

# HMI: Adding Screens

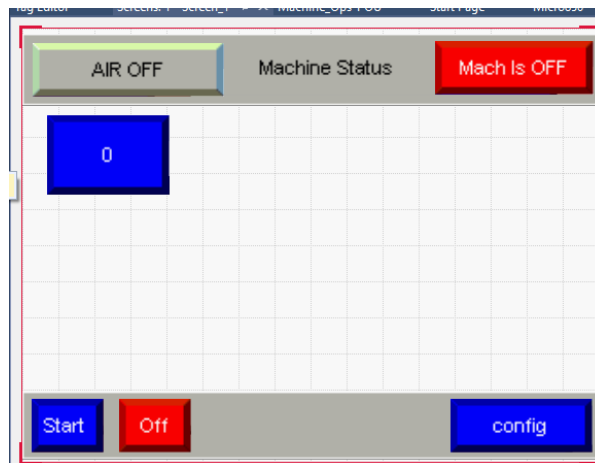
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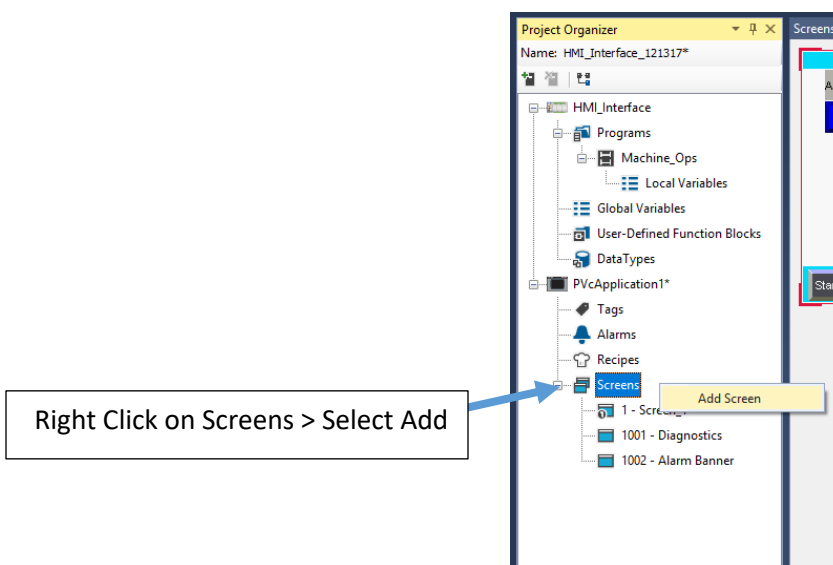
In this part we will now be learning how to add screens, and how to navigate between each screen. To start we will be adding a second screen, which will allow us to start and stop a motor. To start we need to add the screen to our HMI.

