

Arduino Plug-in

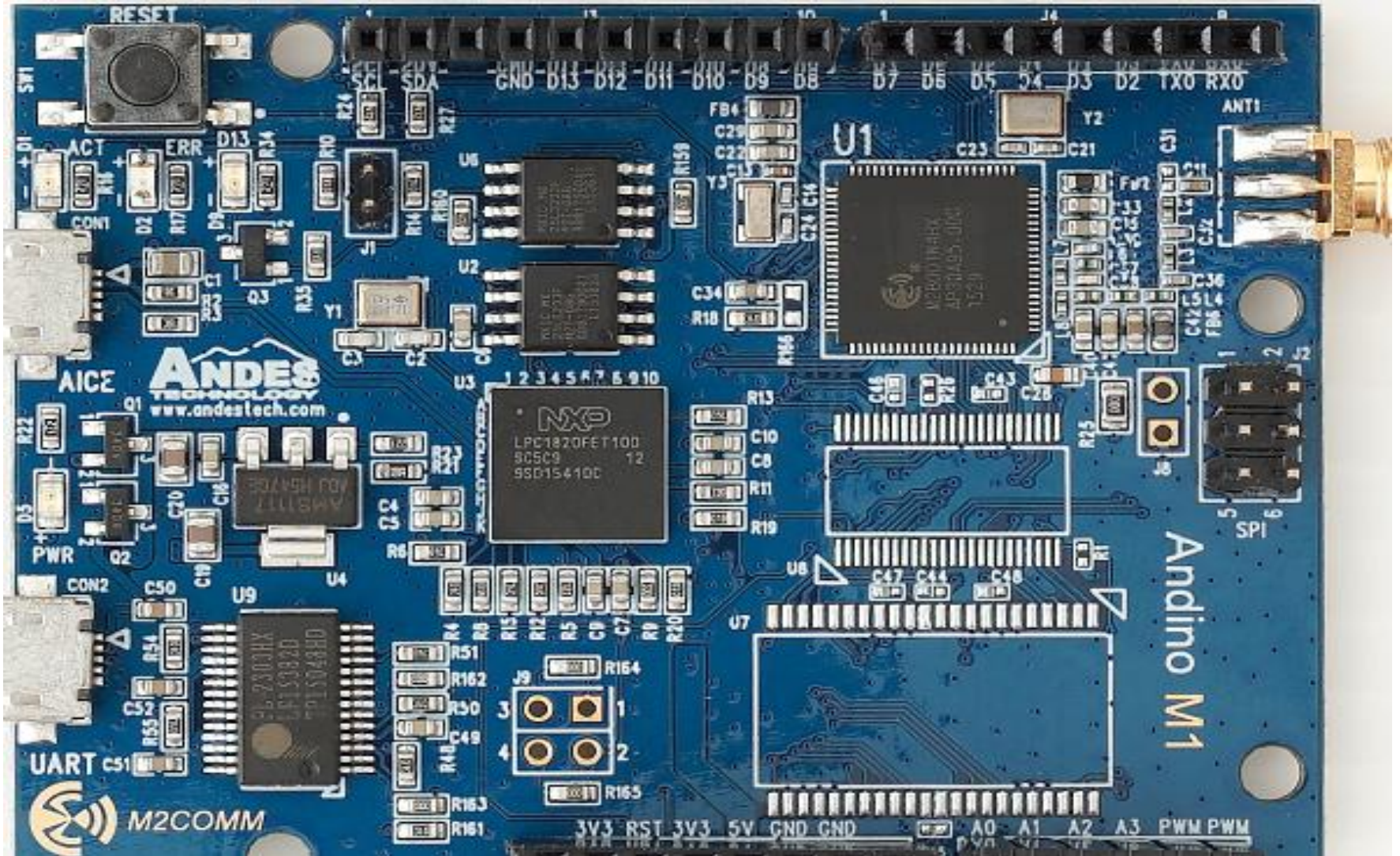
Driving Innovations™



Andino M1

- ❖ **Andino M1** is an Arduino-compatible development platform based on M2Comm's wireless MCU M2C8001, a highly integrated SoC with 32-bit AndesCore N801 CPU, 802.15.4 MAC, and RF front-end for total BOM cost reduction.
- ❖ Arduino projects can be created, compiled, uploaded to an Andino board using an AndeSight™ with an Arduino plug-in.
- ❖ Users can easily build prototypes of IoT devices under Arduino standard IDE and full-featured AndeSight™IDE.

