

# 2016



## Interfacing IR sensor With MPLAB Xpress Evaluation Board



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## Introduction:

MPLAB Xpress IDE cost free development platform. It's cloud based IDE available from microchip supporting PIC-based microcontrollers. The platform is comprised of code editor, build automation tools, debugger and code configurator. MPLAB Xpress IDE is an end-to-end solution enabling engineers to develop their applications from initial evaluation to final production.

### Components requirement

- Hardware:
  - MPLAB Xpress Evaluation Tool
  - Micro B cable
  - IR sensor Breakout
  - Jumper wires
- Software:
  - MPLAB Xpress IDE

**Step 1:** Open your Browser and go to following link

<https://mplabxpress.microchip.com/mplabcloud/ide>

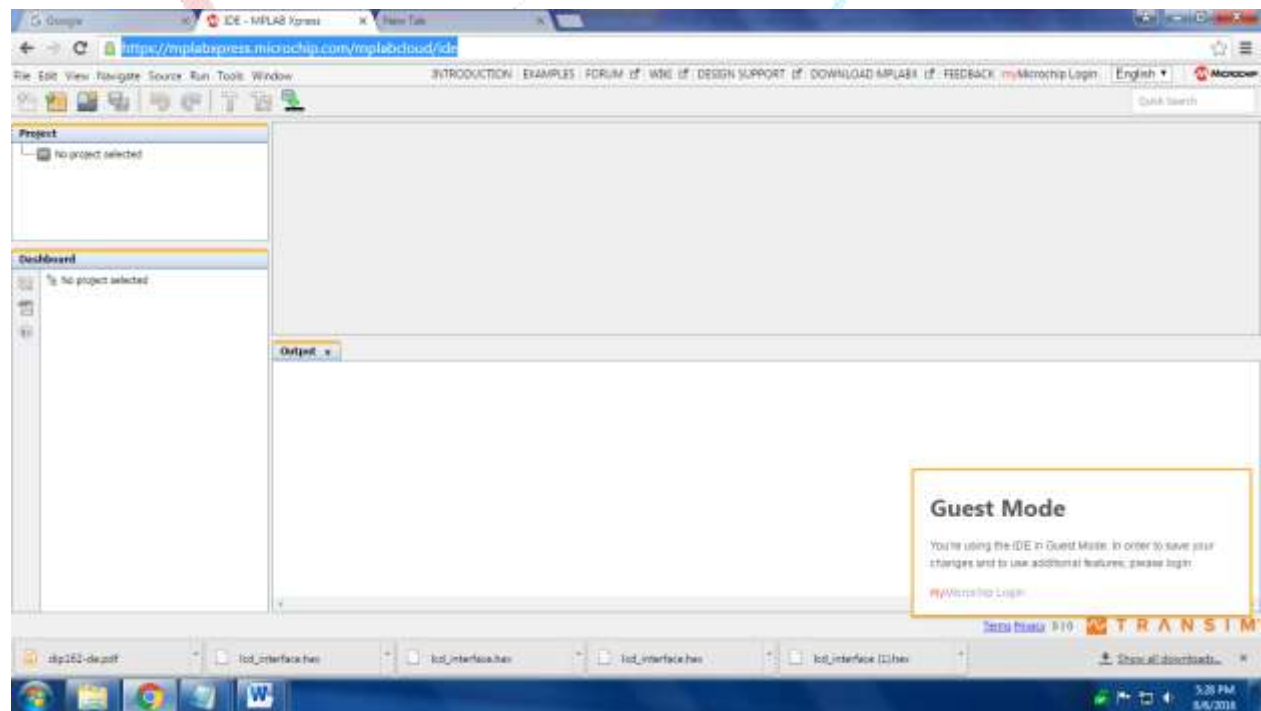


Figure 1: MPLAB Xpress IDE main window

**Step 2:** Start creating our new project. Go to **File >> New Project**. Select **microchip embedded** as well as **standalone project** then click **Next**

