TENET TECHNETRONICS
"Simplifying Technology for Life"

2016

Interfacing Stepper motor with MPLAB Xpress Evaluation Board

Siva A

Tenet Technetronics

Contents

TENET TECHNETRONICS | VARSITY

#9/3, Shree Lakshmi Complex, 2nd Floor, Opp. To Vivekananda Park, Girinagar, Bangalore - 560085.
Ph. No: 080-26722726., Website: www.tenettech.com, Email: info@tenettech.com

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:**
    - o MPLAB Xpress evaluation tool
    - o Stepper motor
    - o ULN2003 motor driver IC
- ➢ **Software:**
    - o MPLAB Xpress IDE

Note: we have on board LED

Procedure

Step 1: Open **MPLAB X IDE**

Figure 1 MPLAB X 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**
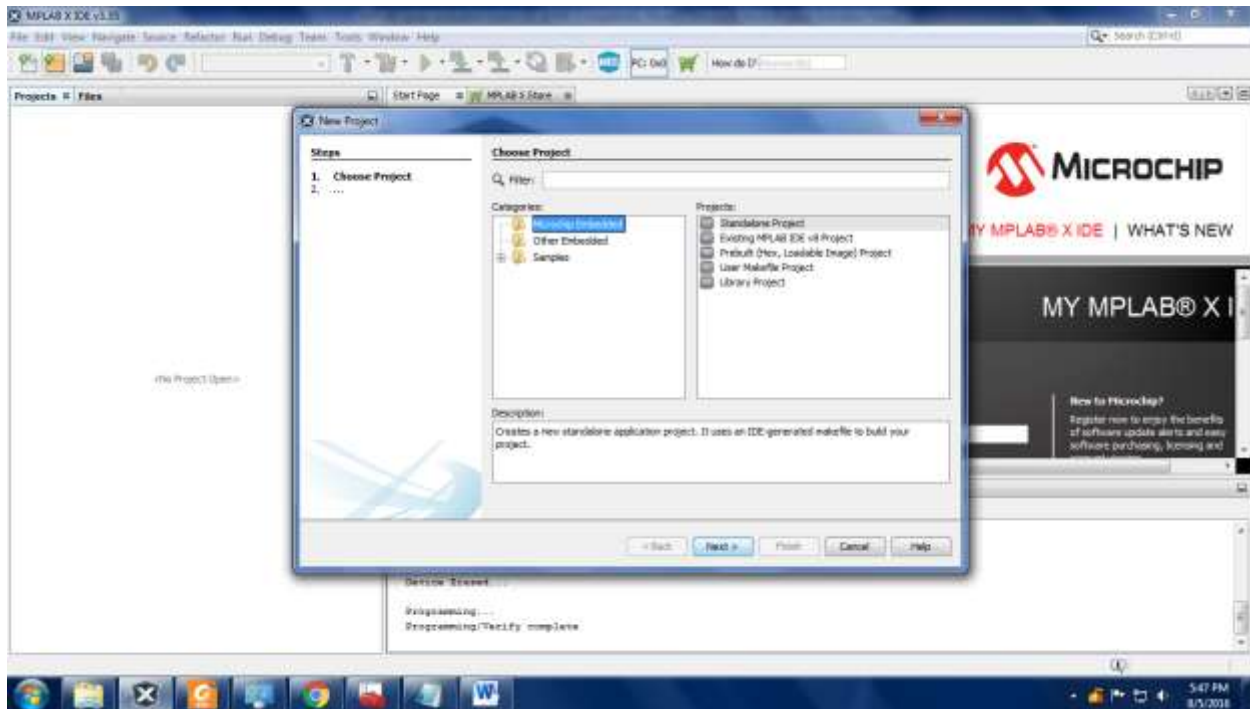