Picture of Andino M1



Useful features

❖ Easy to Use

- ◆ Built-in AICE port for flash burner and program debugging functions
- ◆ Built-in microUSB to UART

❖ Sensor / Display / Peripheral

- ◆ 4 ADC channels
- ◆ 16 external interrupts
- ◆ 3.3V IO voltage
- ◆ 16 GPIO pins and 4 pins can be used as PWM output
- ◆ One UART port, One SPI port, One I2C port
- ◆ Powered via the USB connector

❖ Application Processing

- ◆ 32-bit AndesCore N801
- ◆ Up to 60MHz
- ◆ 128KB embedded flash




❖ Communication

- ◆ Sub-GHz support for multiple bands
- ◆ Integrated RF frond-end
- ◆ Dual MAC support: IEEE 802.15.4, M2C Platanus

Requirements

- ❖ AndeSight™ v3.0 installer for Windows environment.
- ❖ [arduino.tgz](#) (A compressed file of Arduino plug-in)
Find under: [ANDESIGHT_INSTALLER\Disk1\Redist.](#)
- ❖ Andino-M1
- ❖ USB cables to connect your Andino board to your computer.
- ❖ Libraries for your Andino projects, if needed.

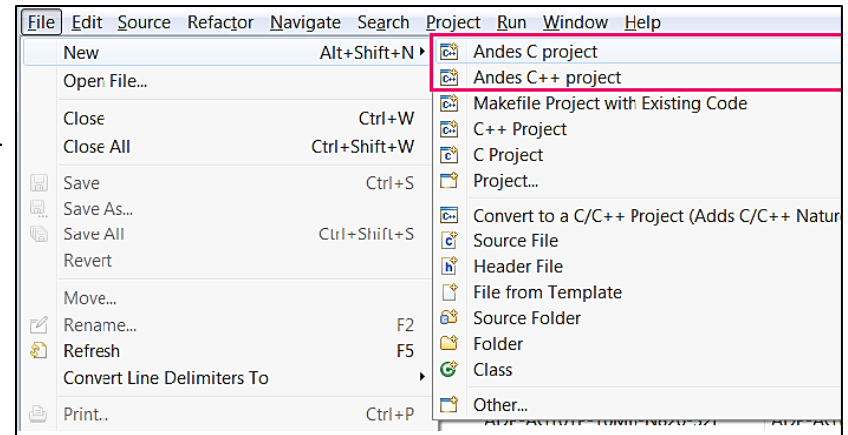
How to start

- ❖ Make sure that your AndeSight™v3.0 installer contains “**arduino.tgz**”.
- ❖ Install the IDE and activate its license.
- ❖ When installation complete “arduino” folder containing configurations files is generated under AndeSight™ destination directory.
- ❖ Double-click the AndeSight shortcut  in desktop to launch.
- ❖ The icon of Arduino Serial Monitor view  and the Oscilloscope view  appear on the toolbar.
- ❖ In the Andes Project Creator view, Andino-M1 is also listed as a selectable ICE target.

Creating Sketch (1)

STEP 1: Connect your Andino board to your PC using micro- USB cables and note the COM Port No.

STEP 2:
File>Andes
[C/C++] Project.



STEP 3: Specify Project name, Connection type, Chip profile, Project type and Toolchain and Click "Next"