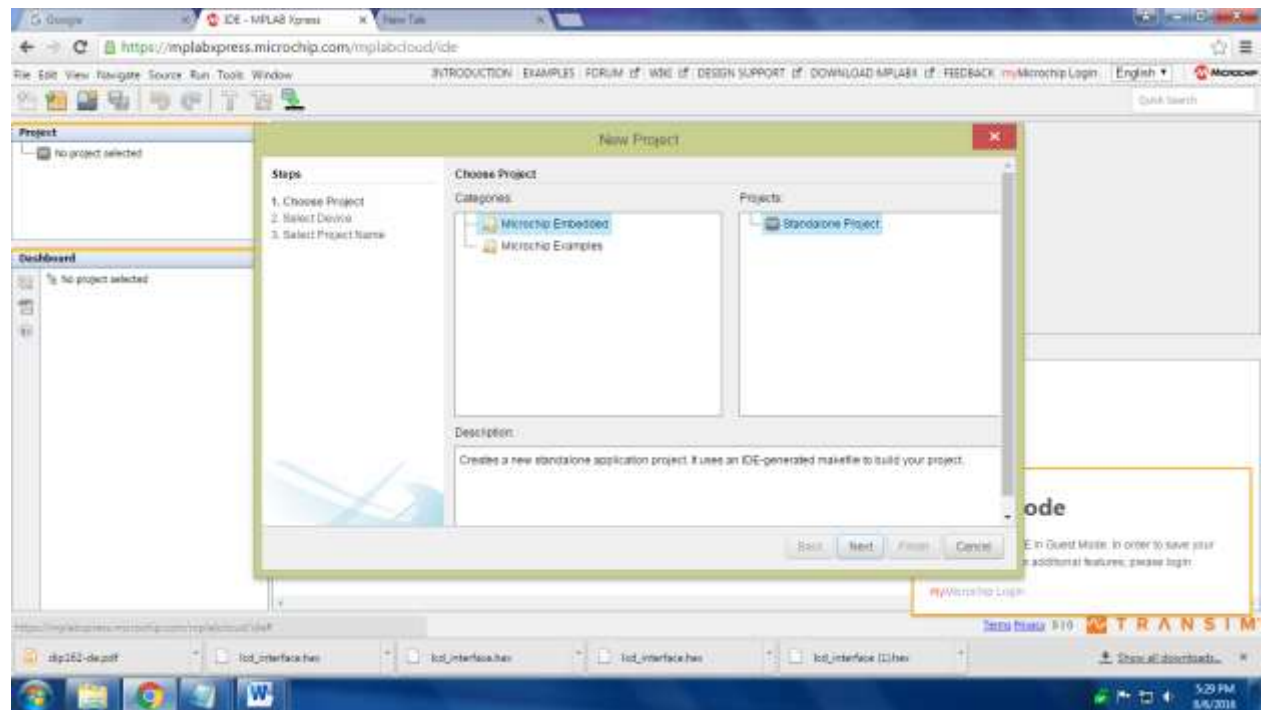


Figure 2: Open new project

**Step 3:** Select device **PIC16F18855**, and click **Next**.

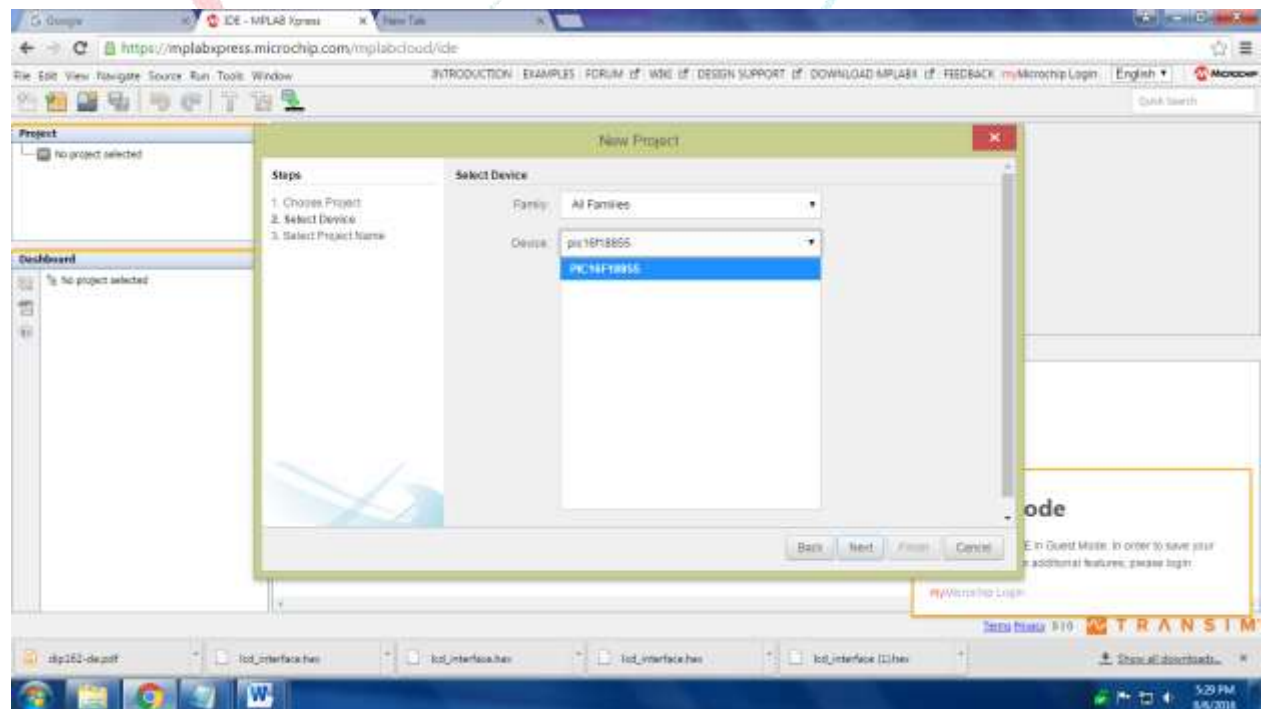


Figure 3: Select Device