Figure 2 Open new project

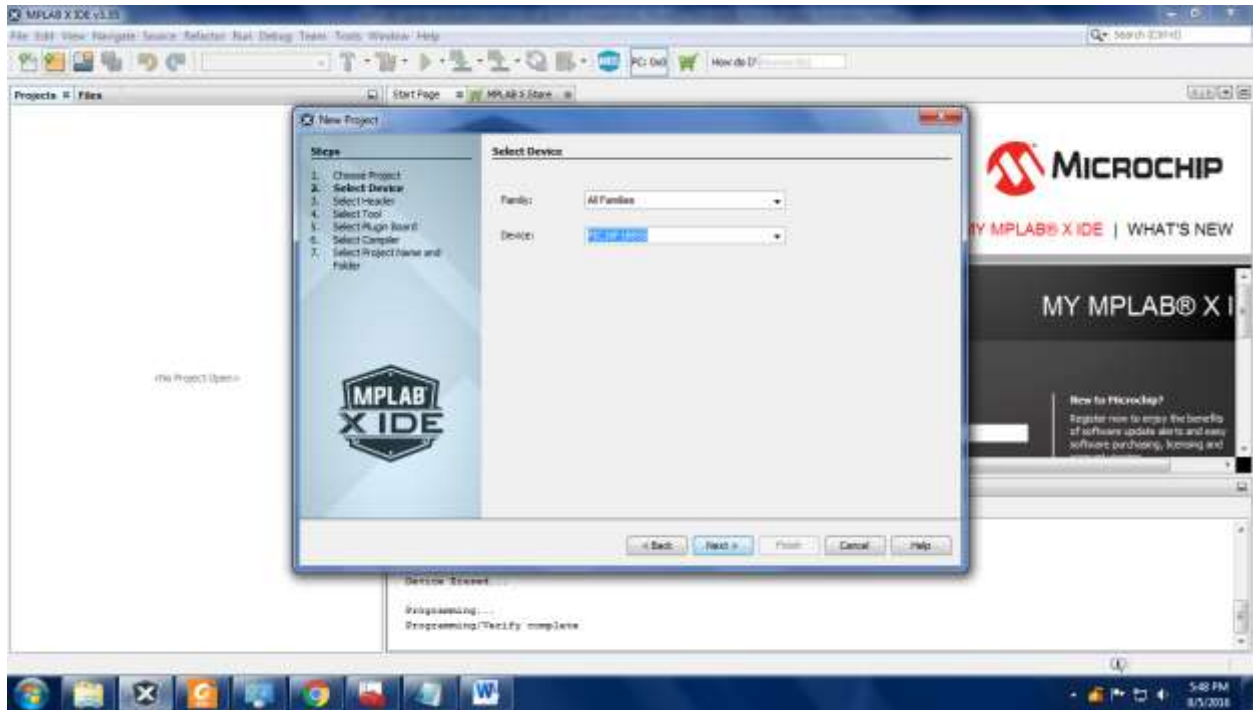**Step 3:** Select device **pic16f18855**, and click **next**.

Figure 3 select Device

TENET TECHNETRONICS | VARSITY

#9/3, Shree Lakshmi Complex, 2nd Floor, Opp. To Vivekananda Park, Girinagar, Bangalore - 560085.
Ph. No: 080-26722726., Website: www.tenettech.com, Email: info@tenettech.com

Step 4: Now select tool **Licensed Debugger** and click **Next.**

Figure 4 Select Debugger

#9/3, Shree Lakshmi Complex, 2nd Floor, Opp. To Vivekananda Park, Girinagar, Bangalore - 560085.
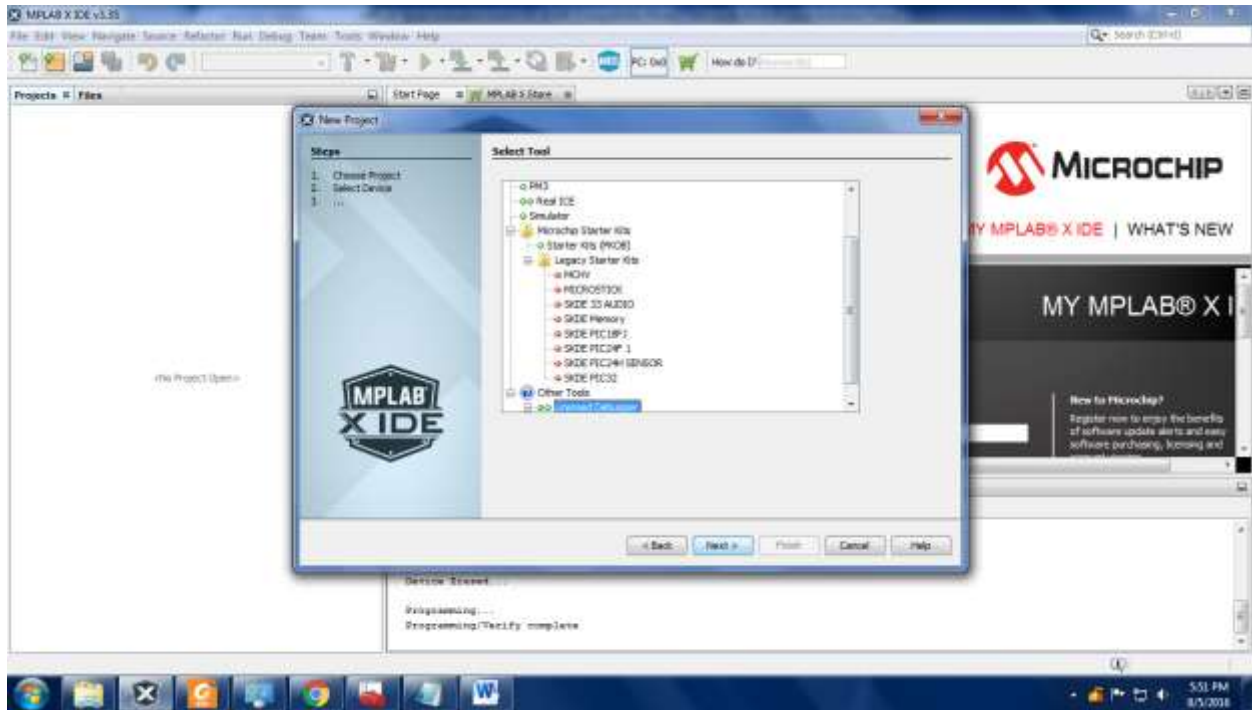**Ph. No: 080-26722726., Website: www.tenettech.com, Email: info@tenettech.com**

