# Nucleo Hardware Setup

#### **Project Board Setup**

Last updated 6/30/22

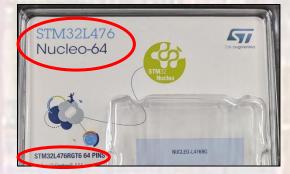
Processor Board

Read through the entire set of instructions **BEFORE** starting

- Processor Board
  - STM32L476 Nucleo-64



- If you have the white microcontroller board (the Nucleo board) and proto board from a previous class, then you just need the EE2905 Parts Kit.
- If you do <u>not have the white microcontroller board</u> (the Nucleo board) and proto board from a previous class, then you will need the EE2905 Parts Kit <u>and</u> the EE2905 Microcontroller Parts Kit.



Project Board Assembly

STM32L476 Nucleo-64

Components

Nylon assembly parts

MILCO ValuePro

Rubber feet

Proto board

Plexiglass project board substrate

57

Processor

board

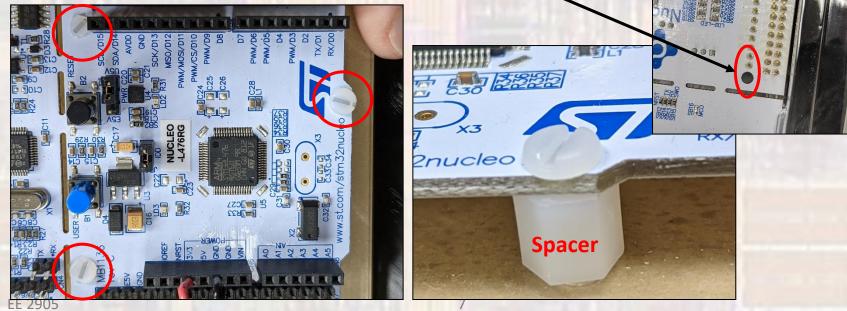
Project Board Assembly

WARNING – Try not to touch any of the metal posts, or solder joins on your processor board – electrostatic discharge can easily damage pins or components

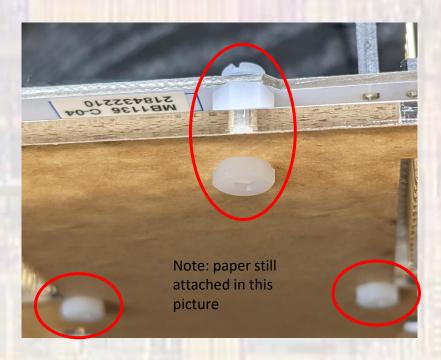
- Project Board Assembly
  - Step 1 screw modification
    - Due to a poor processor board design, one of the mounting holes is too close to a header on the top of the processor board and a through-hole wire lead on the bottom of the processor board
    - You must decrease the size of the screw head on one of the nylon screws
      - Nail clippers work very well, Wire cutters, Scissors



- Project Board Assembly
  - Step 2 screw attachment
    - Insert the 3 screws (the trimmed one goes next to the D15 label) through the processor board from the top
    - Attach the 3 spacers to the screws from the bottom of the processor board
      - Use a screwdriver on the trimmed screw since spinning the spacer may damage the through-hole wire lead

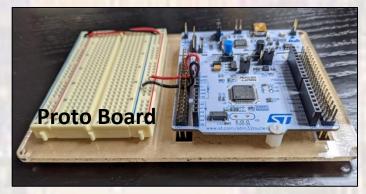


- Project Board Assembly
  - Step 3 processor board attachment
    - Place the processor board with spacers onto the "MSOE EECS" side of the plexiglass project board
    - Attach the processor board using the 3 nylon nuts



Optional: remove the paper backing if you wish

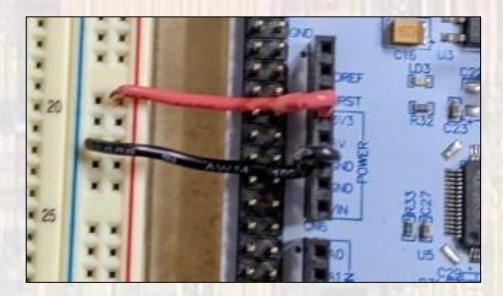
- Project Board Assembly
  - Step 4 proto board
    - Open the proto board box (recycle the box and metal sheet)
    - Remove the protective paper from the double-sided tape
    - Place the proto board onto the top of the project board between the inscribed lines



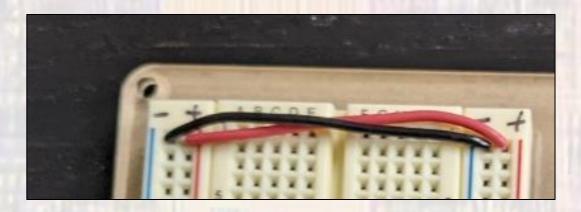
Ignore the wires for now

- Step 5 rubber feet
  - Attach the rubber feet to the bottom of the project board

- Project Board Assembly
  - Step 6 electrical
    - Cut 2 pcs of wire (or use the wires in the kit)
      - Connect the red row on the proto board closest to the processor board to the 3.3v socket on the processor board
      - Connect the blue row on the proto board closest to the processor board to the gnd socket on the processor board



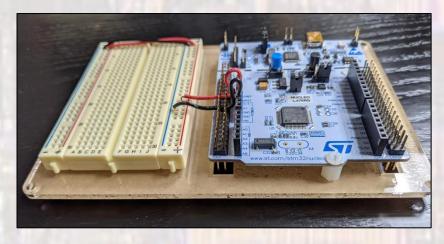
- Project Board Assembly
  - Step 6 electrical cont'd
    - Cut 2 pcs of wire (or use the wires in the kit)
      - On one end of the proto board connect the 2 red rows together
      - On one end of the proto board connect the 2 blue rows together

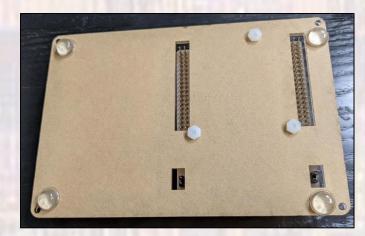


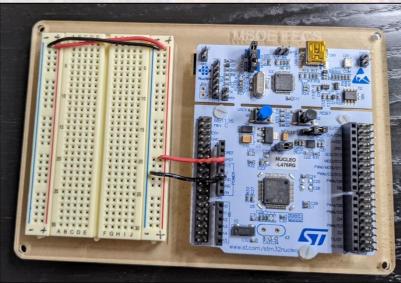
- Label the red rows + using a sharpie this is 3.3V
- Label the blue rows using a sharpie this is Gnd

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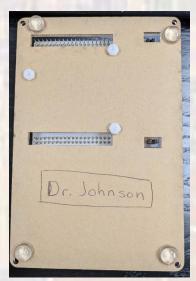
#### Project Board Assembly







#### Label your board



Proto Board Connections

Each long row is a shorted wire

Each short column is a shorted wire