TENET TECHNETRONICS

"Simplifying Technology for Life"

2016

Generating Ramp signal using DAC in MPLAB Xpress Evaluation Board

Siva A

Tenet Technetronics

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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, code configurator. MPLAB Xpress IDE is an end-to-end solution enabling engineers to develop their applications from initial evaluation to final production.

Component Requirement

- **Hardware:**
  - MPLAB Xpress evaluation tool
  - CRO
- **Software:**
  - MPLAB Xpress IDE

Procedure

Step 1: Open your Browser and go to following link

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

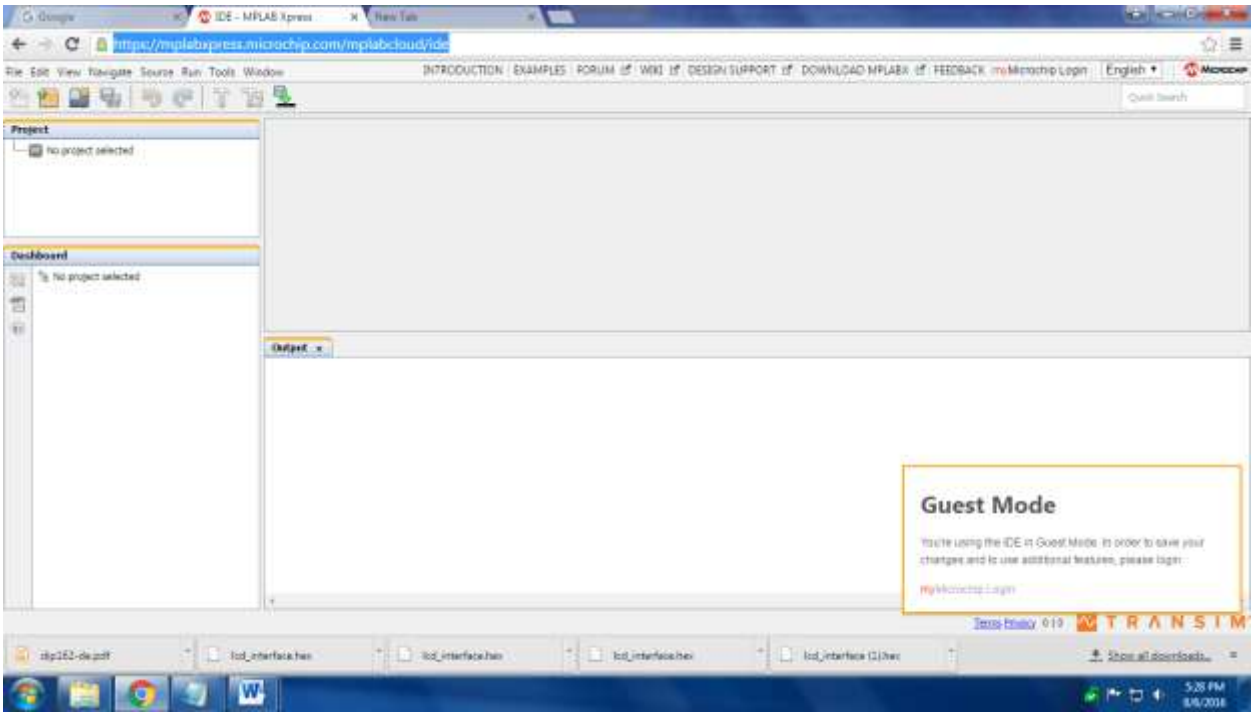

Figure 1 MPLAB Xpress IDE main window

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

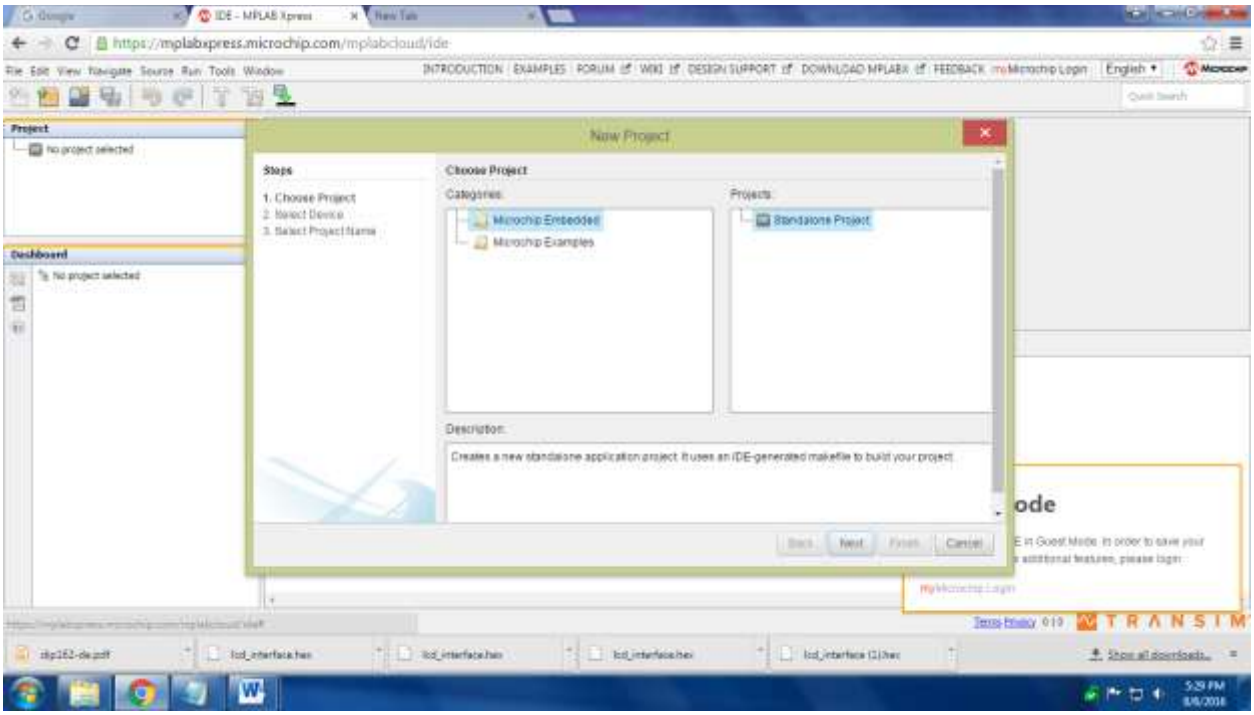

Figure 2 Open new project

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Step 3: Select device **pic16f18855**, and click **next .**