- Open the HMI Project from Tutorial 4: HMI Basics

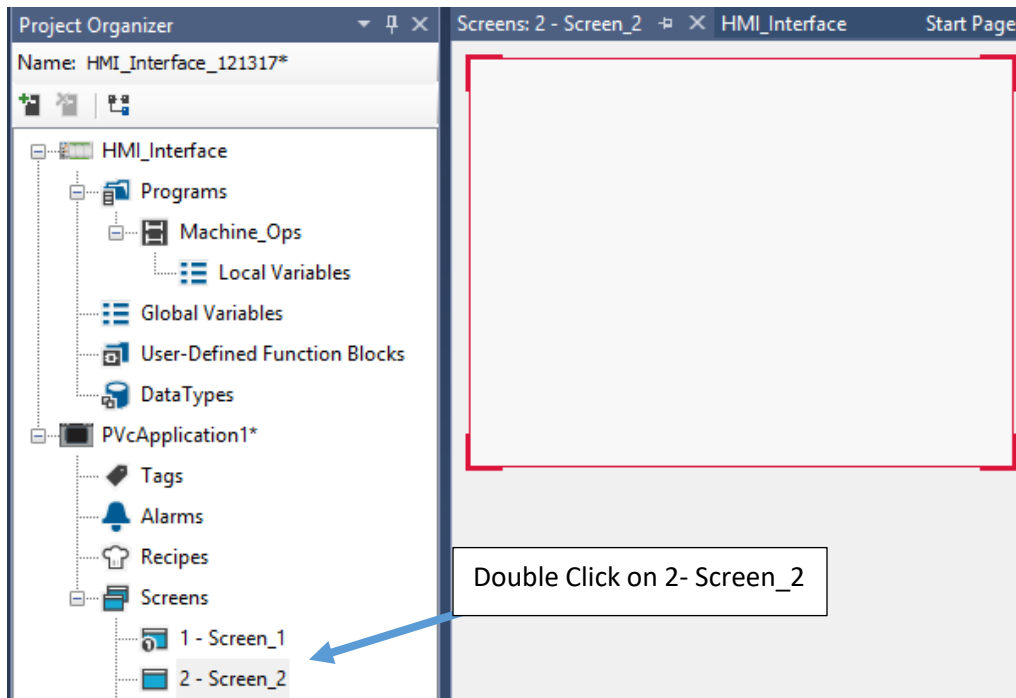


Screen from Tutorial 4

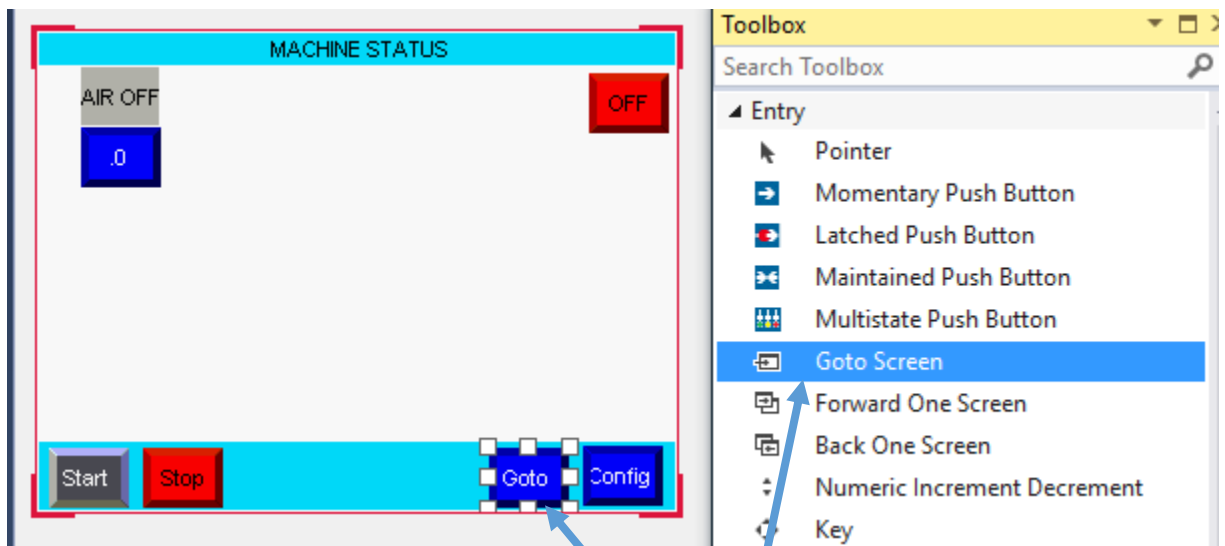
- Go to the project organizer and right click on screens, and select add screen.



- Double Click on 2-Screen\_2 from the model tree > This will open up a blank screen