**Step 4:** Then give project name and click finish.

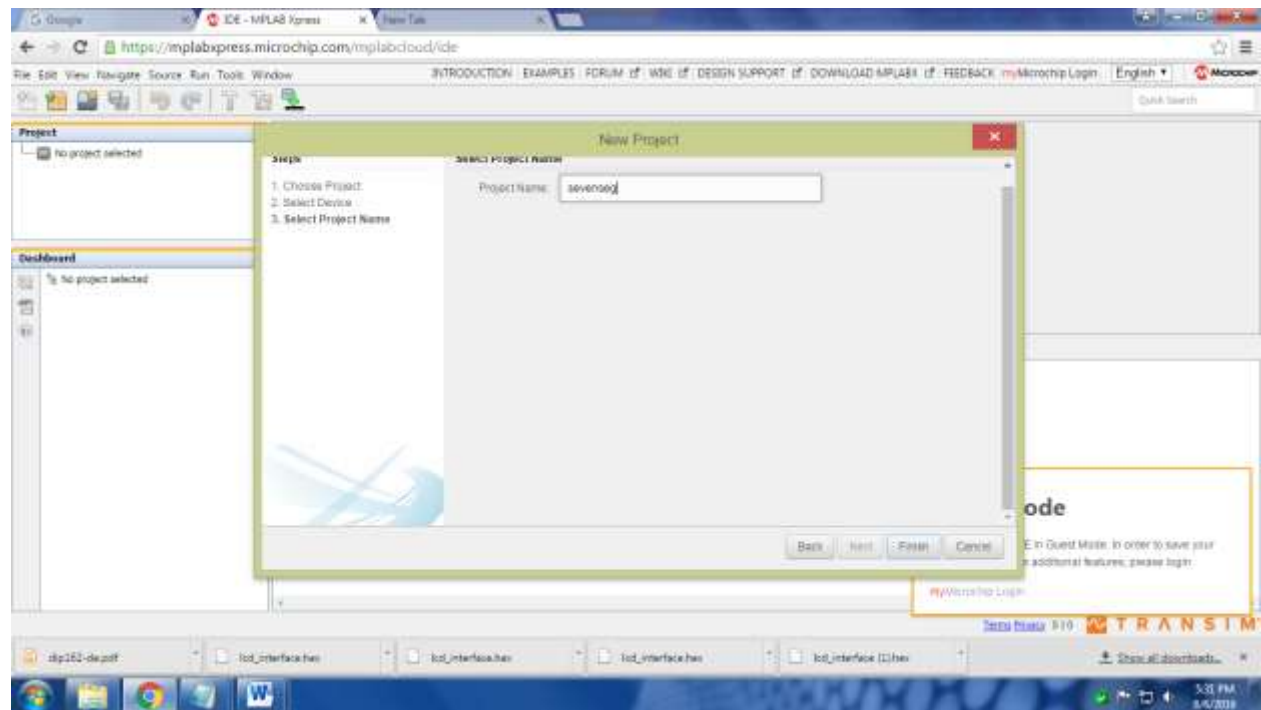


Figure 4: Give project name

**Step 5:** Now choose MPLAB Xpress code configurator if it's not present in your Device please [Download and install](#) it.