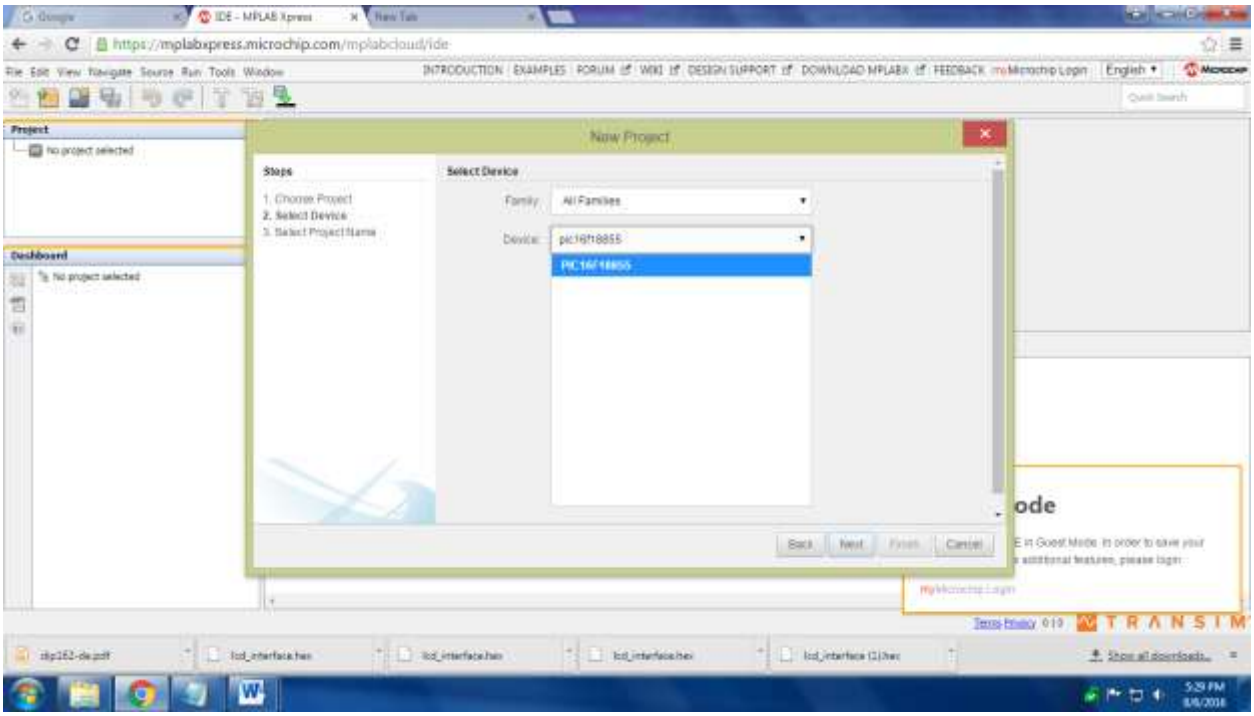

Figure 3 select Device

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

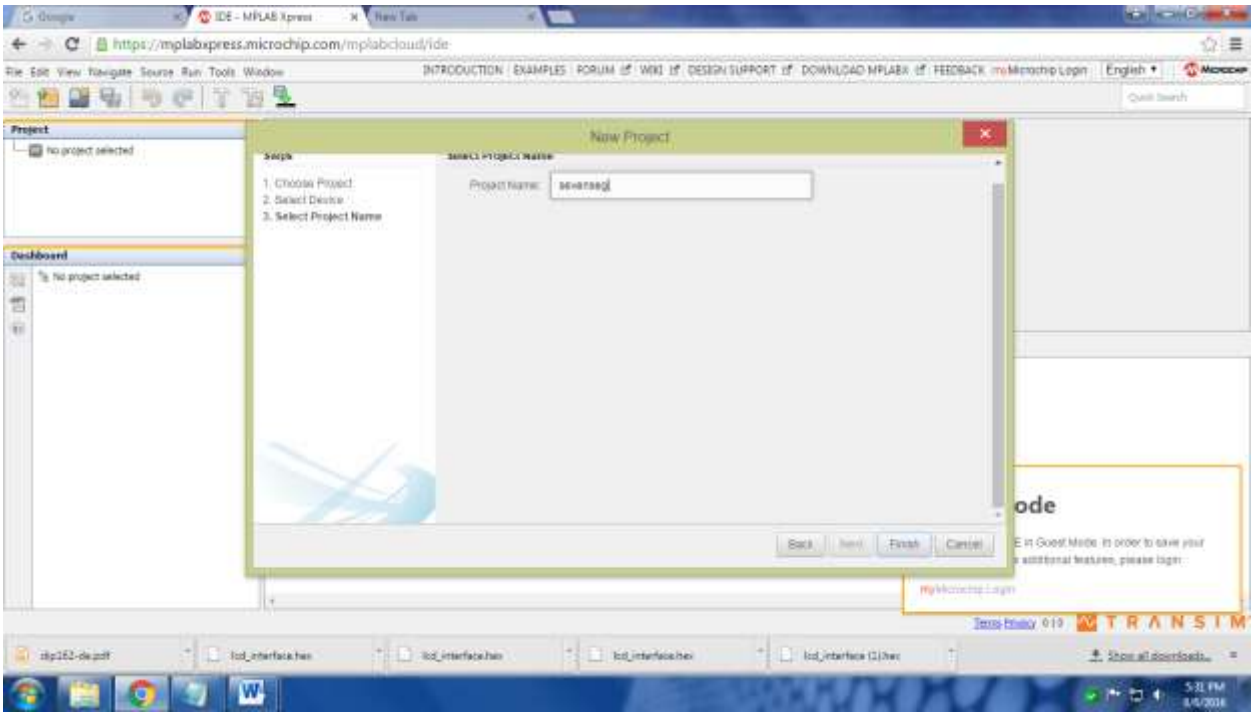

Figure 4 give project name

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Step 5: Now choose mplab xpress code configurator if its not present in your Device please Download and install from following link. http://www.microchip.com/mplab/mplab-code-configurator

