How to setup a project for the Microchip DSC.

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As a matter of efficiency, all coding projects will start with a structural framework. All you will need to do is to fill in the missing functions. This eliminates a lot of wasted time fiddling around with getting the more routine parts of the code, such as configuration bits and the like, working. Thus more time can be spent on the practical aspects of making real-world DSP applications.

Having said that, there is *always* a certain amount of hassle in getting tools setup, making sure that modules are compiled and properly linked, code loaded and executed on the target board, etc. This guide will help reduce the frustrations and problems associated with getting your projects working.

The source code for each project will be distributed as a zip file. Inside the zip file are the header files and the source files for the project. You will need to setup a project that compiles and links the modules, down load the code to the board, and execute the program. For this discussion I will use the *BlinkBlocking* example. This is a very primitive program that does nothing more than blink the LEDs on the target board.

Before proceeding, let me point out that the following instructions assume that you have already downloaded and installed the compiler (XC16) and IDE tools (MPLab X) from Microchip. I am also assuming that you are running Windows as a real or virtual machine.

Step 1: Open the MPLAB X IDE and choose *File->New Project->Microchip Embeded->Standalone Project*. Then hit the *Next* button. For *Family* select *16-bit DSCs (dsPIC33).* For *Device* Select *dsPIC33FJ256GP506.*Then hit the *Next* button.

Step 2: If you have your DSC board and it is plugged in the next step is to select it in the *Select Tool* dialog. If you don't have it yet you can skip this step and come back to it later. When you get to the step of downloading your code you will be prompted for the tool if you have not already selected one. You should see something like *SKDE 33 Audio.* Select the line below it. That is, select the line that looks something like *SN:BUR111370109*. Then hit the *Next* button.

Step 3: Select the XC16 compiler chain. Then hit the *Next* button.

Step 4: Enter the Project Name: *BlinkBlocking*. Enter the project location: *C:.* Hit the *Finish* button. This will create a folder *C:\BlinkBlocking.X*.

Step 5: Unzip the source and header files from the *BlinkBlocking.zip* file. Move them over to your *BlinkBlocking.X* folder.

Step 6: We now need to add the source and header files to the project. In the *Projects* window (left side of the screen) right click the *Header Files*. Select *Add Existing Item* and add ".h" file. Repeat for the C source files.

You should now be able to compile, link, and execute your code. The easiest way to do this is to select *Debug->Debug Project.* There is also an icon on the tool bar for this.