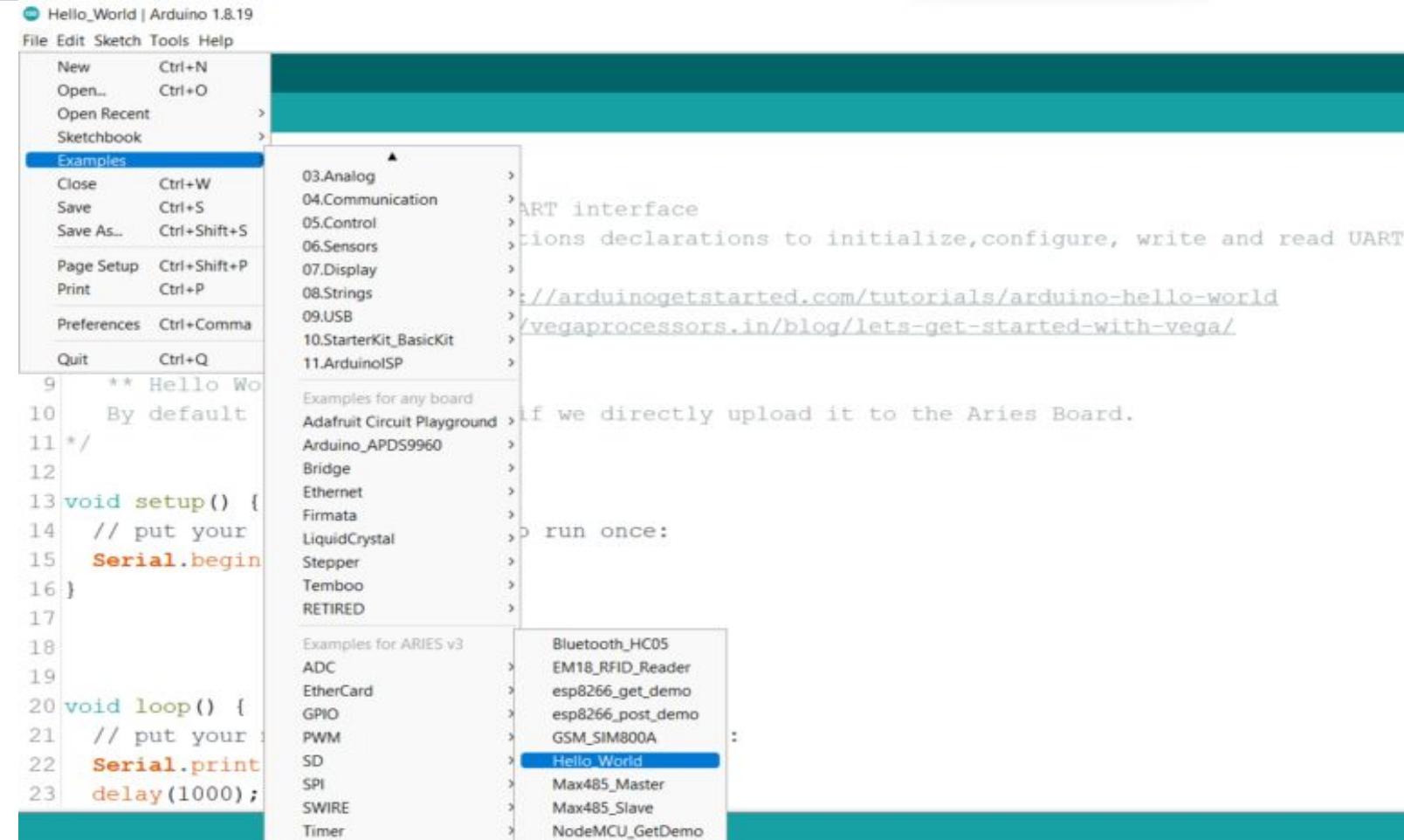
Connect the ARIES board to PC

Select Tools -> Port -> COM* (ARIES Board)



