Many times we need to work with custom arduino boards which are cool. For say we all know arduino Uno

But you know you can make core library for any microcontroller in such a way that it will support the arduino programming environment .

For say Serial.begin(9600) will be same but the underlying code codes will be microcontroller specific . In this way many smart embedded software developers have made different microcontrollers compatible with arduino . And nowadays trend is like this if you want to sell your chip you better make this core . See this link this has the unofficial microcontroller list which are compatible with arduino

<https://github.com/arduino/Arduino/wiki/Unofficial-list-of-3rd-party-boards-support-urls>

Now usually you use Arduino IDE . Arduino IDE has by default only the official boards listed but you can other boards via board manager but that does not load the unofficial list (mentioned above) which has this cool set of boards

Anyway a better IDE is PlatformIO which is great as it by default installs the unofficial list and gives you the opportunity to play with these 3rd party boards . Platform IO is cool and its under development . there idea is to make an IDE which will be common for all arduino compatible hardwares i.e. microcontrollers

Now lets get professional . you have built an application now you want to debug it with JTAG like interface I mean in depth debug . both platformIO and Arduino Ide do not have this kind of feature . So what is a better IDE ? Answer is for AVR mcu it is AVR studio 7. You can connect Atmel ICE like powerful debugging hardware to your target AVR hardware and perform in depth debugging using atmel studio 7 .

So download AVR studio 7 .

For say We Our application is using the mightyCore board <https://maniacbug.wordpress.com/2011/11/27/arduino-on-atmega1284p-4/> and following the tutorial you can add the board to your aduino IDE by the following steps:

1. Download the [ZIP File](https://github.com/maniacbug/mighty-1284p/zipball/master)
2. Unzip it a folder called ‘hardware’ off your sketches directory, e.g. /Users/maniacbug/Source/Arduino/hardware/mighty-1284p

But we want to use it in atmel studio 7

Oh You can create Arduino sketches now in avr studio 7 but with the official boards only .

So what to do ? so how can I add this mightcore board support to atmel studio 7: stay with me follow the steps:

1. Download and install the latest Arduino IDE from official website
2. Go to tools>extension and updates
3. Install “Arduino IDE for Atmel Studio 7”
4. <https://github.com/MCUdude/MightyCore> download the zip
5. Restart you will see vMicro
6. Go to vMicro>board>find or install new Board
7. Click Install new hardware from zip and point the zip downloaded

Tada !!! now you have installed an unofficial board at your powerful Atmel Studio 7 IDE

1. Now goto vMicro > new Arduino Project and start your creative works ;)