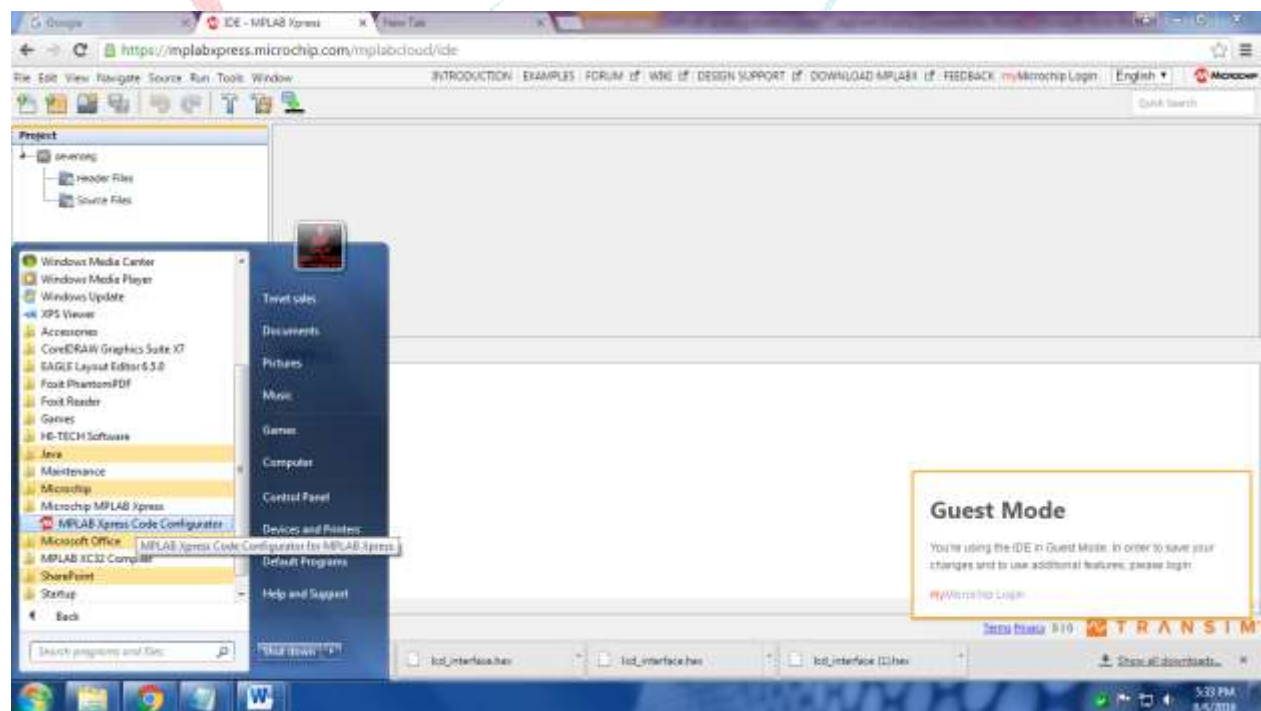


Figure 5: Select MPLAB Xpress code configurator

**Step 6:** Now we can see our MPLAB Xpress configuration window and select system module in MPLAB Xpress configuration window.

