TENET TECHNETRONICS

"Simplifying Technology for Life"

2016

Interfacing RFID with MPLAB Xpress Evaluation Board

Siva A

Tenet Technetronics

Contents

#9/3, Shree Lakshmi Complex, 2nd Floor, Opp. To Vivekananda Park, Girinagar, Bangalore - 560085.
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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
  - RFID Reader and RFID tag's
- **Software:**
  - MPLAB Xpress IDE

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Procedure

Step 1: Open your Browser and go to following link

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

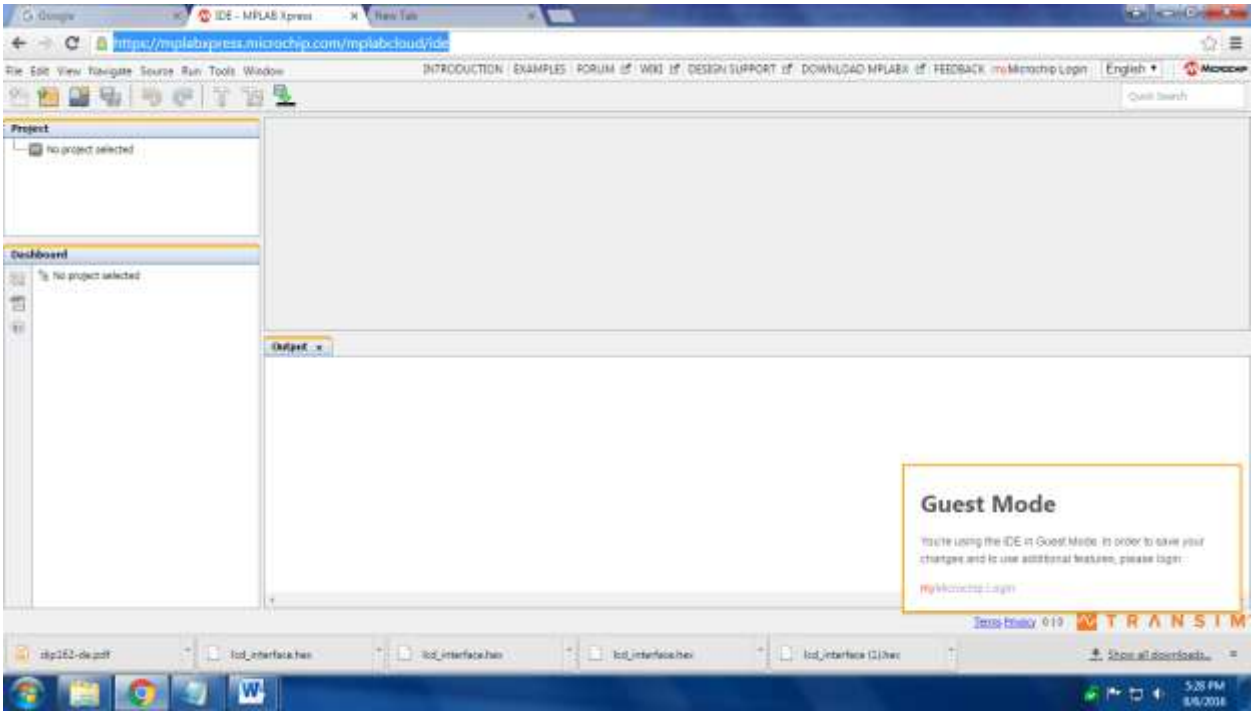

Figure 1 MPLAB Xpress IDE main window

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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**