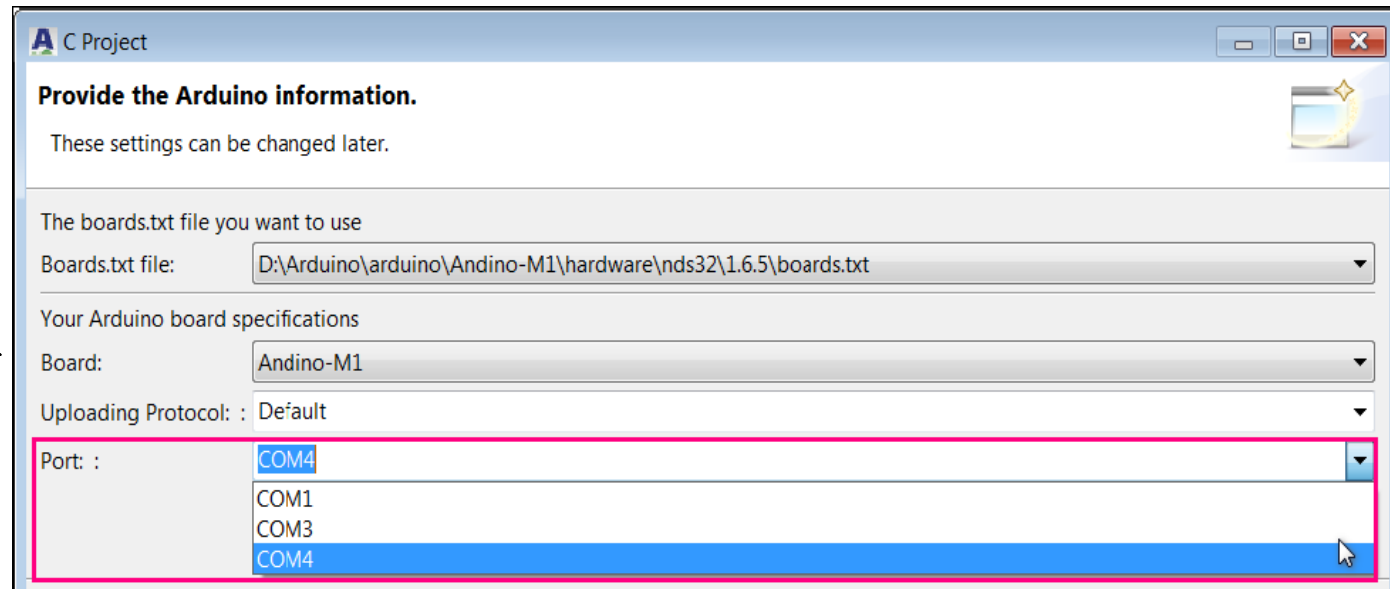
The screenshot shows the 'C Project' configuration dialog. The 'Project name' field is set to 'Andino_Project'. The 'Use default location' checkbox is checked, and the 'Location' is 'C:\Users\... \AndeSight3\workspace\Andino_Project'. The 'Connection Type' is set to 'ICE'. The 'Chip Profile' table has 'Andino-M1' selected. The 'Project type' is set to 'Arduino sketch'. The 'Toolchains' list has 'nds32le-elf-mculib-v3m' selected. The 'Show project types and toolchains only if they are supported on the platform' checkbox is checked.

Chip Profile Name	Chip ID	CPU	Simulator Config
> AE100			
> AE210P			
> AG101P			
Andino			
Andino-M1	Andino-M1	[N801-S]	
> Virtual			

Creating Sketch (2)

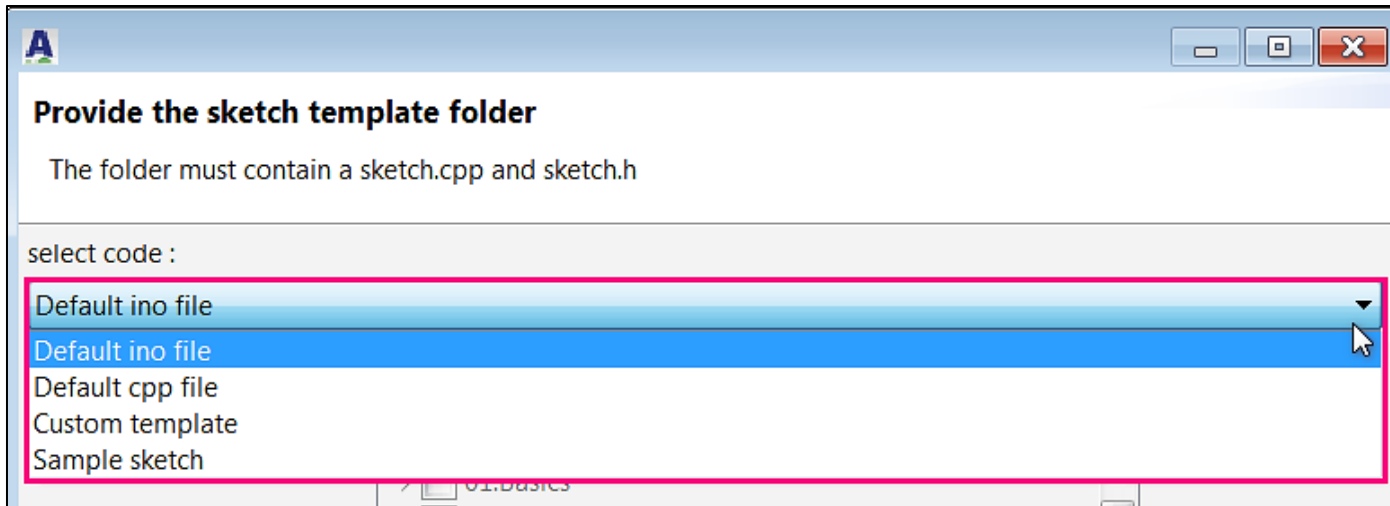
STEP 4:

Insert the COM Port No which was previously noted. Click "Next"



STEP 5:

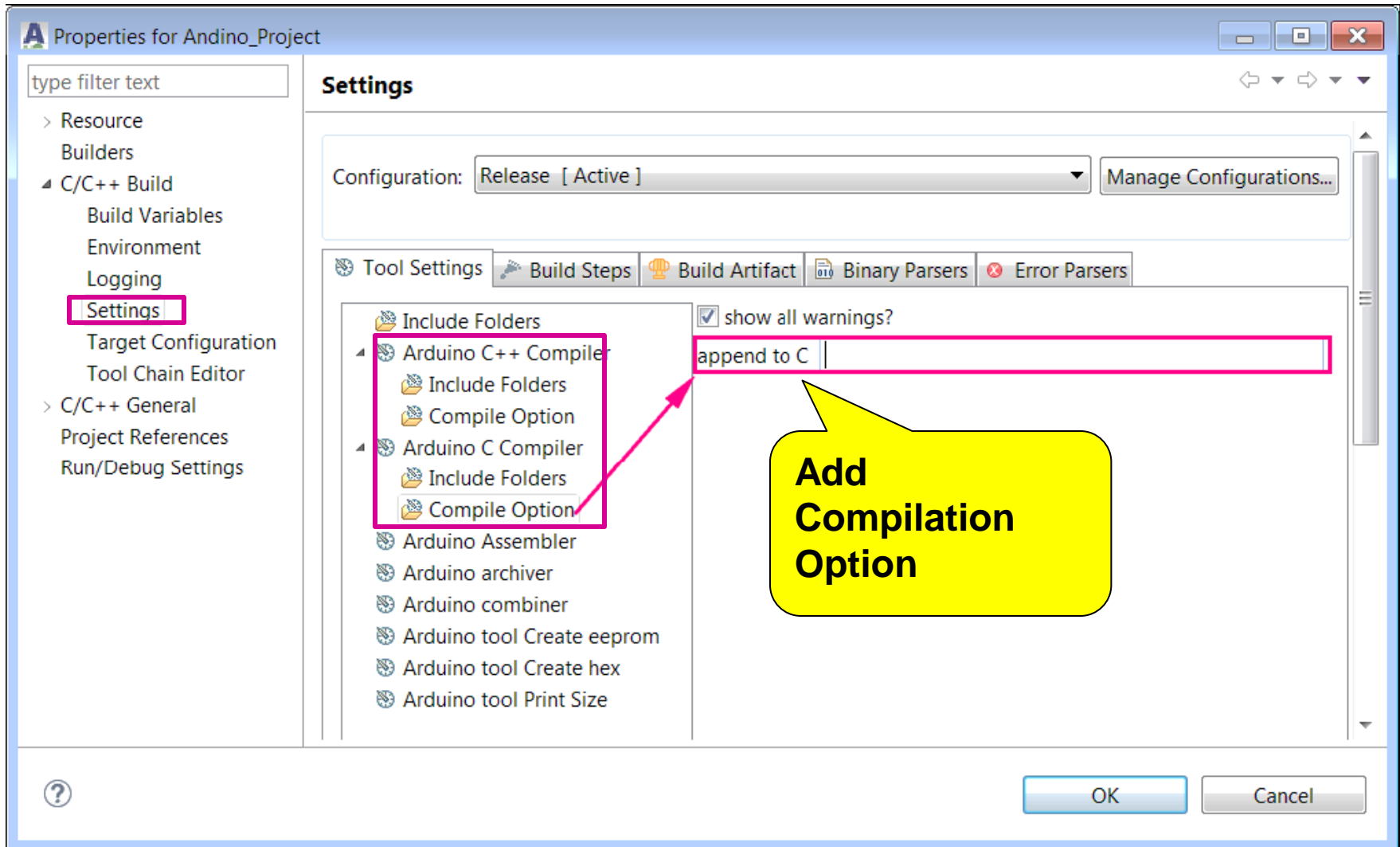
Select the code for your Andino project and click "Finish"



Sketch will be created successfully in Project Explorer!!