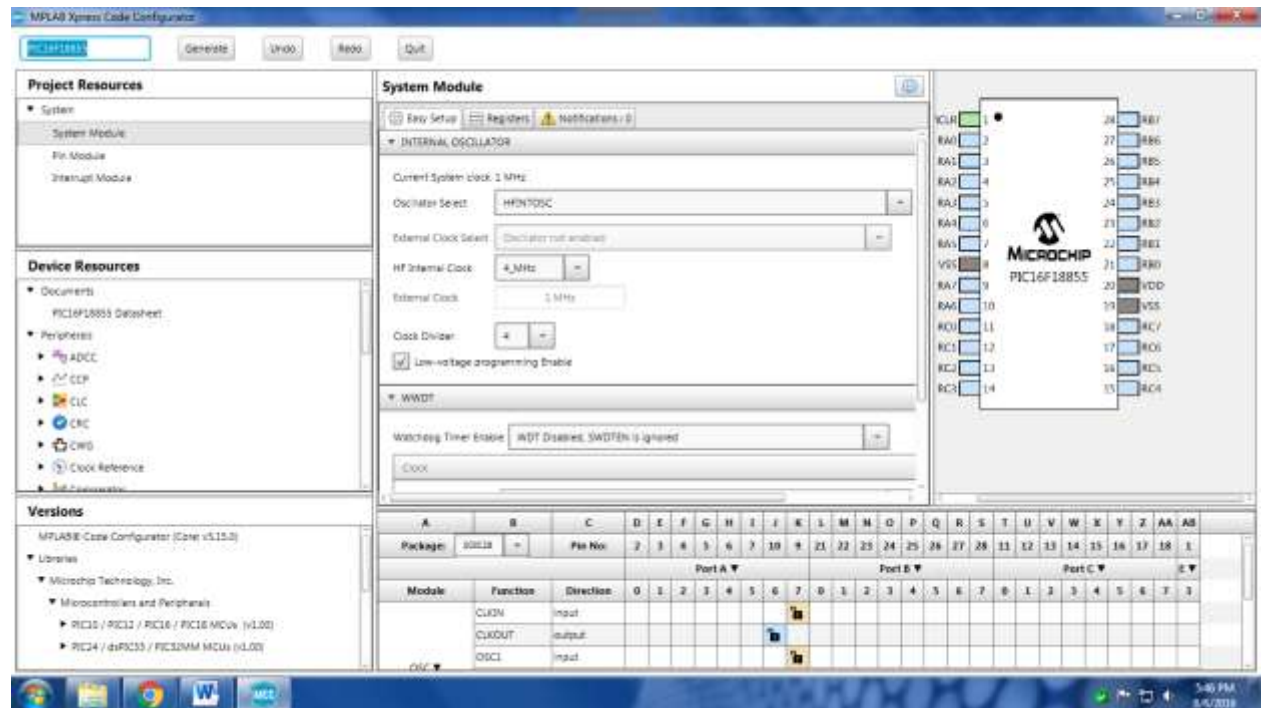


Figure 6: Configuration window

**Step 8:** Select RA0, RA1, RA2, RA3, RA4, RC7 select pin module in MPLAB Xpress configuration window and deselect Analog in pin make RC7 as input and remaining as output like following example

#### Pin Module

Easy Setup <span>Notifications : 0</span>										
Selected Package : PDIP20										
Pin No...	Module	Function	Custom Name	Start High	Analog	Output	WPU	OD	IOCP	IOCN
RA2	Pin Module	GPIO	LED	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
RA4	Pin Module	GPIO	Switch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Figure 7: pin configuration set

## SOURCE CODE:

```
#include "mcc_generated_files/mcc.h"

void main(void)
{
    SYSTEM_Initialize();           // initialize the device
    int i=1,j;
    RA0==RA1==RA2==RA3==0;
    while (1)
    {
        if(RC7==1)
        {
            RA3=0;
            for(j=0;j<=10000;j++); // DELAY
            if(i==1)
            {
                RA0=1; //LED1 glow
            }
            else if(i==2)
            {
                RA1=1; //LED2 glow
            }
            else if(i==3)
            {
                RA2=1; //LED3 glow
            }
            i++;
        }
        else
        {
            RA3=1;
        }
    }
}
```



**Step 10:** Go to your MPLAB Xpress IDE Erase all existing code and copy above code past there then make clean and build for Export. If you done this go to download you can see hex file for your project.