ARIES V 3.0 Arduino Setup

Open File -> Examples -> “**Examples for ARIES v3**” ->
UART -> **Hello World**”



The screenshot shows the Arduino IDE interface with the title bar "Hello_World | Arduino 1.8.19". The "File" menu is open, showing options like New, Open, Sketchbook, and Examples. The "Examples" option is highlighted. The main code editor displays the following "Hello_World" sketch:

```

9  ** Hello Wo
10 By default
11 */
12
13 void setup() {
14 // put your
15 Serial.begin
16 }
17
18
19
20 void loop() {
21 // put your
22 Serial.print
23 delay(1000);

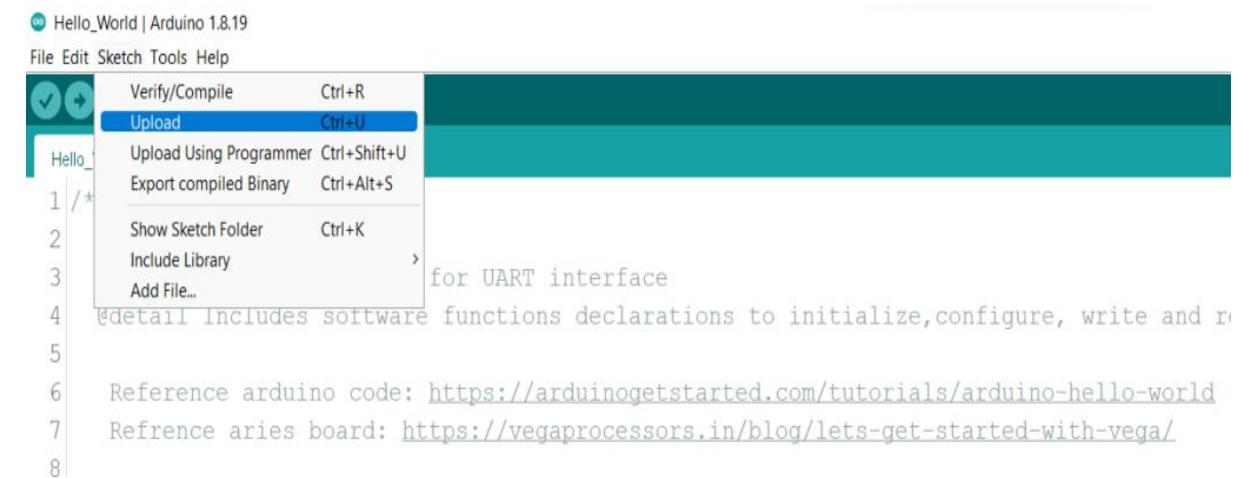
```

To the right of the code editor, a large list of examples is visible, categorized by board type. The "ARIES" category is expanded, showing examples like "Analog", "Communication", "Control", etc., followed by a long list of URLs. Below this, the "ARIES v3" category is expanded, showing examples like "Bluetooth_HC05", "EM18_RFID_Reader", etc., with "Hello_World" highlighted.