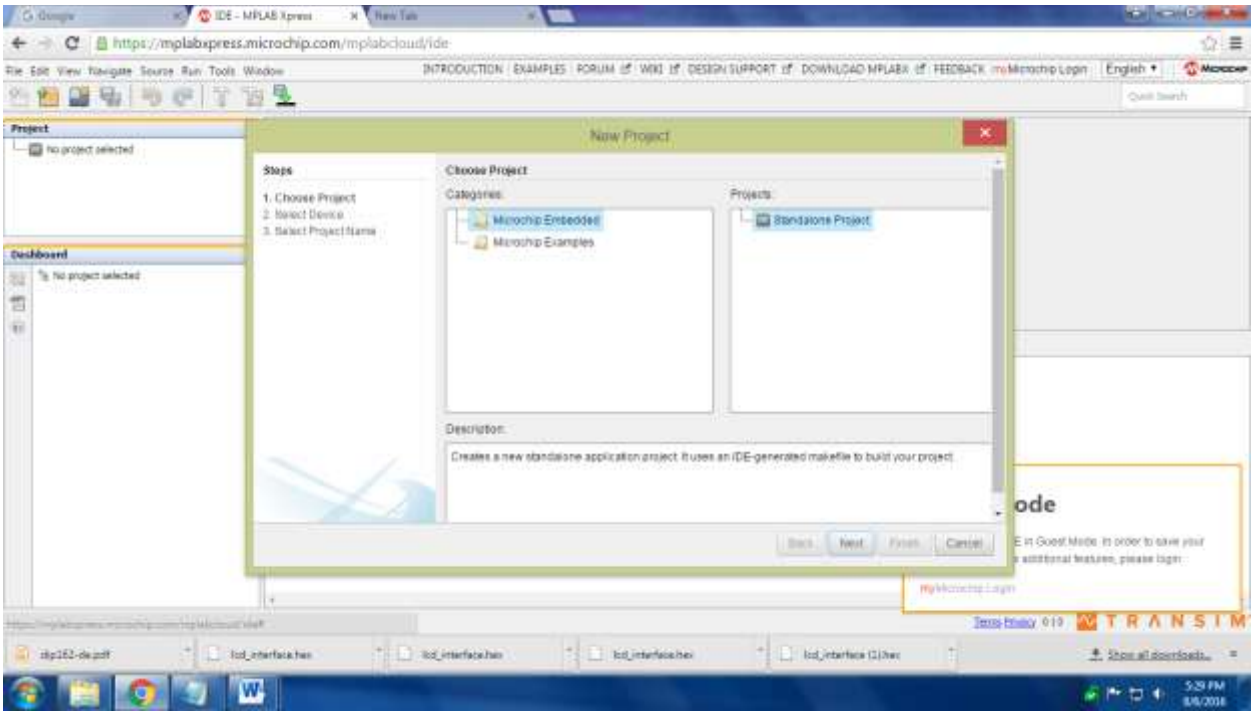

Figure 2 Open new project

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

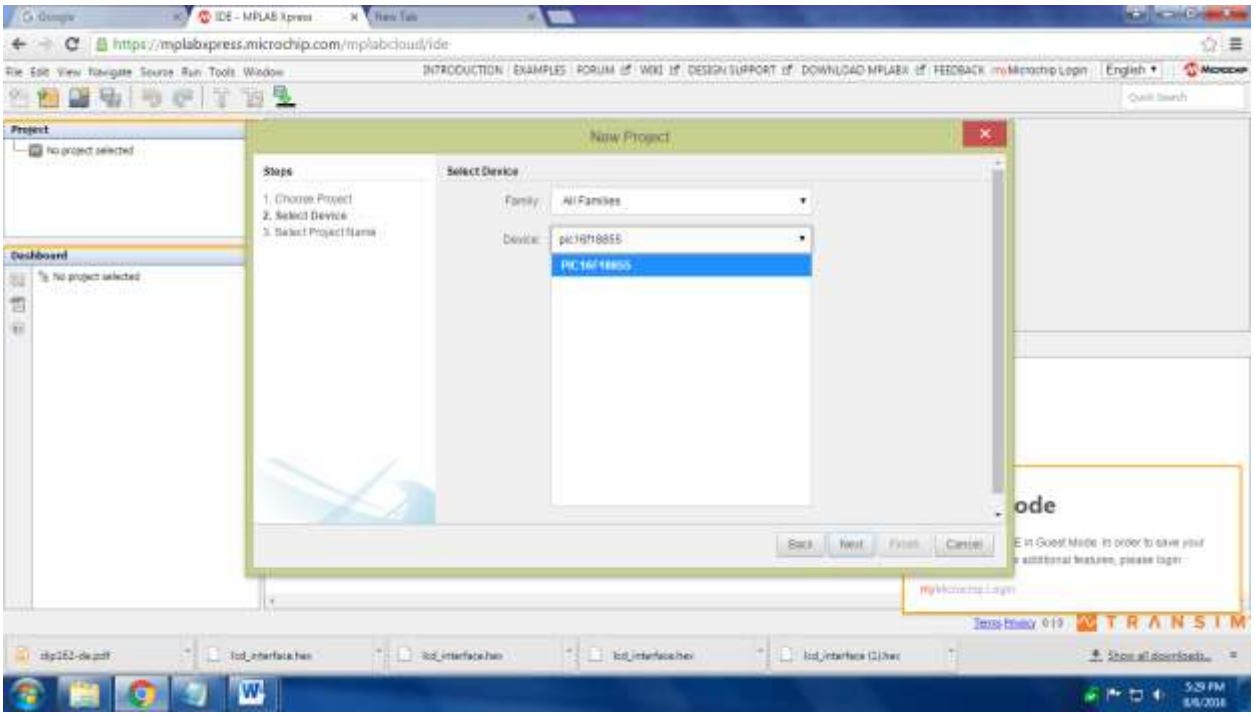

Figure 3 select Device