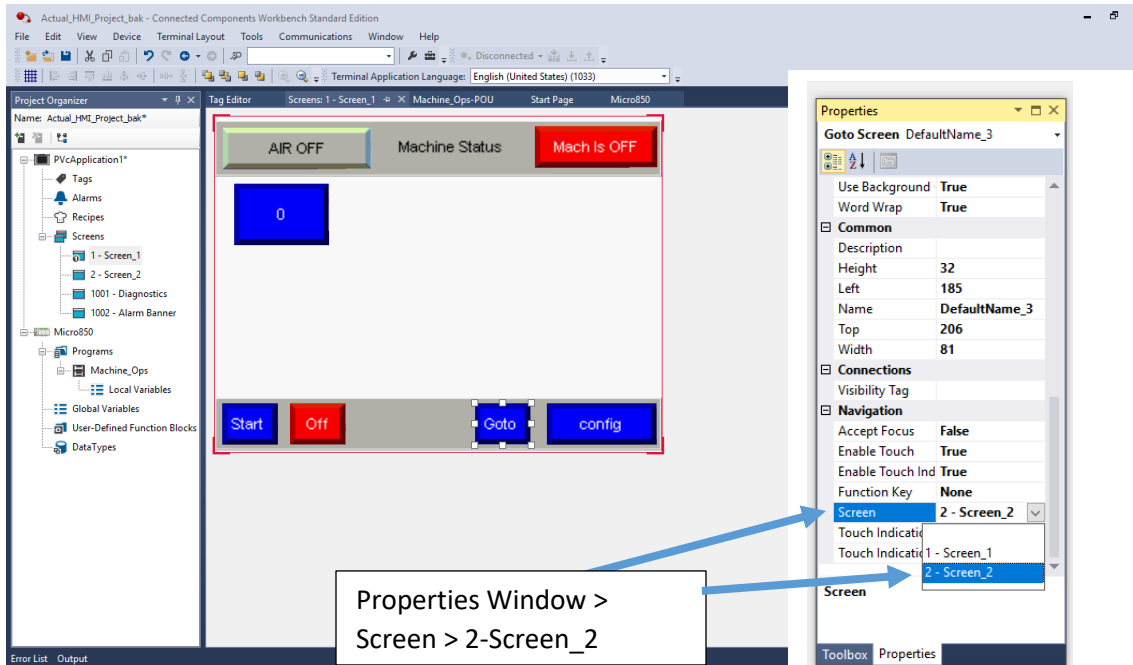


- Navigating between screens.
  - Double Click on 1-Screen\_1 from Project Organizer > Select "Goto Screen" button from the Toolbox > Drag and Drop GoTo Button next to the Config Button on Screen\_1

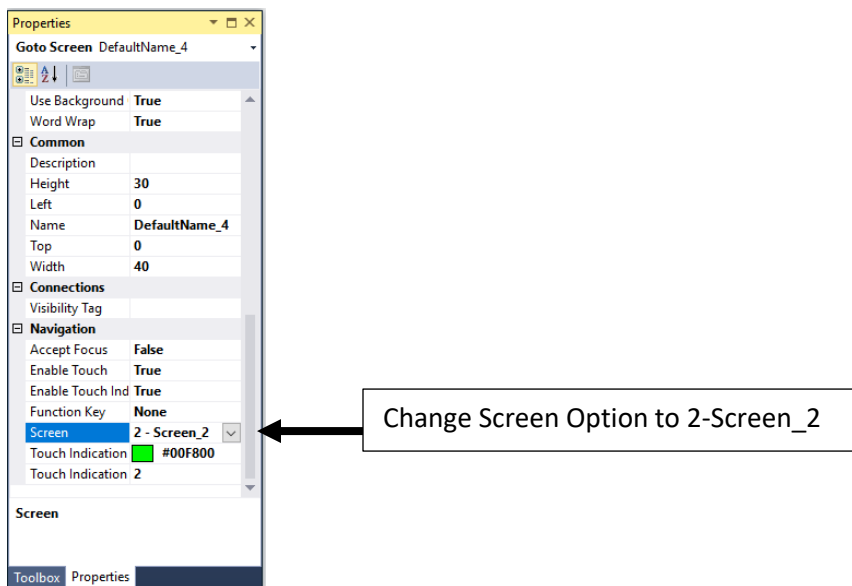


ToolBox > Drag and Drop  
Goto Screen onto Screen\_1

- Go to the properties for the “Goto Screen” button and near the button is where we will select which screen we want to navigate to, which in this case is screen 2. We use this button in the tutorial rather than the “Go Forward One Screen” button because although that button would work in this situation, the “Goto Screen” button works best because it allows to go any screen from the first screen, rather than scrolling through numerous screens, in a program that has more than 2.



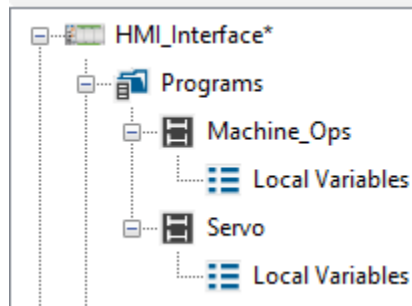
- Double click on the button to change the text on the button to Next Screen > Resize Box as needed
- Set which screen to navigate to > Select Next Screen Button > Properties Menu Change Screen Option to 2-Screen 2