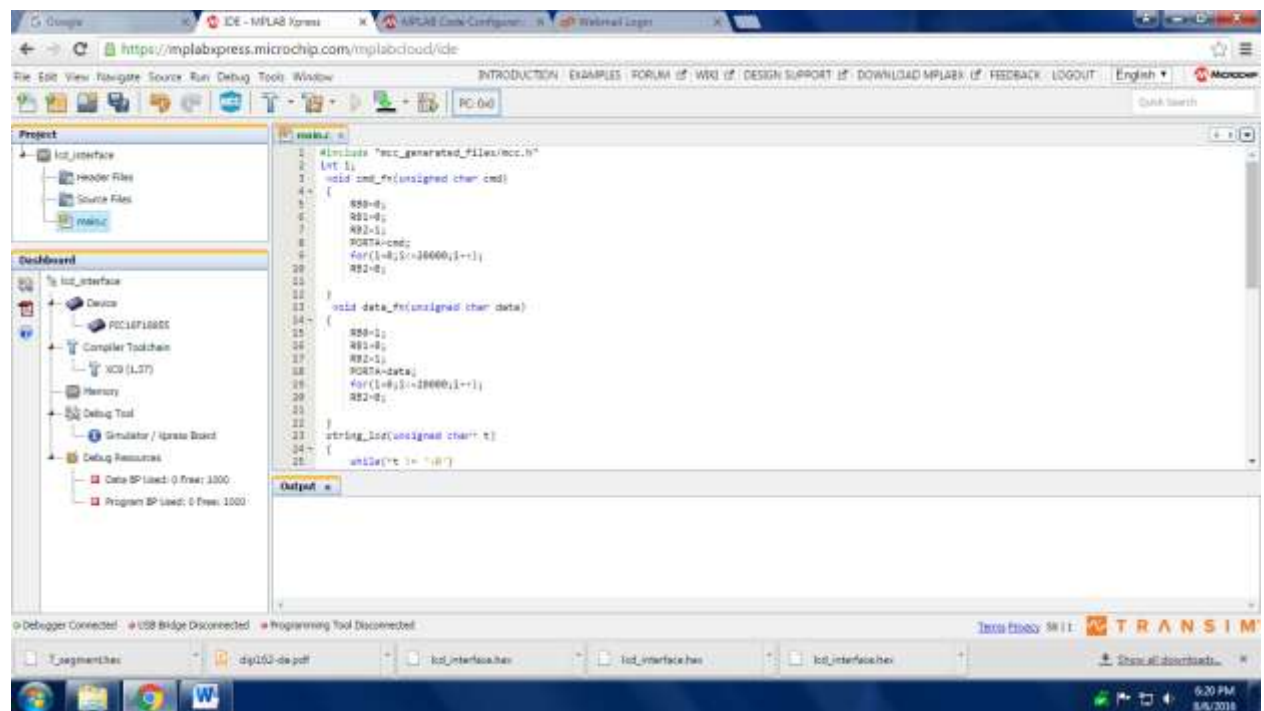


Figure 10: Build the project

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**Step 11:** Now, if all goes well connect the Micro B cable to PIC16F18855 (MPLAB Xpress demonstration board) and connect it to your computer. If you done you can see your devise. And copy that Hex file to your device. And make hardware connection.