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

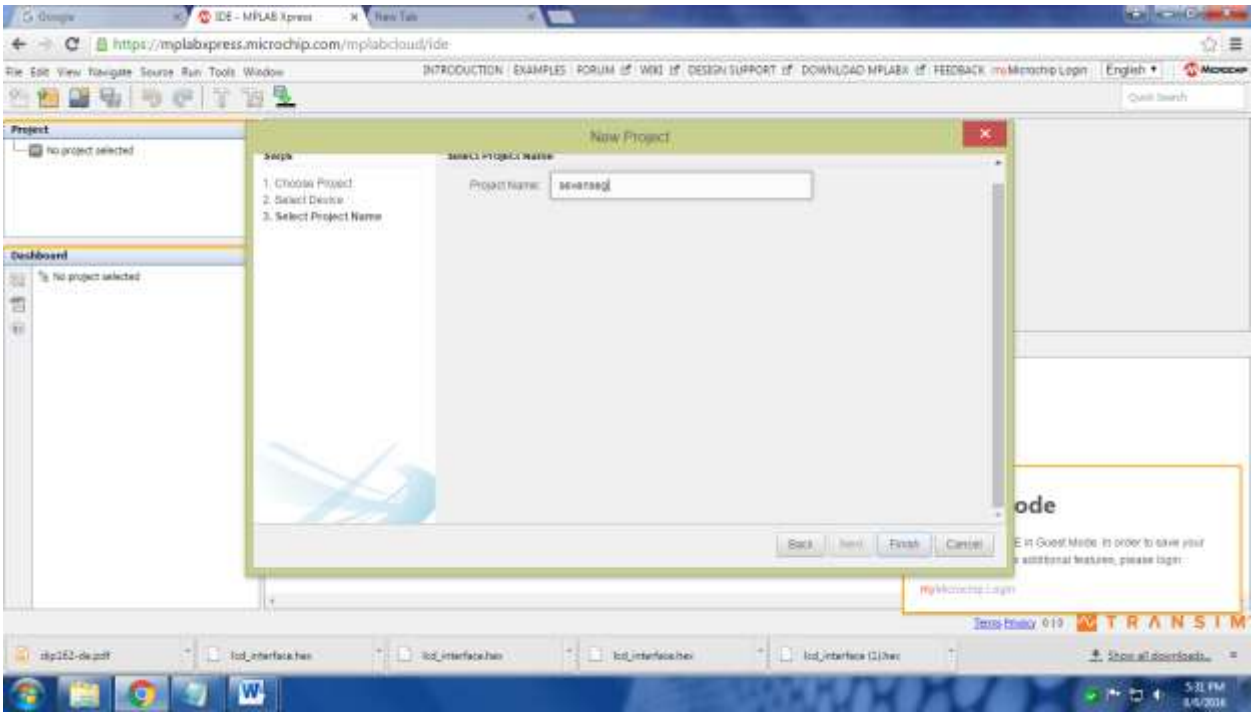

Figure 4 give project name

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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