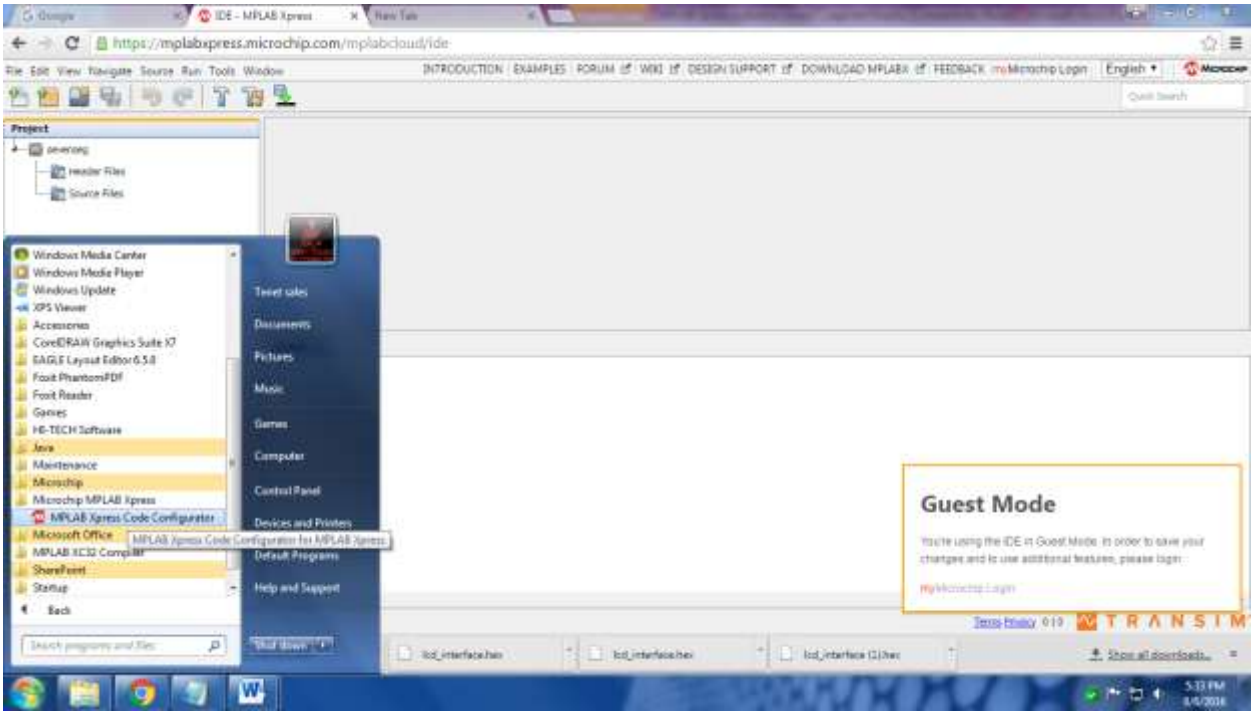

Figure 5 Select mplab xpress code configurator

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Step 6: Now we can see our mplab xpress configuration window and select system module in mplab xpress configuration window .

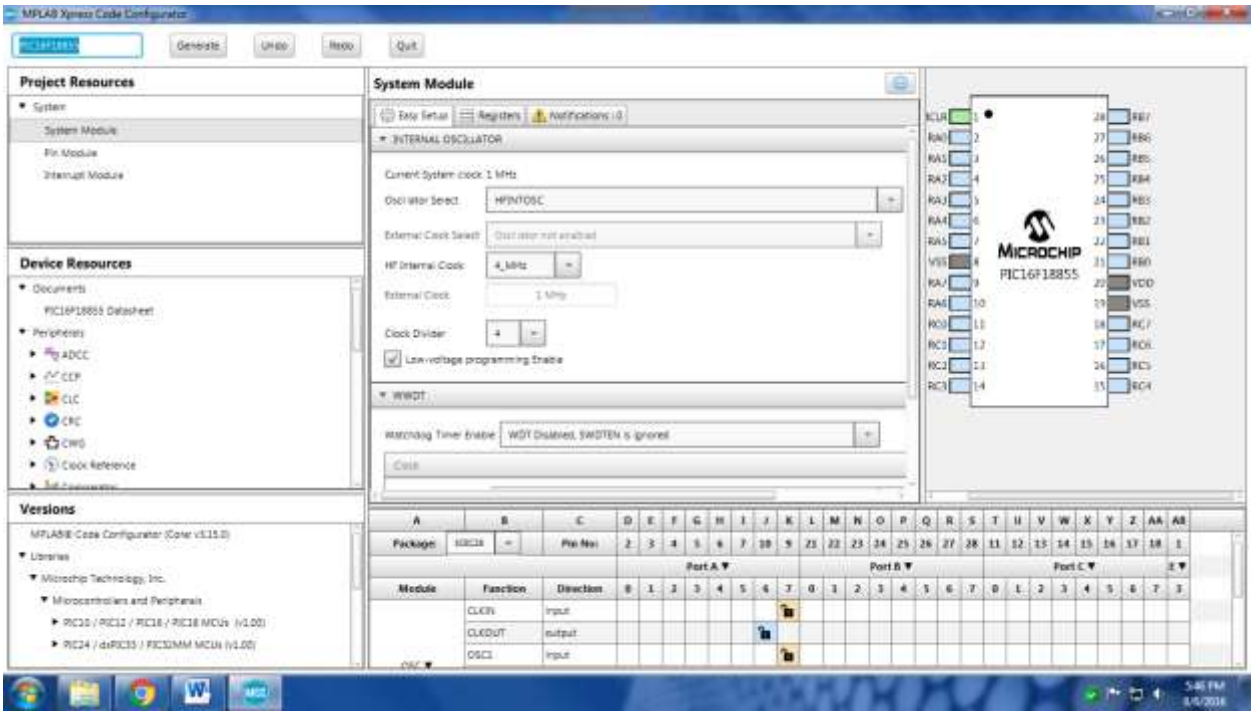

Figure 6 Assign project name

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Step 7: Make oscillator configuration and select required pin .