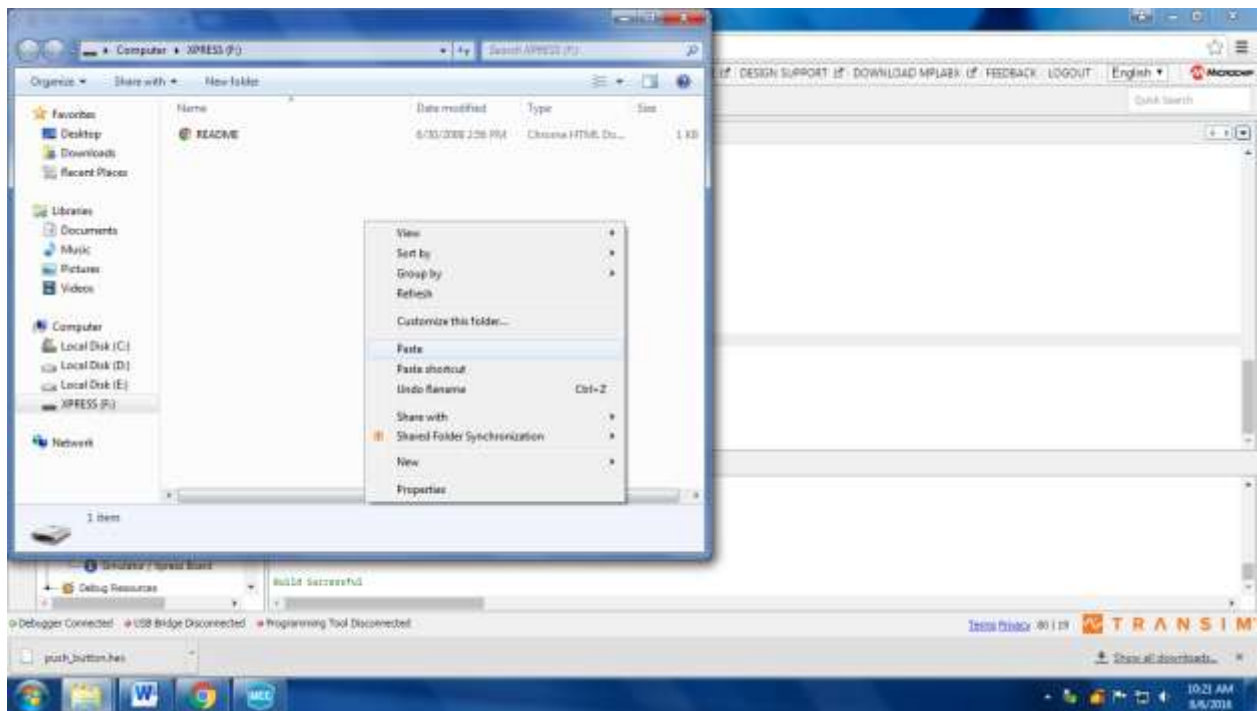
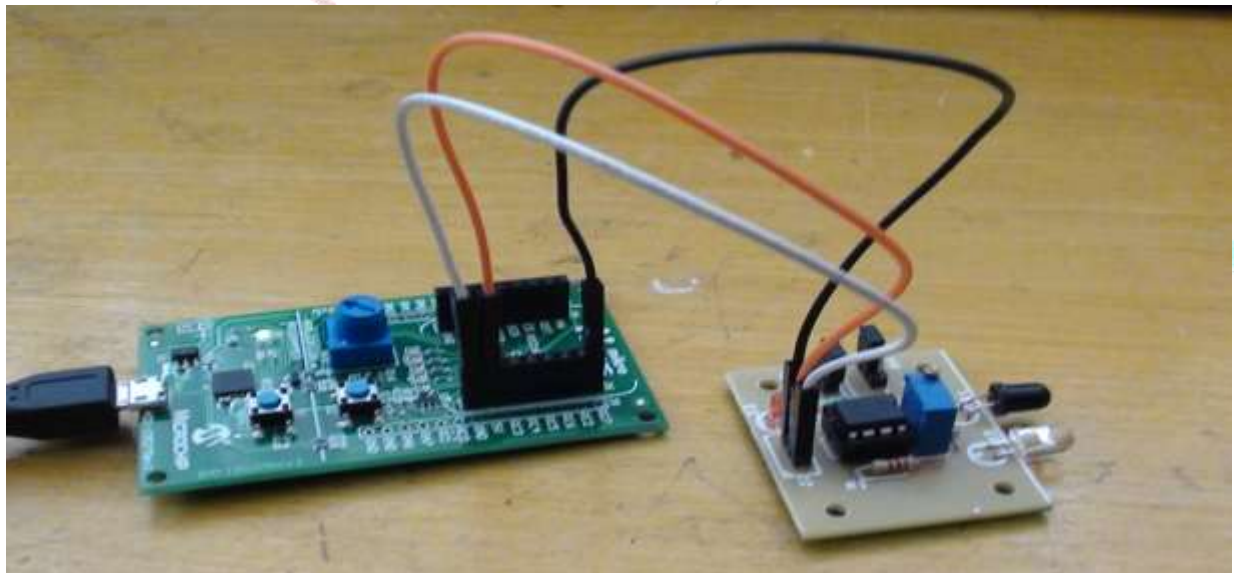