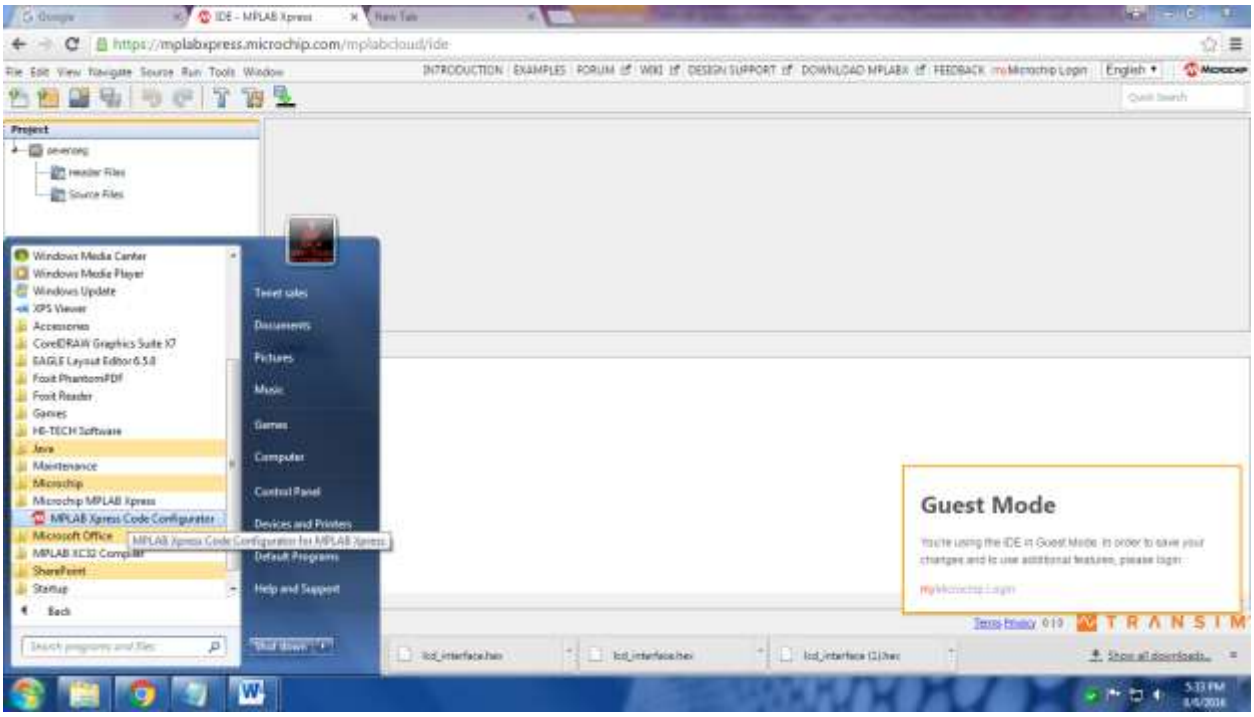

Figure 5 Select mplab xpress code configurator

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

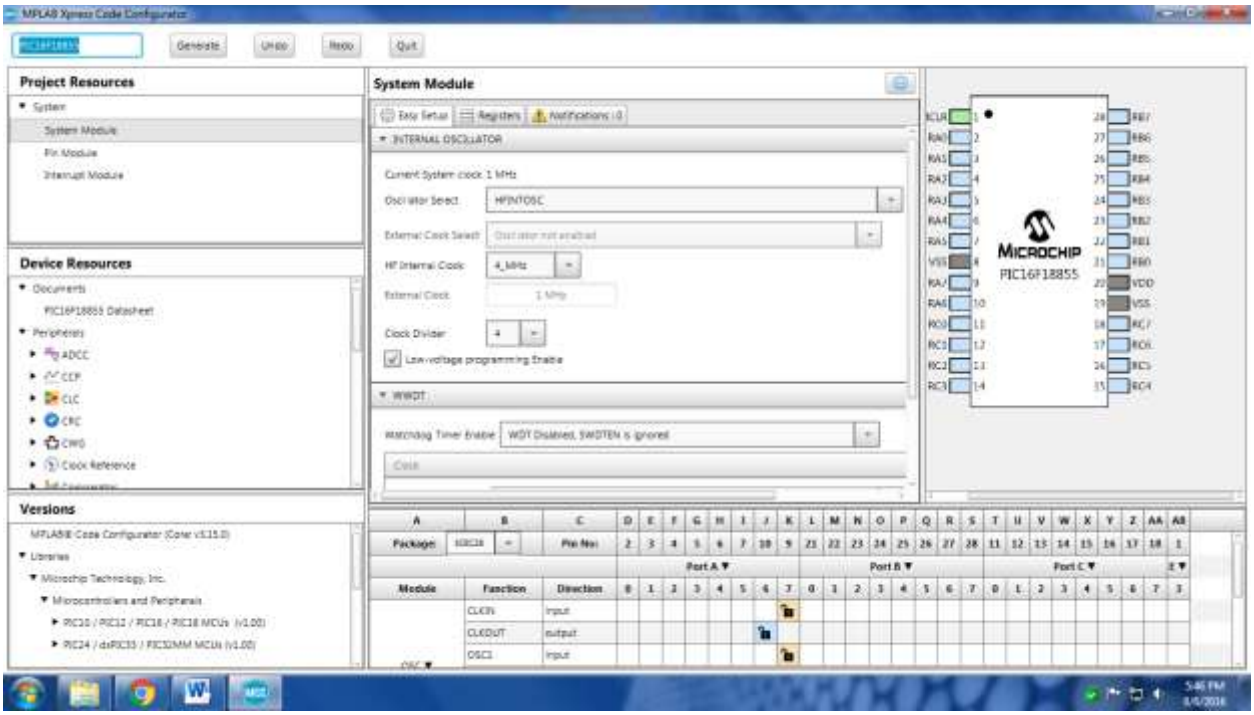

Figure 6 select pin

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Step 7: select pin module in mplab xpress configuration window