Step 5: Now select tool select the **XC8compiler** and click **Next.**
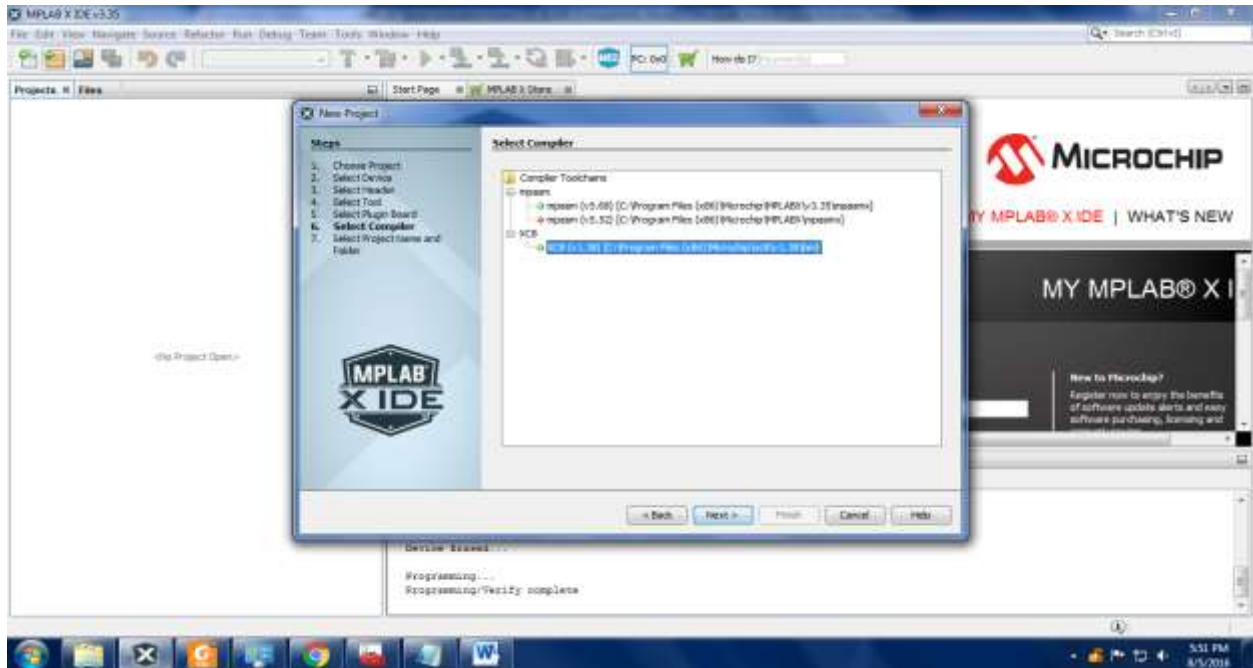
Figure 5 Select Compiler