Figure 11: Run the project

**OUTPUT:**





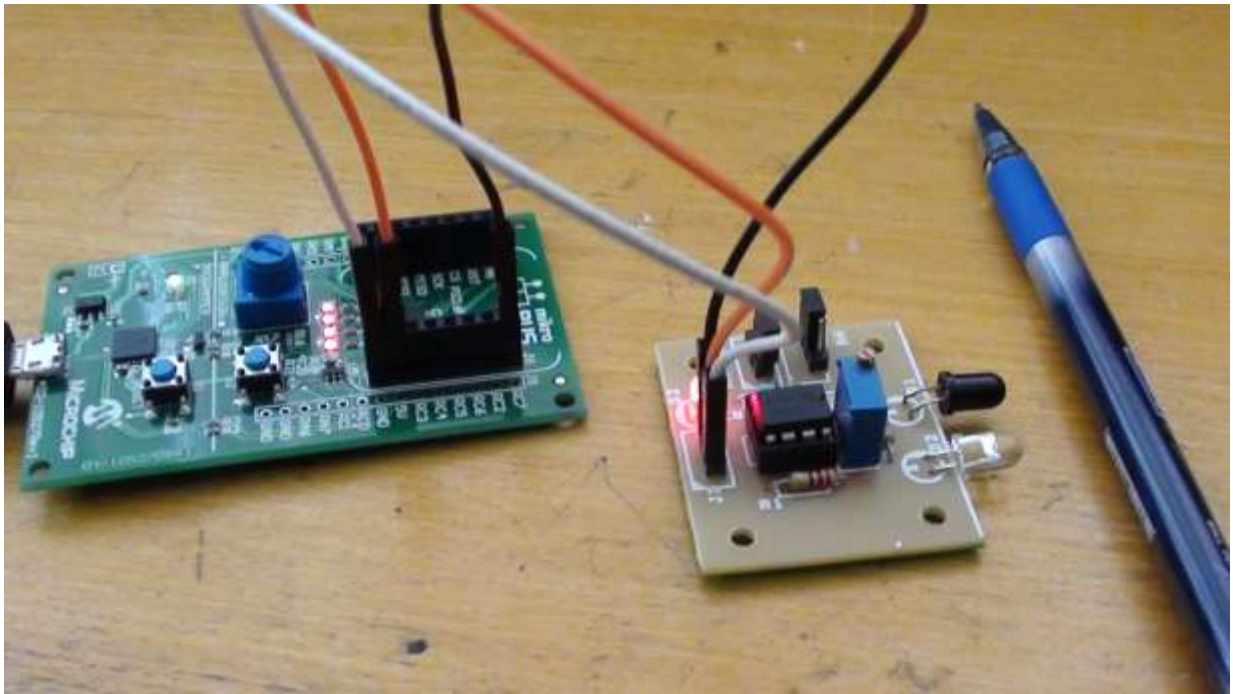


Figure 12: Output

For product link:

<http://www.tenettech.com/product/8828/mplab-xpress-development-board>

For more information please visit: [www.tenettech.com](http://www.tenettech.com)

For technical query please send an e-mail: [info@tenettech.com](mailto:info@tenettech.com)