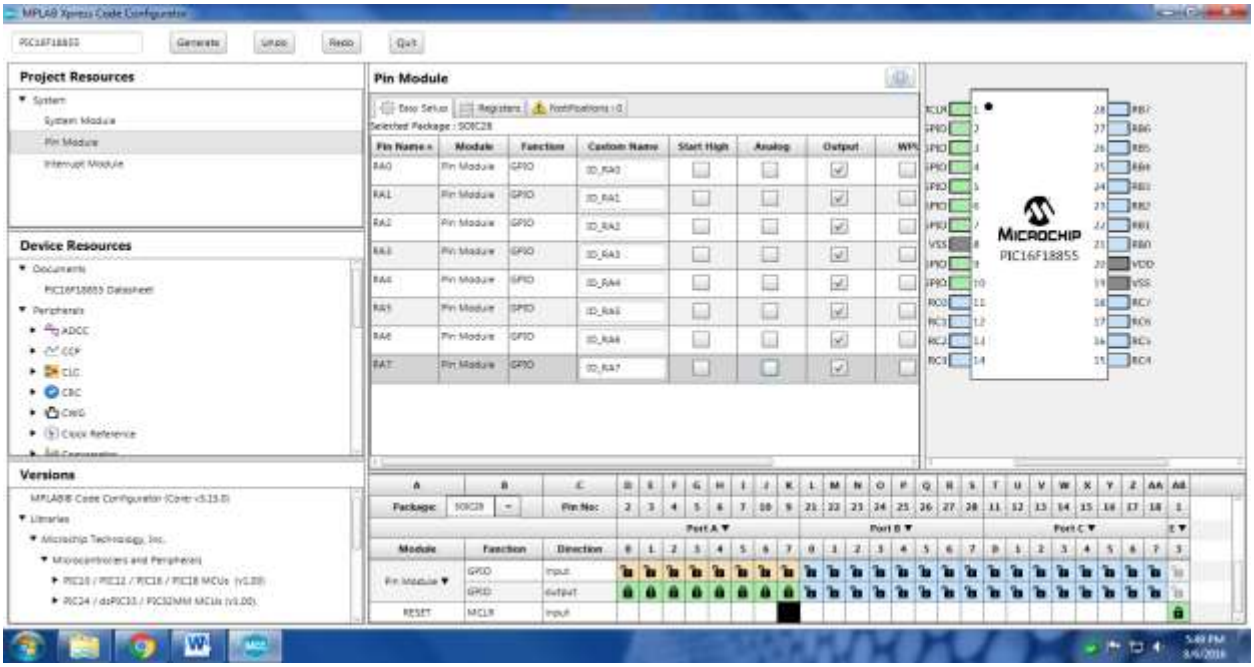

Figure 7 pin configuration set

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Step 8: Now click Generate option.

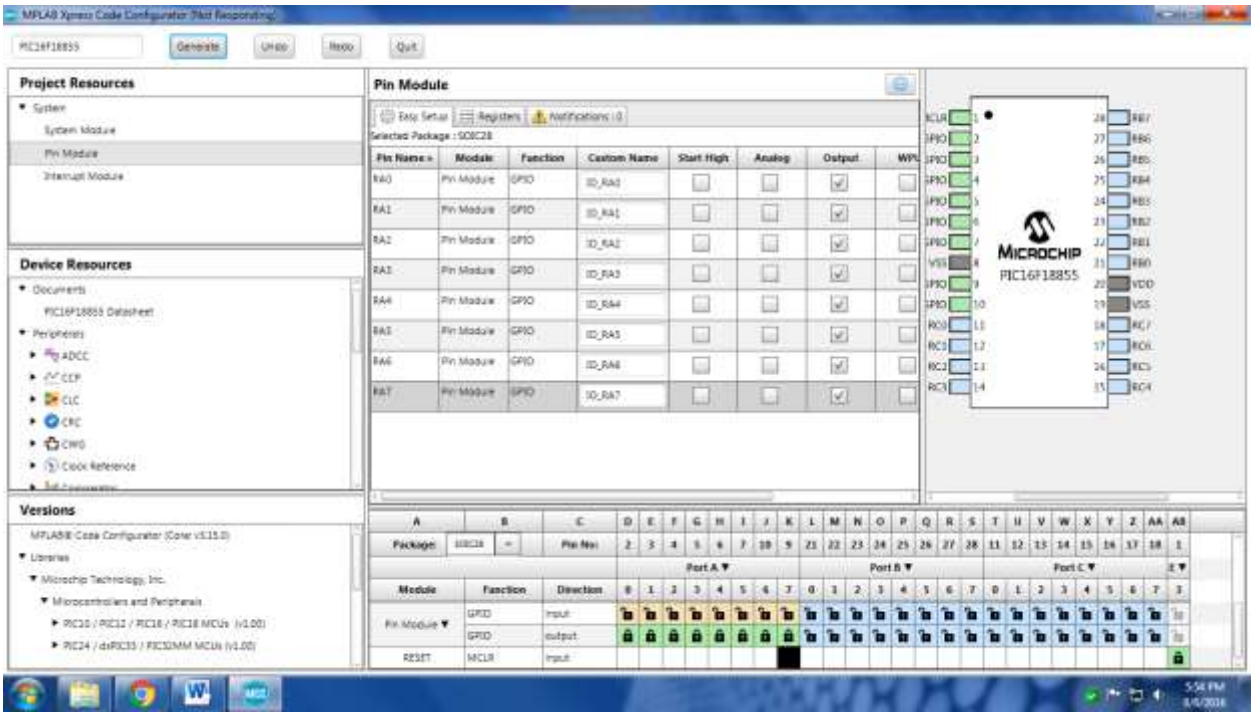

Figure 8 click Generate

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Note: **If you didn't done above things please add all library files.**

Source Code

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

void main(void)

{

   // initialize the device

   SYSTEM_Initialize();

 char i, rfid[13];

   // When using interrupts, you need to set the Global and Peripheral Interrupt Enable bits

   // Use the following macros to:


   // Enable the Global Interrupts

   INTERRUPT_GlobalInterruptEnable();