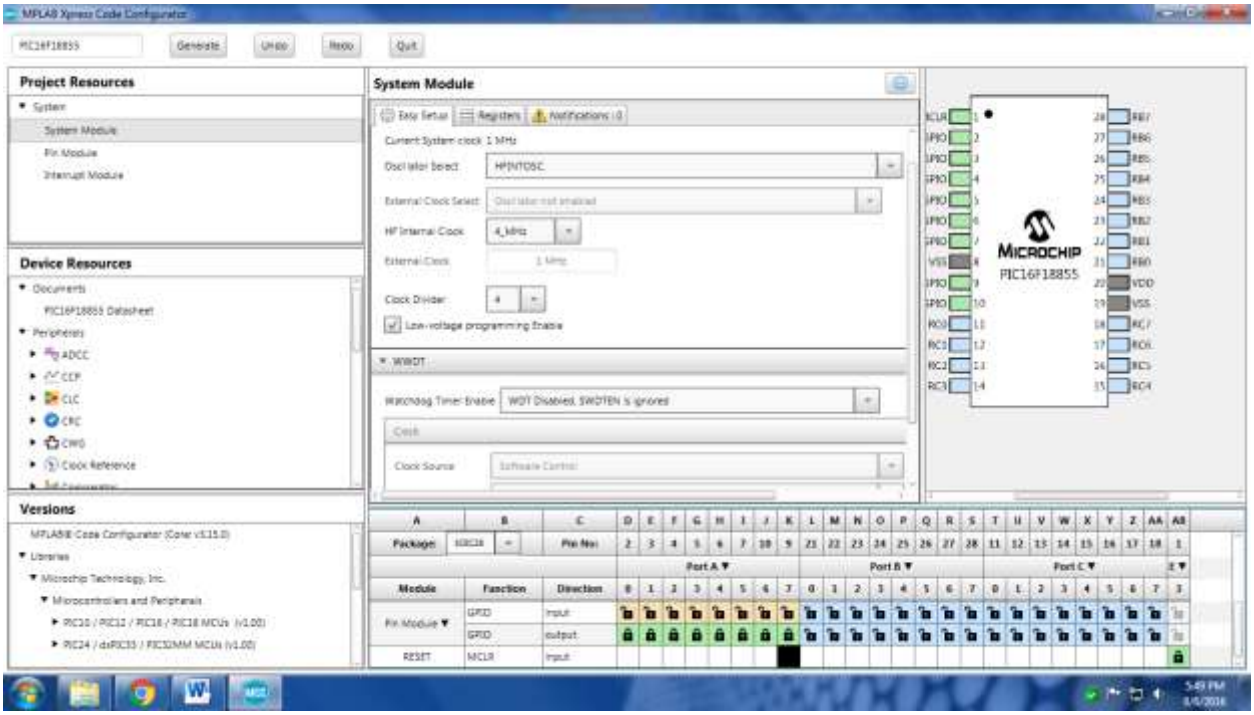

Figure 7 select pin

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Step 8: select pin RA0 from pin selection window and make it as analog output And select peripherals UART, ADC