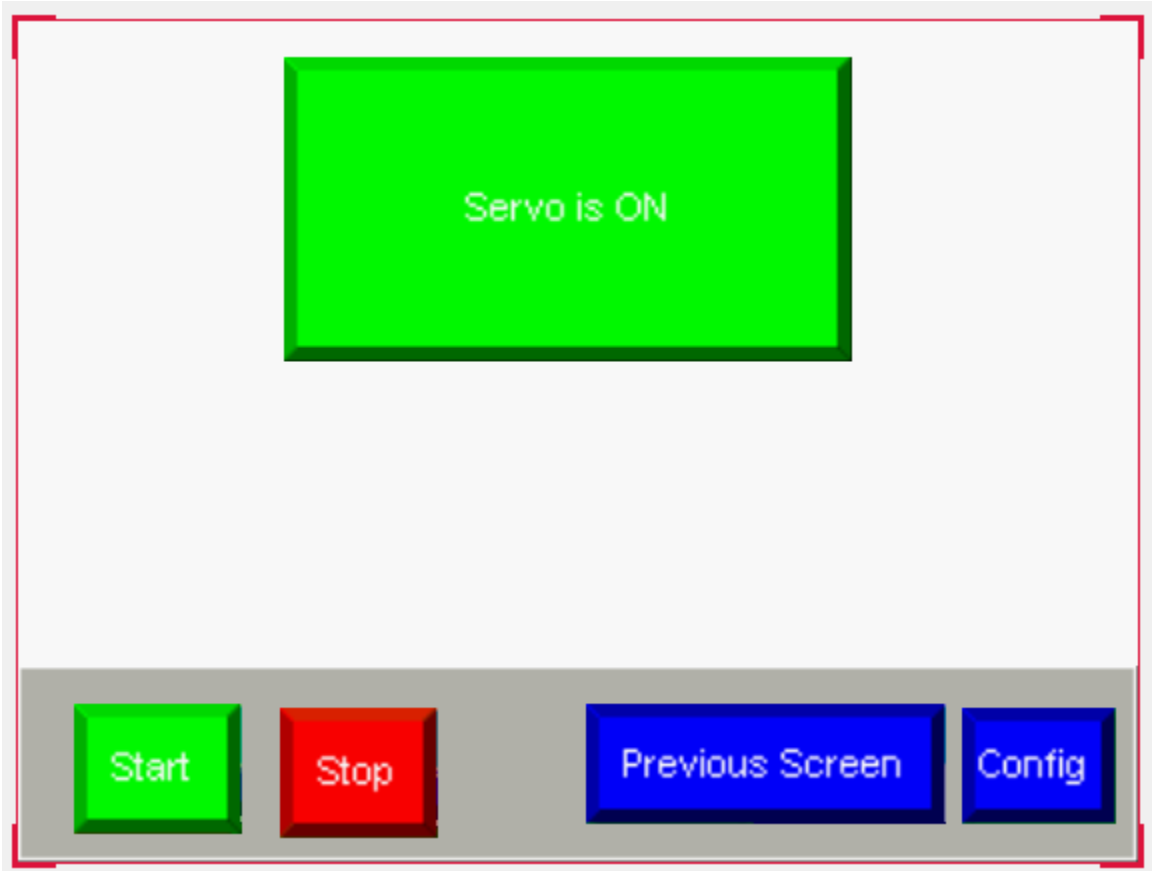
# HMI Integration

## Building Screen 2

- Create a Ladder Logic Program called Servo within the Project HMI Interface (Tutorial)

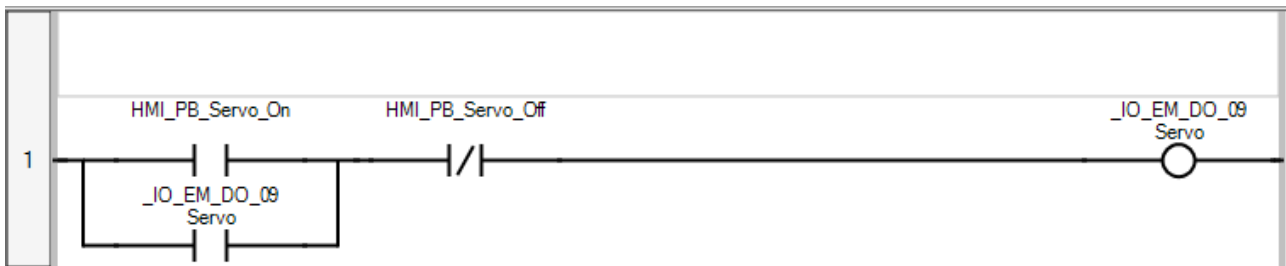


- Add the Following Local Variables to Program-Servo
  - HMI\_PB\_Servo\_Off
  - HMI\_PB\_Servo\_On
- Add the Following Tags
  - Servo\_Motor
    - PLC Address: IO\_EM\_DO\_09
  - Servo\_Motor\_ON
    - PLC Address: HMI\_PB\_Servo\_ON
  - Servo\_Motor\_OFF
    - PLC Address: HMI\_PBServo\_OFF
- Screen 2 Layout
  - Momentary Push Button
    - State 1: Start
    - State 2: Start
    - Background Color for State 1 and 2: Green
    - Size to Fit
    - Tag: HMI\_PB\_Servo\_On
  - Momentary Push Button
    - State 1: Stop
    - State 2: Stop
    - Background Color for State 1 and 2: Red
    - Size to Fit
    - Tag: HMI\_PB\_Servo\_Off
  - Configuration Screen Button- Link to the Management Screen of the HMI
  - Multistate indicator
    - State 1: On
    - State 2: Off
  - Goto Button- Set to 1- Screen\_1