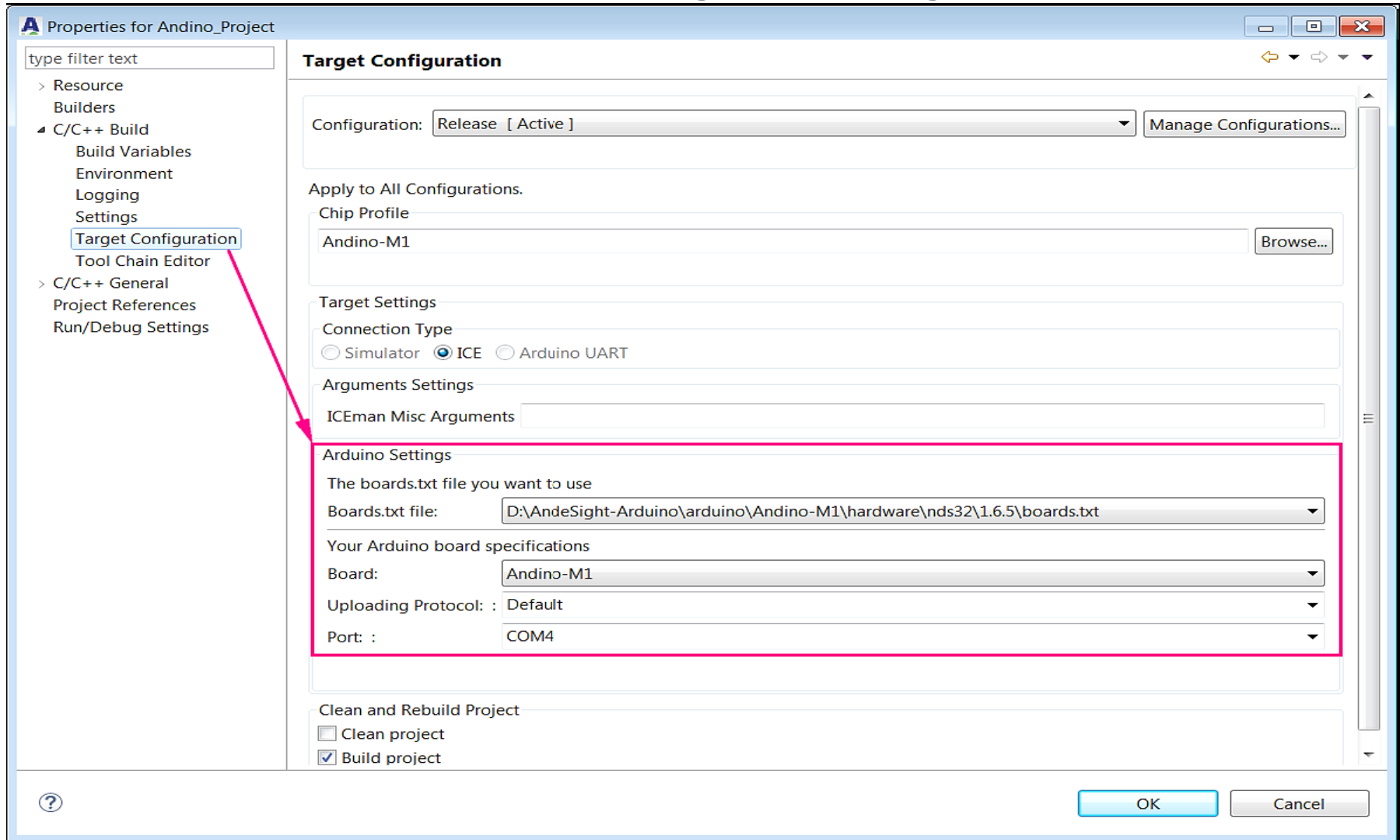
Modify Build Settings

❖ Right-click Andino project > Build Settings



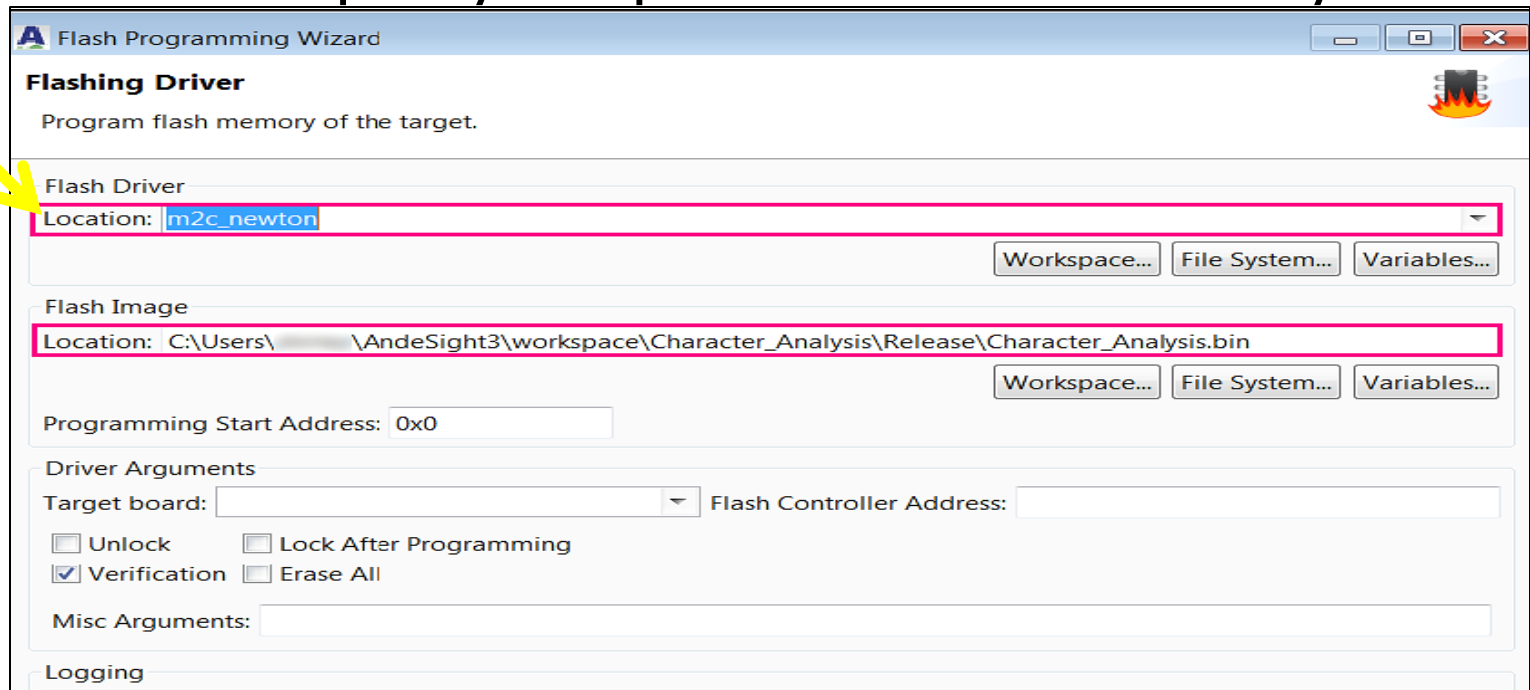
Modify Target Configuration

❖ Select C/C++ Build > Target Configuration .





Building and Uploading Sketch

- ❖ As soon as the project is built, verify in the console view.
- ❖ The sketch executable and binary are generated under **PROJECT/Release**.
- ❖ You can upload the binary to your Arduino board with Flash burner. Make sure that the burner program is set as "m2c_newton" and specify the path of the sketch binary.



Running Sketch

- ❖ When binary is uploaded, the sketch starts to run on the board.
- ❖ Communicate with the board done as follows:
 - Click  (Open Serial Monitor) on the toolbar to invoke the Serial Monitor view.
 - Click  in the view and specify the com port and the baud rate of the Andino board.
- ❖ After connection is built, enter a serial command to send to board in the view and receive the serial output in the same view.
- ❖ Finally debug and Profile as MCU program and observe the results.