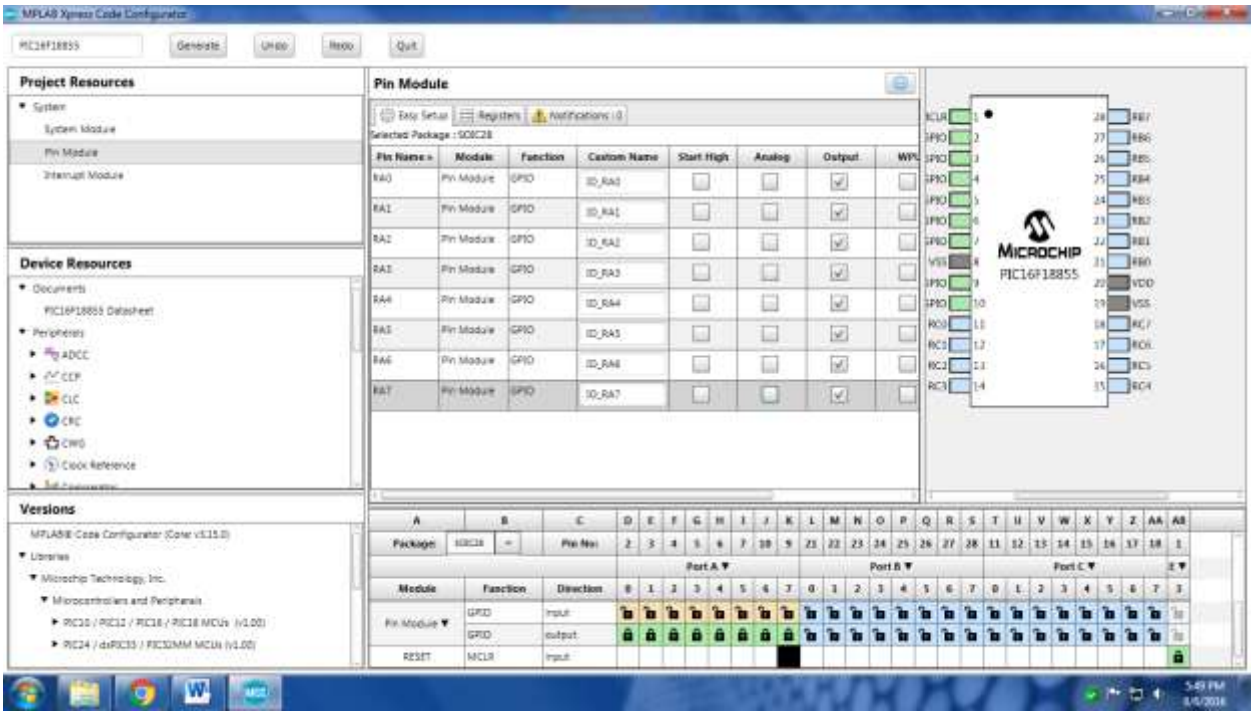

Figure 8 pin configuration set

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Step 9: Now click Generate option.

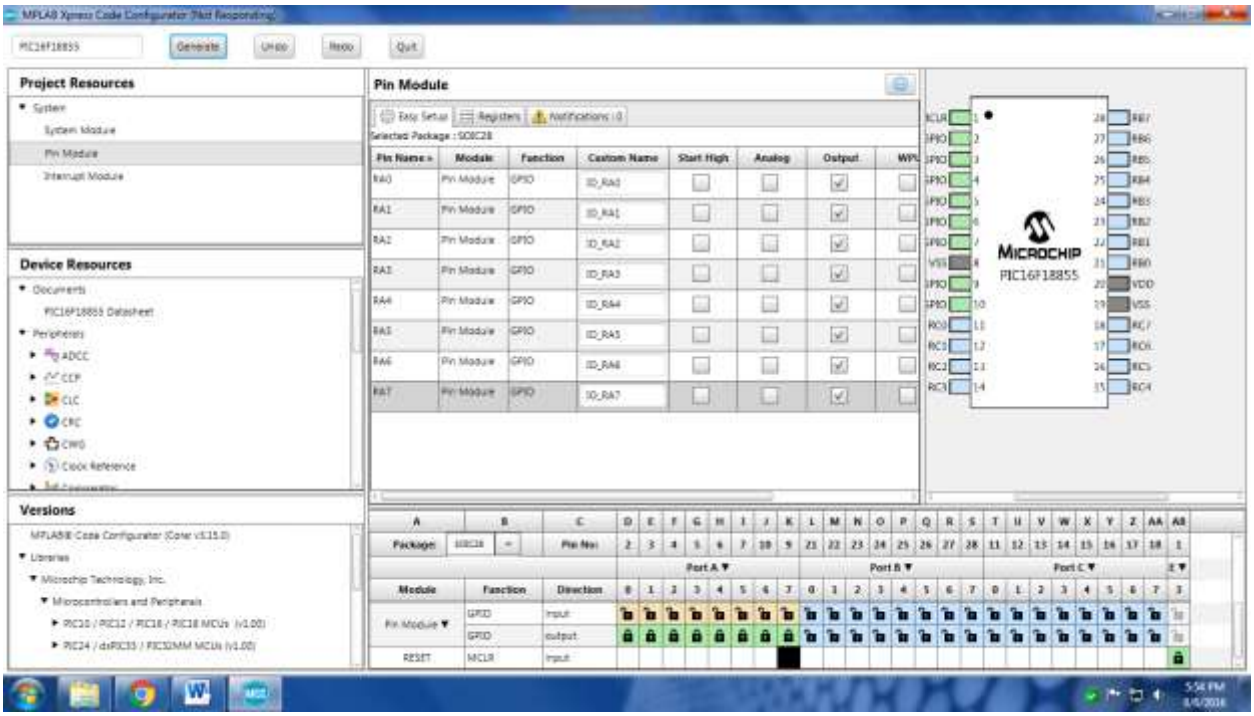

Figure 9 click Generate

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SOURCE CODE:

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

void main(void)

{

 SYSTEM_Initialize();      // initialize the device

uint8_t count=0;

DAC_Initialize();

 while (1)

{

 // Add your application code

 for(count=0; count<=30; count++)

  {

   DAC_SetOutput(count);

    __delay_ms(1);

  }

    }

}
```

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Step 10: Go to your MPLAP xpress IDE Erase all existing code and copy above code past there and add header file from given file then make clean and build for Export . if you done this go to download you can see hex file for your project.

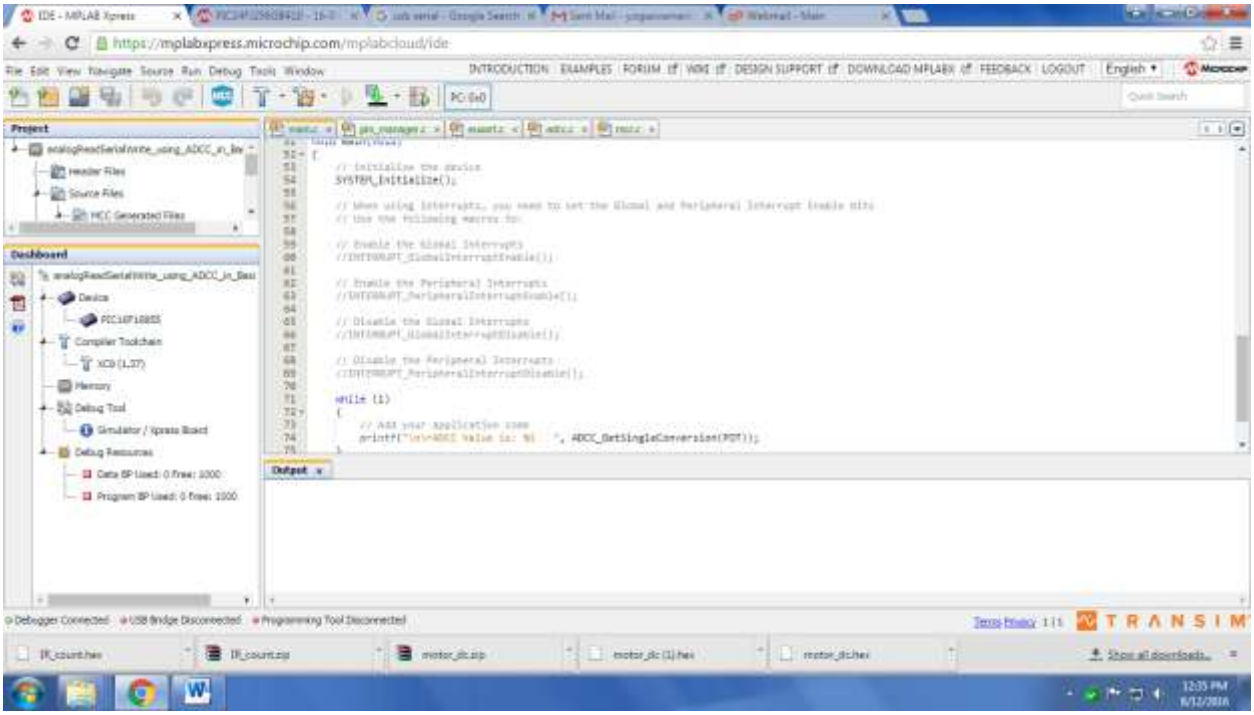

Figure 10 Build the project