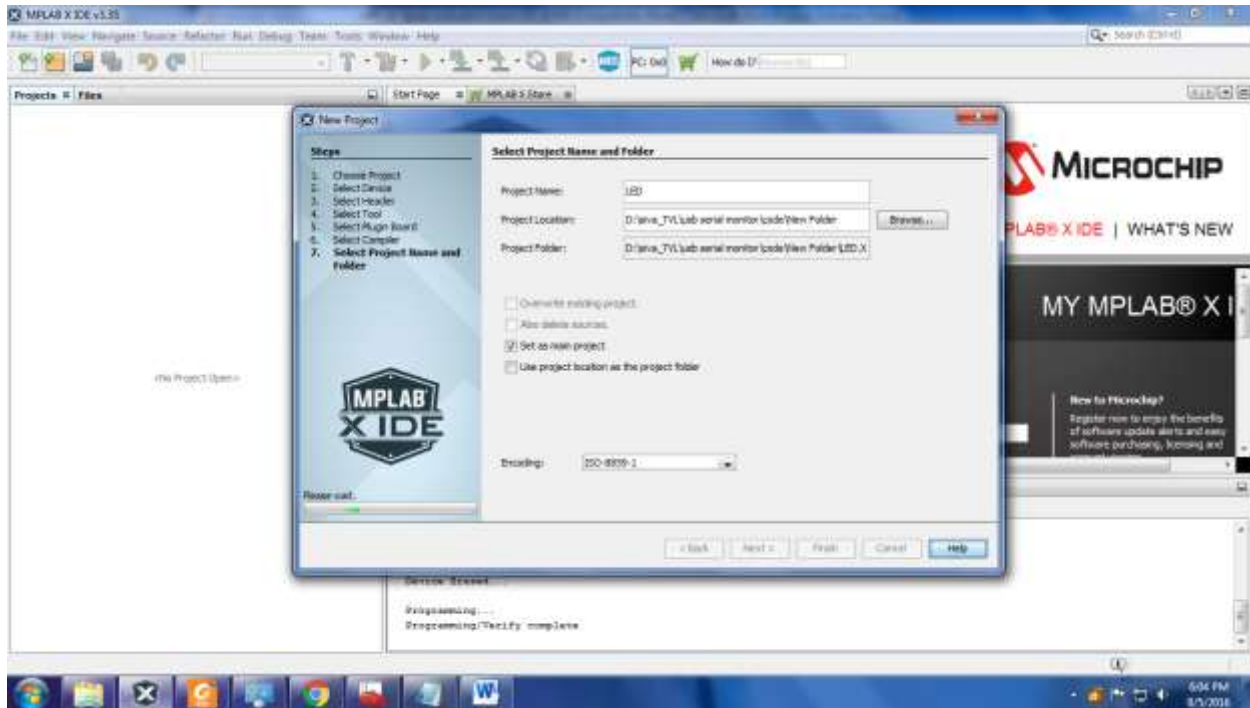**Step 6:** Now give **project name and project location folder** and click **finish.**

Figure 6 Assign project name

#9/3, Shree Lakshmi Complex, 2nd Floor, Opp. To Vivekananda Park, Girinagar, Bangalore - 560085.
Ph. No: 080-26722726., Website: www.tenettech.com, Email: info@tenettech.com

Step 7: Now we can see our project onto the workspace. Then, go to **File** >> **New file** then choose file type **c** as **main file** then click **next.**
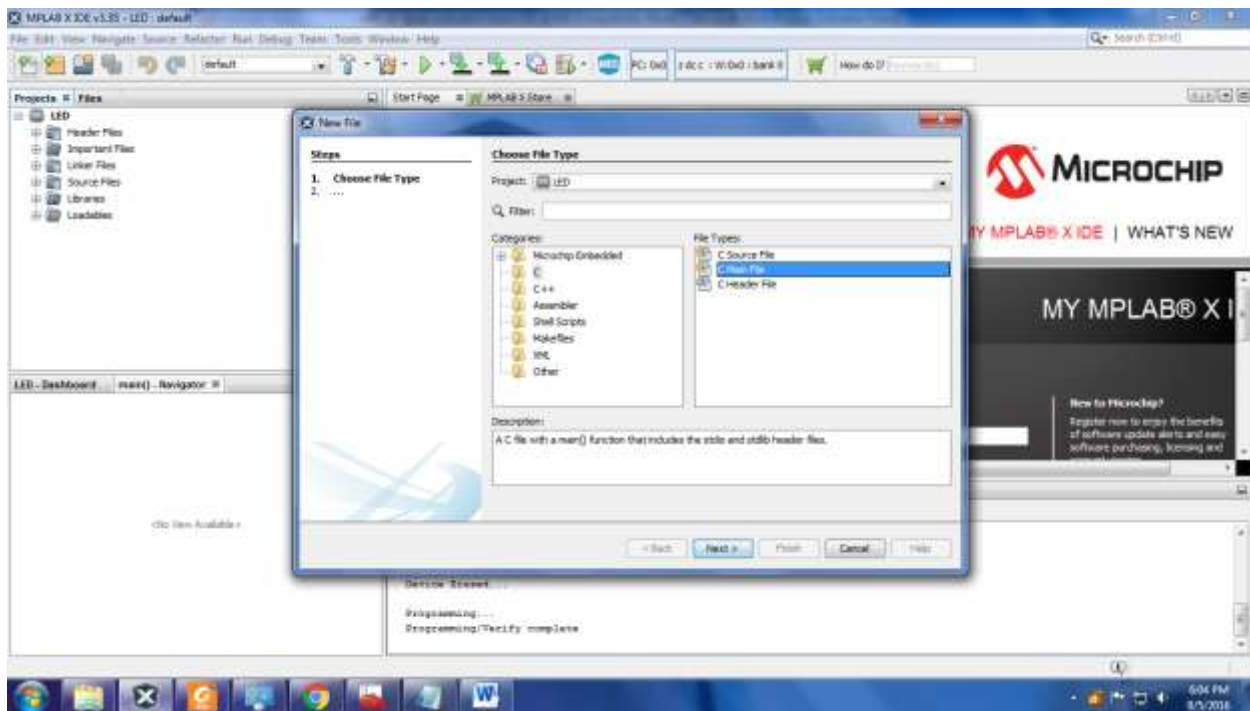