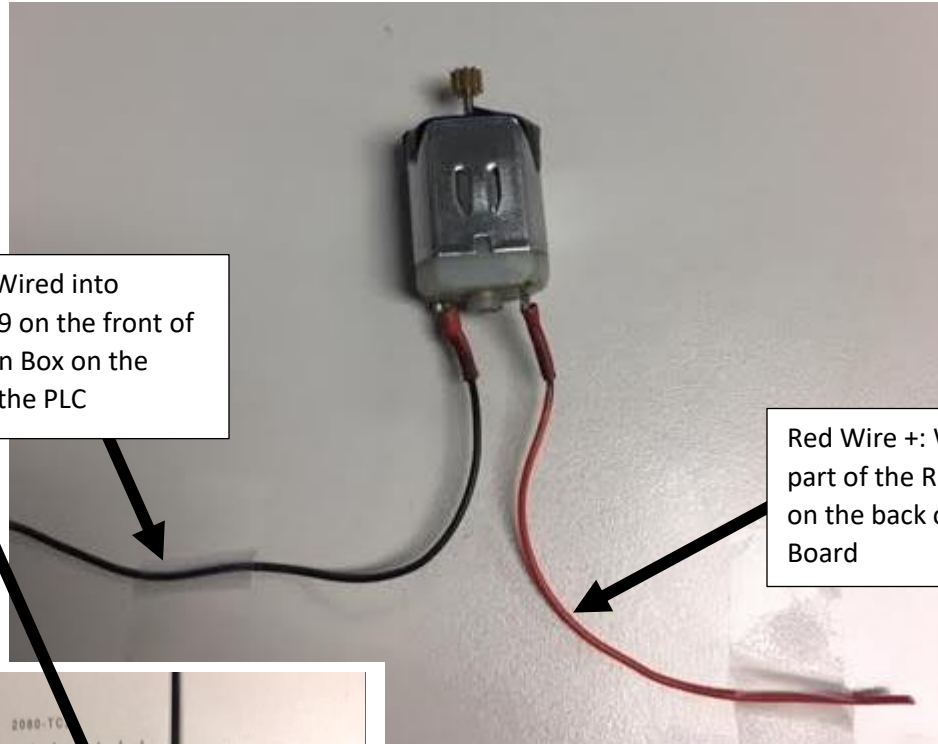


### Screen Setup

- Write in the following code.

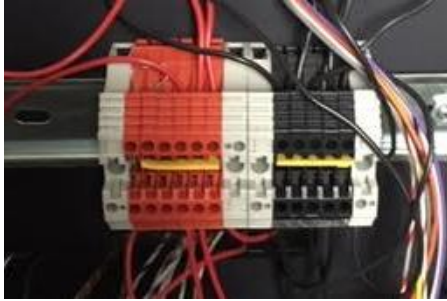
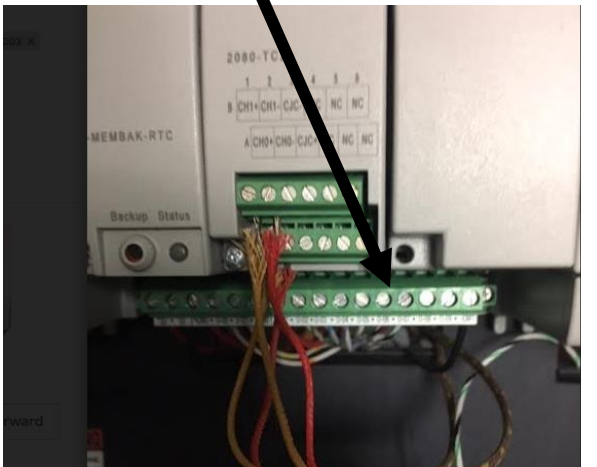


- For this we will need to wire in the motor. In the code we are using DO9 as our output variable, so that is where we will need to wire in the motor.
  - Step 1: Design and 3D Print a holder for your motor that can be attached to the training board. See Picture below for type of motor to be used



Black Wire -: Wired into IO\_EM\_DO\_09 on the front of the PLC (Green Box on the lower part of the PLC)

Red Wire +: Wired into any part of the RED Terminal Block on the back of the Training Board



- Add a Rung in the ladder logic to do the following after the motor is wired
  - Use DI7 to turn the motor ON/OFF (Acts as Emergency Stop)
  - Add a Green Light for when the motor is running
  - Add a Red Light for the when the motor is stopped