ARIES V 3.0 Arduino Setup

Click the **Sketch** -> **Verify** button to **compile** the program

Click the **Sketch** -> **Upload** button to upload the program

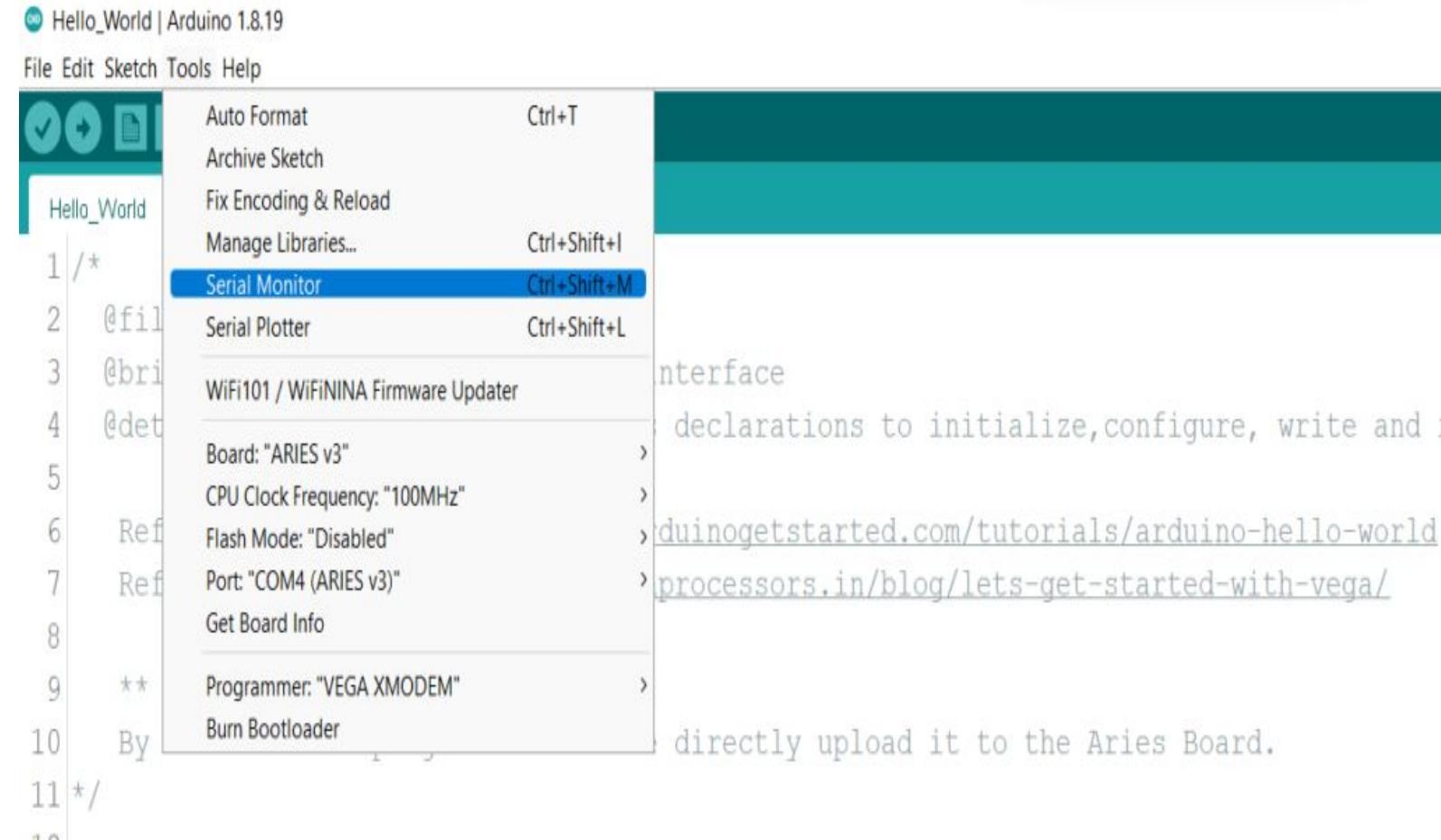


ARIES V 3.0 Arduino Setup

Note: If you are using **Arduino IDE version 2.0.0** or above, then Click the Sketch -> **Upload** using Programmer button to upload the program

Open **Tools -> Serial monitor**

Select **115200 baud** in Serial Monitor



interface
declarations to initialize, configure, write and r
[duinogetstarted.com/tutorials/arduino-hello-world](https://www.arduinogetstarted.com/tutorials/arduino-hello-world)
processors.in/blog/lets-get-started-with-vega/
directly upload it to the Aries Board.

Thank You!!