Figure 7 Add new file

Step 8: Now give **file name and file location folder** and click **finish.**
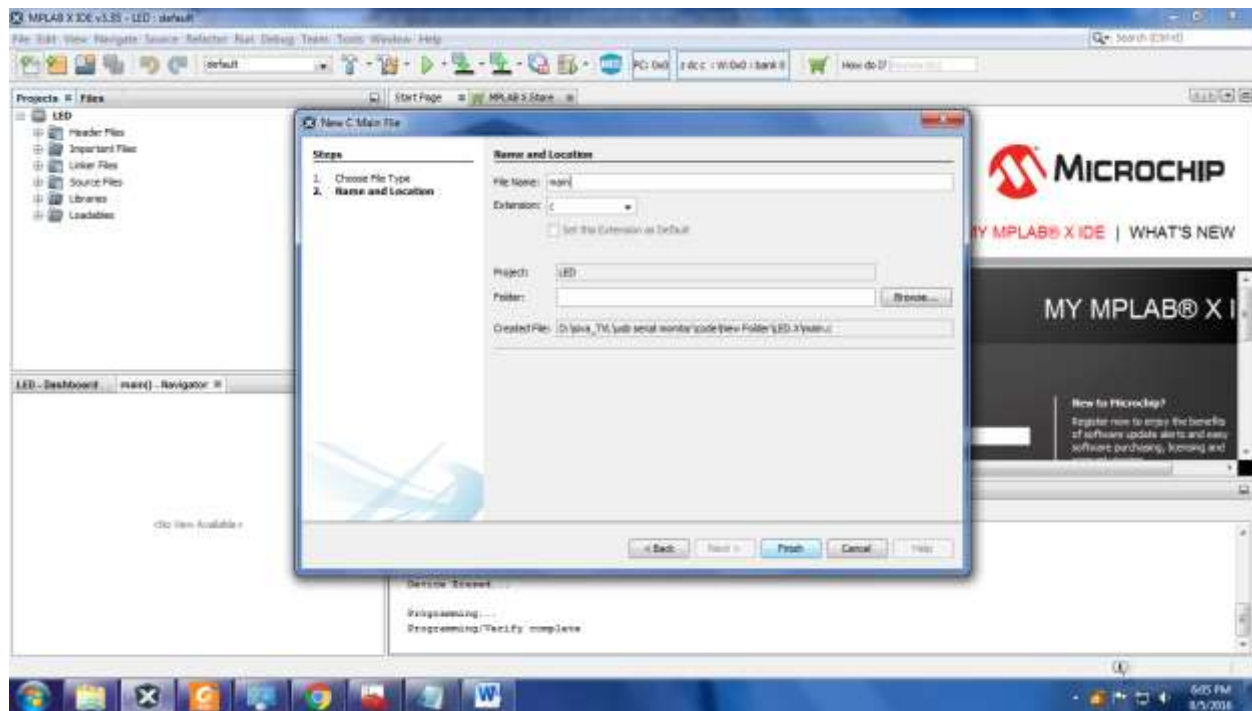

Figure 8 name the file

#9/3, Shree Lakshmi Complex, 2nd Floor, Opp. To Vivekananda Park, Girinagar, Bangalore - 560085.
Ph. No: 080-26722726., Website: www.tenettech.com, Email: info@tenettech.com

Step 9: Erase the template in editor window. Then type following code in the editor window.
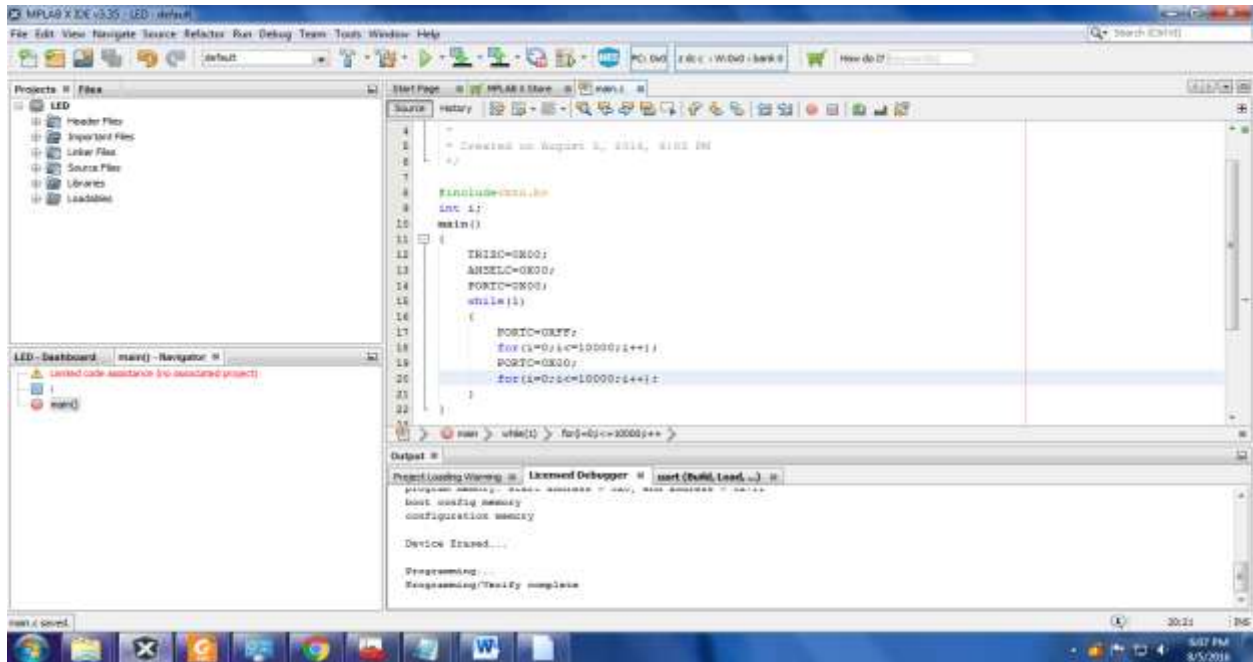
Figure 9 Editor Window with Code