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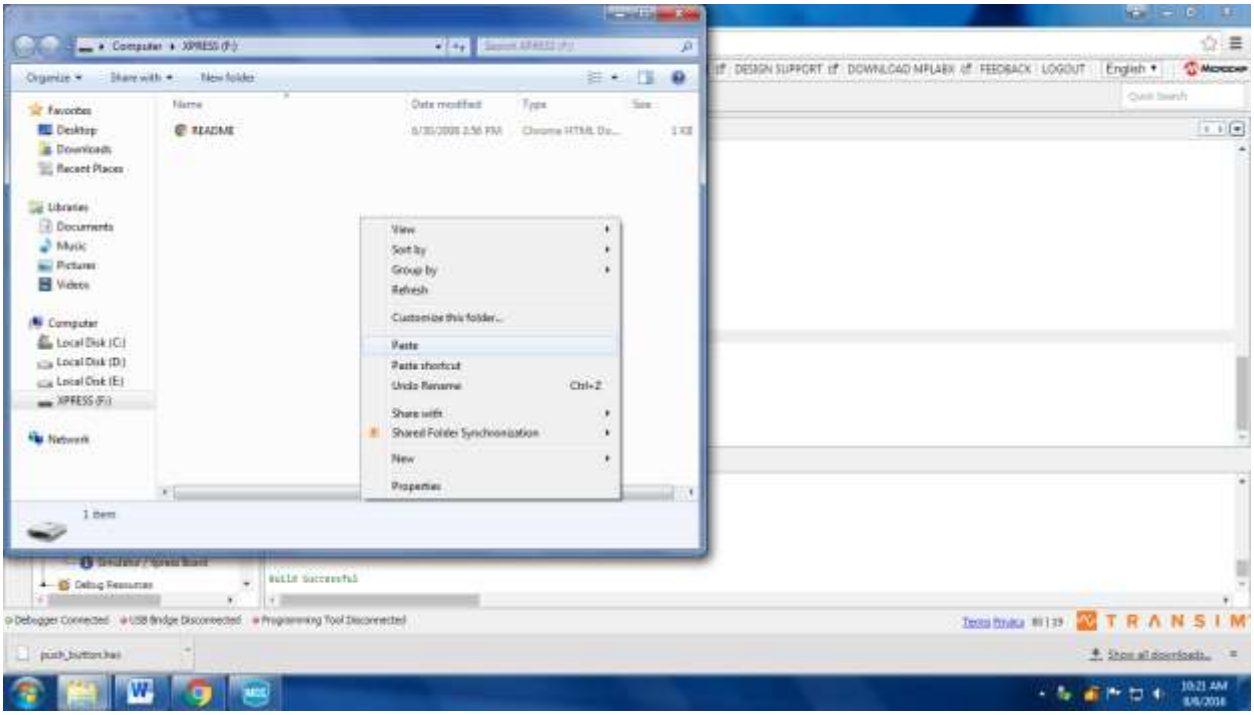
Step 11: Now, if all goes well connect the Micro B cable to pic16f18855 (mplab xpress demonstration board) and connect it to your computer. If you done you can see your devise. And copy that Hex file to your device. And make hardware connection.



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Output:

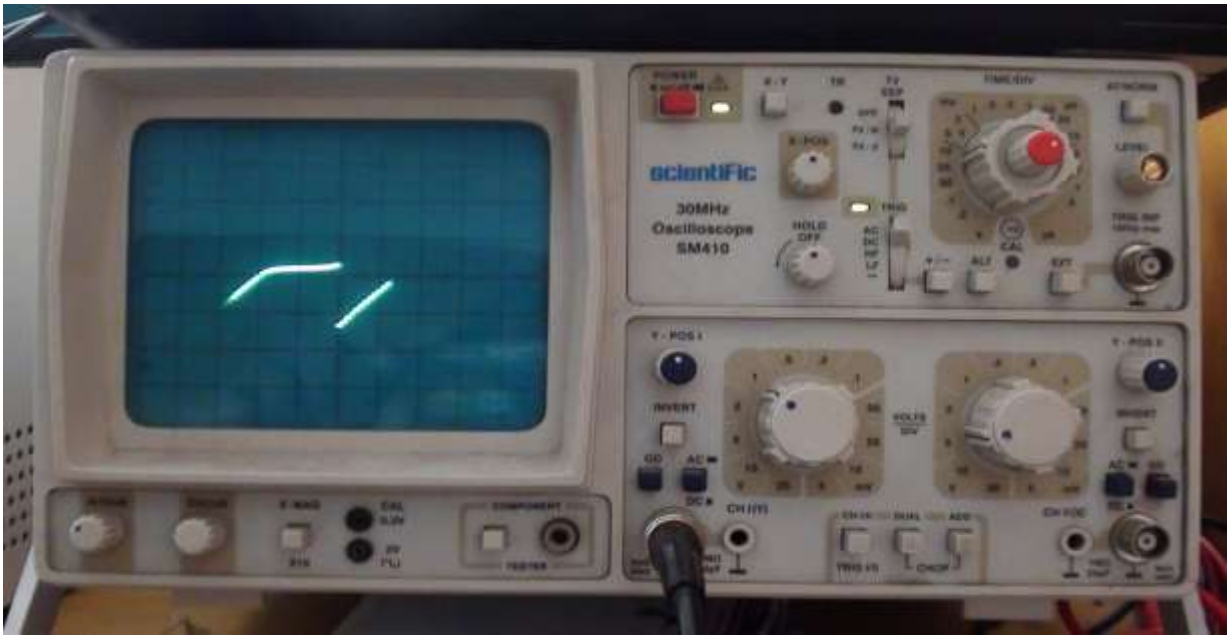

Figure 12 output

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For product link:

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

For more information please visit: www.tenettech.com

For technical query please send an e-mail: info@tenettech.com

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