   // Enable the Peripheral Interrupts

INTERRUPT_PeripheralInterruptEnable();

    rfid[12] = '\0';                // String Terminating Character

printf("welcome \r\n");
```


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```
while (1)
{
   for(i=0;i<12;)
 {
    rfid[i] = getch();
    i++;
     //printf(rfid);  // dont give this maner
 }
 if((rfid[0] ^ rfid[2] ^ rfid[4] ^ rfid[6] ^ rfid[8] == rfid[10]) && (rfid[1] ^ rfid[3] ^ rfid[5] ^ rfid[7] ^ rfid[9] == rfid[11]))
 {

  printf(rfid);
}
 else
 {

  printf("Error ");
 }
}
```


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```
}

/**

 End of File

*/
```


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Step 9: 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.

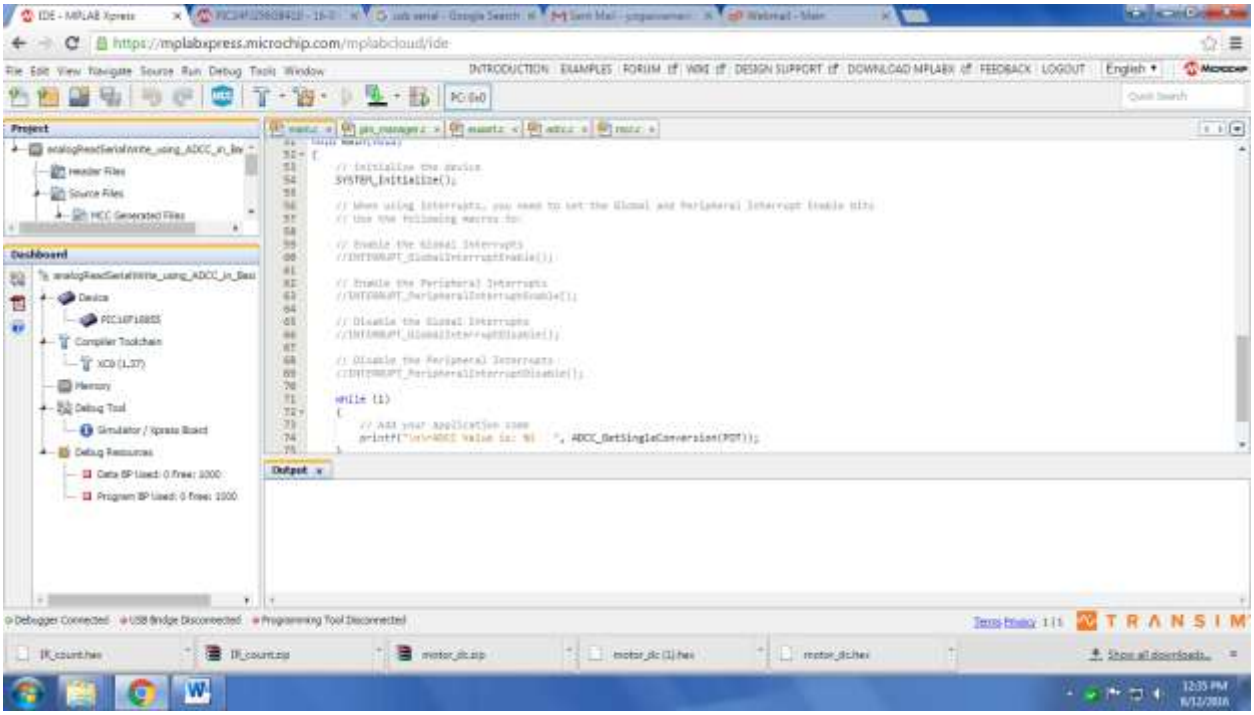

Figure 10 Build the project

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Step 10: 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.