#9/3, Shree Lakshmi Complex, 2nd Floor, Opp. To Vivekananda Park, Girinagar, Bangalore - 560085.
Ph. No: 080-26722726., Website: www.tenettech.com, Email: info@tenettech.com

SOURCE CODE:

```
#include<htc.h>

int i;

main()

{

    TRISB=0X00;                  //Port-B set as output

    ANSELB=0X00;                 //port-B set as Digital IO

    PORTB=0X00;                  // Clear port-B

    while(1)                     // continues execution

    {   RB0=0;

        RB4=0;

        RB2=0;

        RB3=1;

        for(i=0;i<=30000;i++);      //delay

        RB0=0;

        RB4=0;

        RB2=1;

        RB3=0;

         for(i=0;i<=30000;i++);       //delay

        RB3=0;
```

```
        RB0=0;

        RB4=1;

        RB2=0;


        for(i=0;i<=30000;i++);        //delay

        RB0=1;

        RB4=0;

        RB2=0;

        RB3=0;

        for(i=0;i<=30000;i++);        //delay
    }
}
```

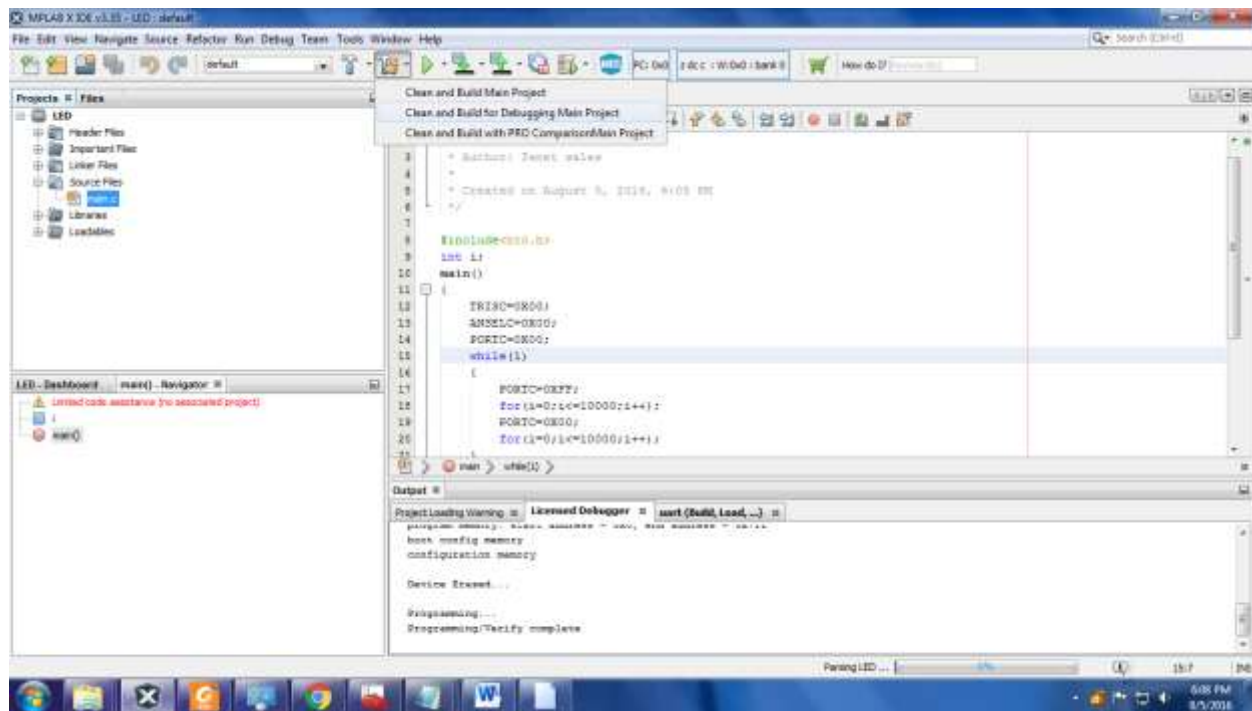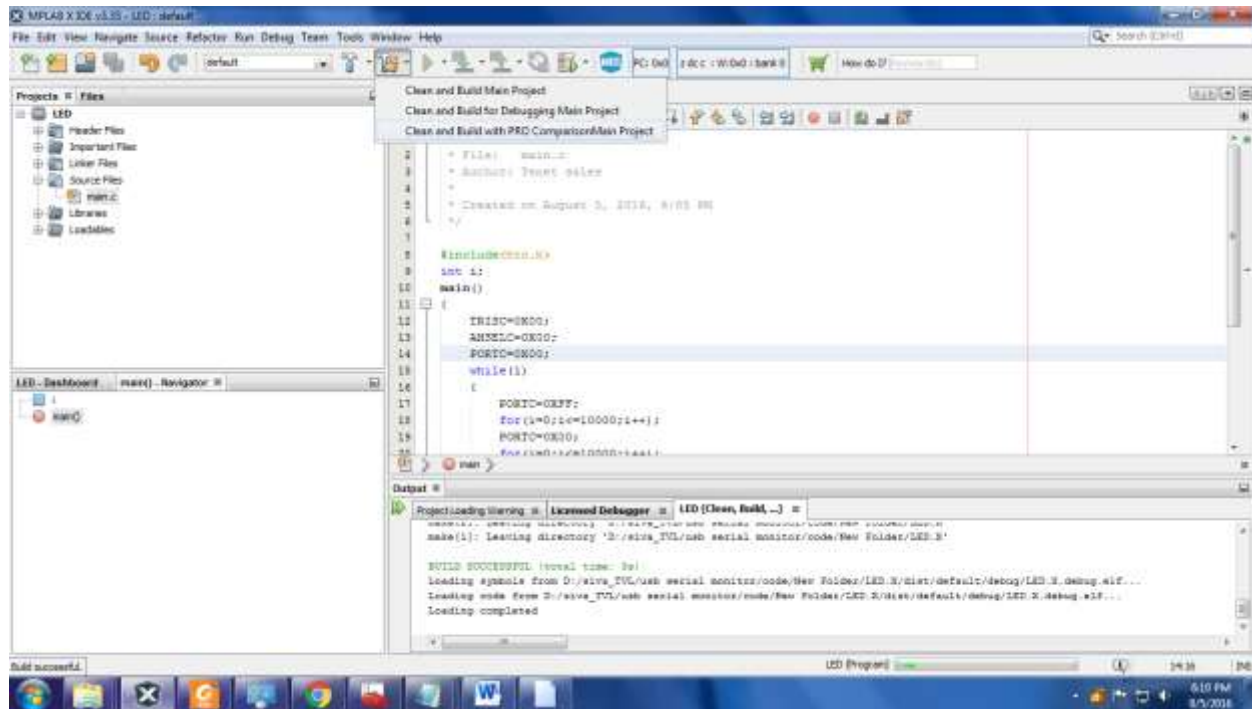**Step 10**: After writing code, save it then Go to **Run** >> **Clean and Build main project**.
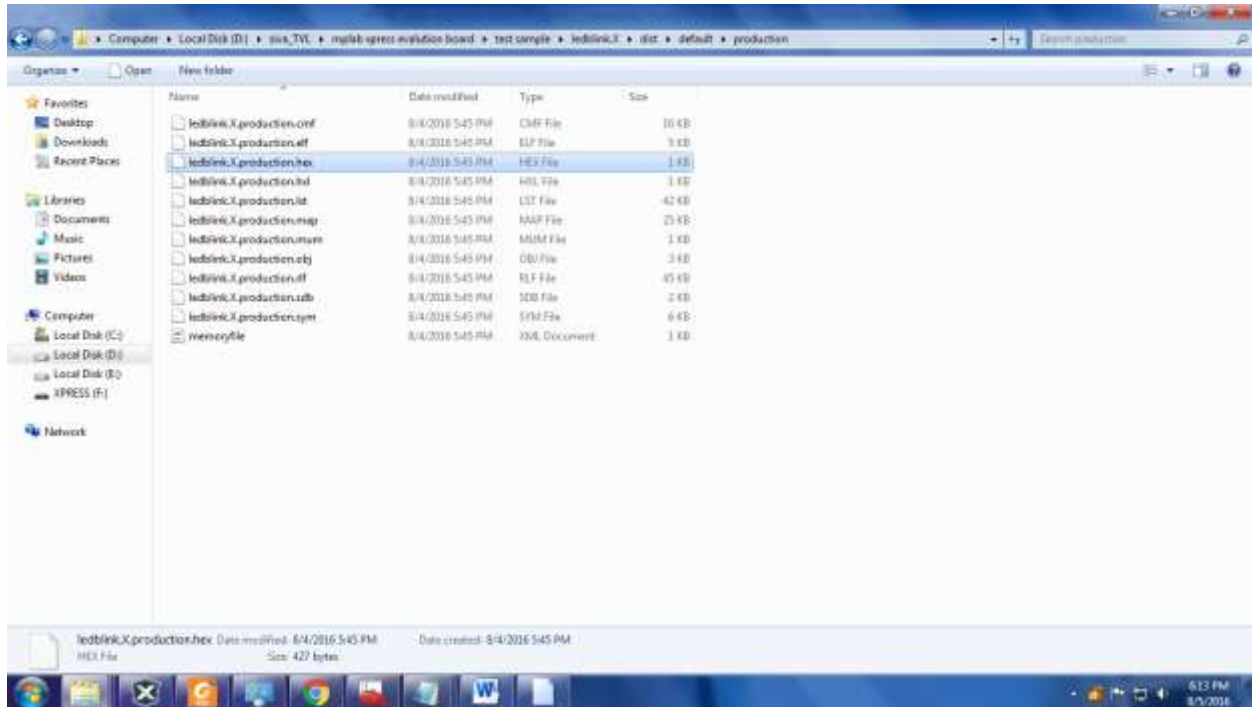

Figure 10 Build the project

Step 11: Now, if all goes well connect the Micro B cable to PIC16F18855 (pic demonstration board)

Step 12: To upload the project file, copy your hex file (.hex) past to your device. Ensure your device connection.
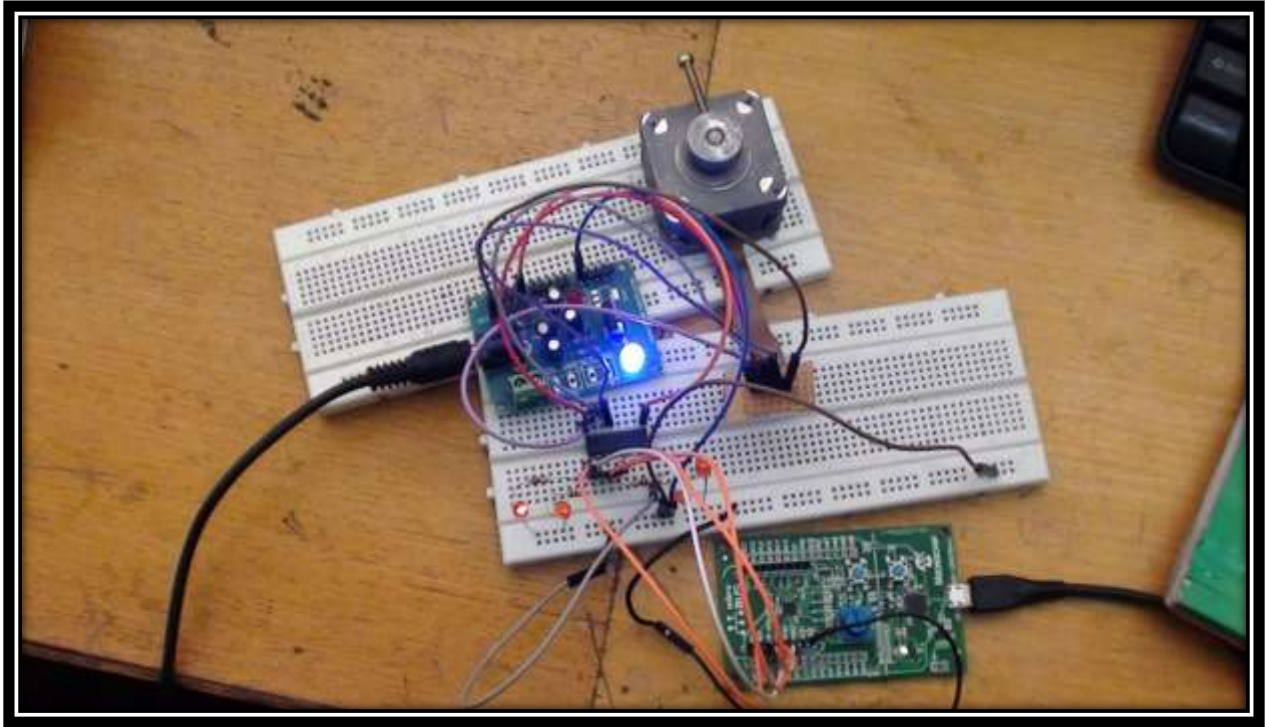
Output:

Figure 12 output

For product link:

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

For more information please visit: www.tenettech.com

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

TENET TECHNETRONICS | VARSITY