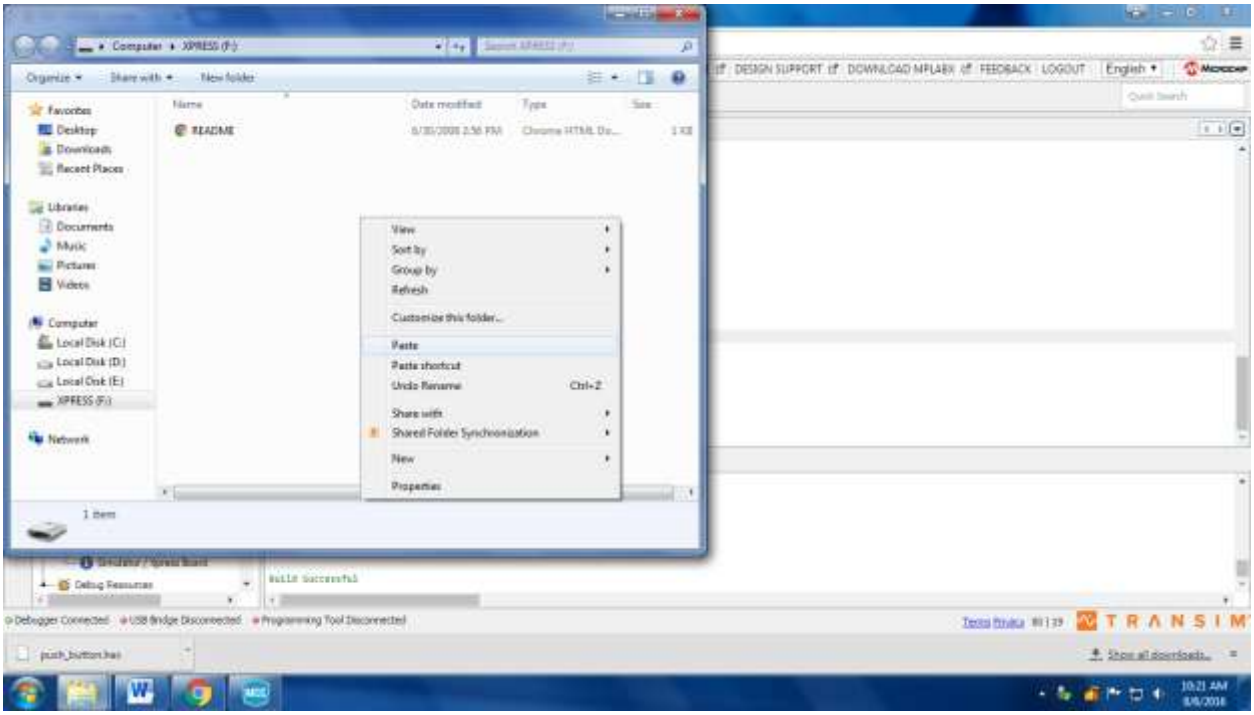

Figure 11 Run the project

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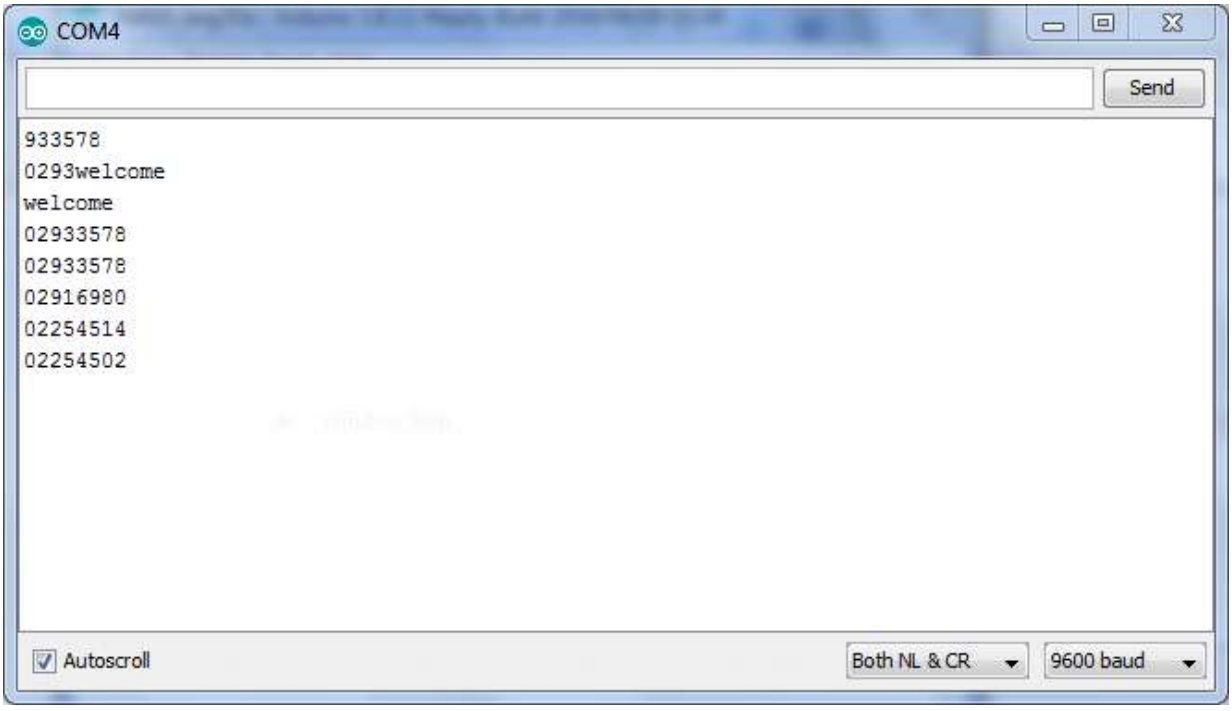
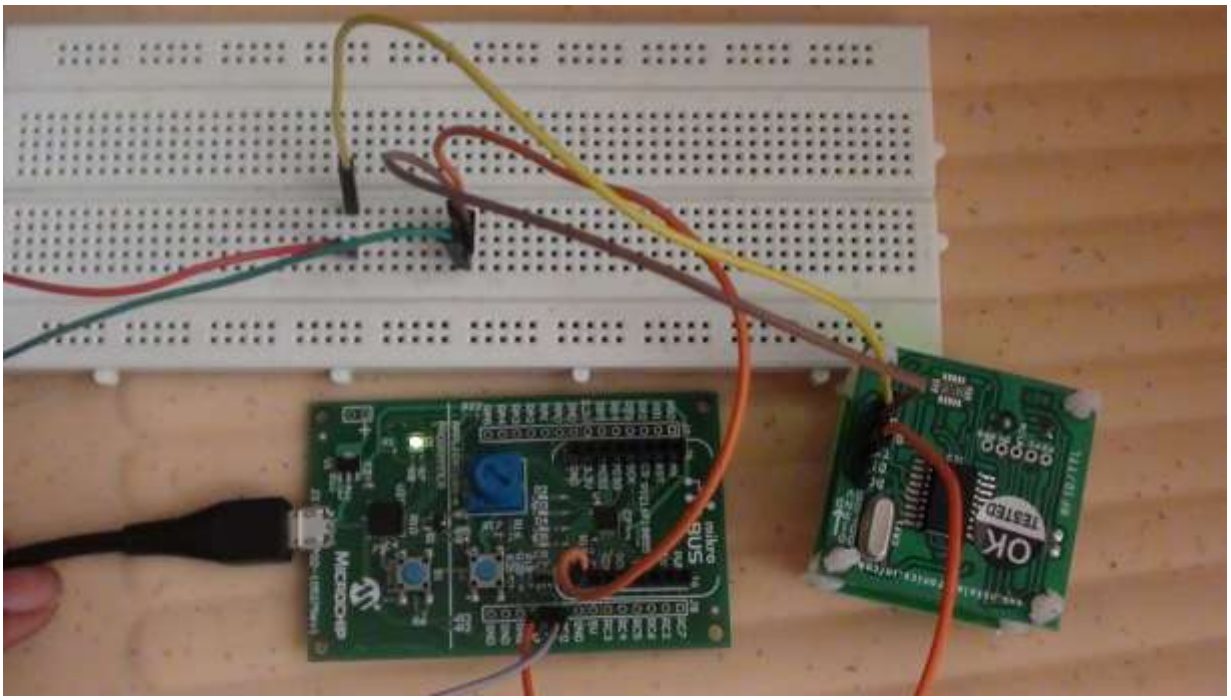
Output:





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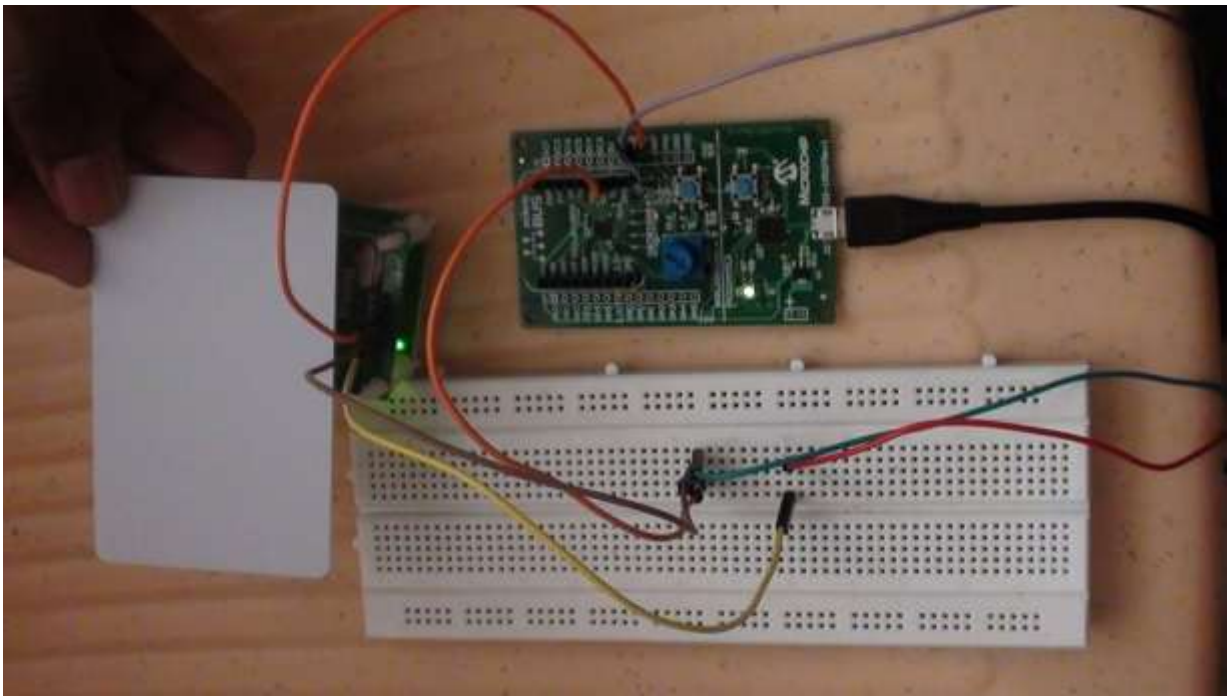

Figure 12 output

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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