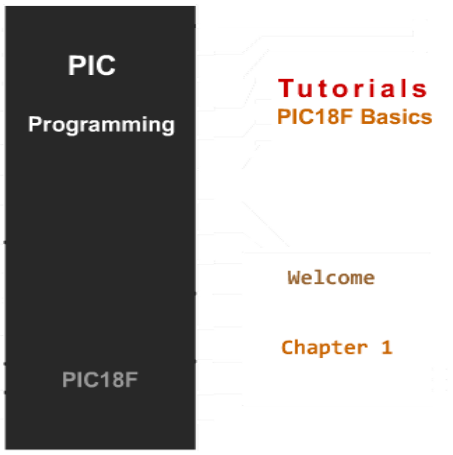
PIC18F4550 PROGRAMMING AND TU
HARDWARE C

SUBMITTED BY RAKESHRON ON WED, 09/18/2013 - 22:10



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PIC18F MICROCONTROLLER PROGRAMMING TUTORIAL

TUTORIAL INTRODUCTION

Welcome, here in this tutorial series we are going t **methodologies for programming a pic18f.** The tutorials here m you started with **pic18f** microcontroller. We are going to learn various details that you need to consider while p

microcontroller. For making life easy I have also **attached re**
with explanation with each chapter of the tutorials that I am

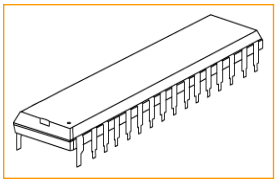
This tutorial is compiled for **beginners** with p
microcontrollers, who wish to learn microcontroller codin
Hardware C. We are also going to see the software t
understand Microcontroller pin diagram, Ports and its releva
Programming and relevant data sheet of the microcontroller, a
will also explain where and what to look for in a datasheet, a
for beginner. Please do to complain if you find the tutoria
shortcuts are never good choice. A navigation menu on the To
you to switch between topic and chapters.

HOW MANY WAYS TO PROGRAM A MICROCONTROLLER?

There are many ways or styles to code a simple microcontro
really necessary is to develop a perfect and *good coding habi*
you code, to avoid confusion. For doing a same logical op
multiple ways in Hardware C. It will help you to optimize the

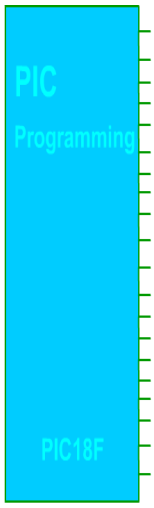
Here I am going to explain some base line methods and also
that you need to follow while coding a pic18f microcont
examples. There can be hundred of ways of writing same code
cover some of the basic styles to get you started, from Si
Once you understand the basics then it must be quiet easy for
own imagination and make the microcontroller respond accord
will try to explain each and every block with simple and
format. I would also try to avoid Complex terms whenever it is

WHY PIC18F MICROCONTROLLER ?



Pic microcontrollers are comparatively **inexpensi** there are also other microcontrollers Like Ard little bit costly. Unless you want to spend too m pic programming kit would be perfect to get yo easily available and very powerful and quiet capable micr easily enable you to add some Logic and Intel to your projec Microcontroller, An IDE and a Microcontroller programmer Like

PIC18F4550 MICROCONTROLLER PROGRAMMING



For our hardware C **programming tutorial** we are going **microcontroller**. PIC18F4550 is a 40 pin microcontrolle has been a favorite microcontroller in between micr You can easily switch over to pic18f2550 microcont little modification in the code. However we are pic18f4550 microcontroller for our tutorial with hard and understanding microcontroller Code we are going to the microcontroller using hardware programmer.

If you wish to know in general about microcontroller when you a Microcontroller post. That should get you some basics of M For writing out first code we will need a microcontroller I compile the microcontroller program.

HARDWARE C – COMPILER AND IDE

Hardware C is similar to the general C software programmi compile with a BORLAND C compiler. However the compiler ar Hardware C are going to be different. It depends upon the coding a pic18f4550 you will need an IDE that supp microcontroller and also a Compiler that can compile the code

What is IDE? Don't confuse IDE with "Integrated Device Elec just an abbreviation for **Integrated Development Environment**

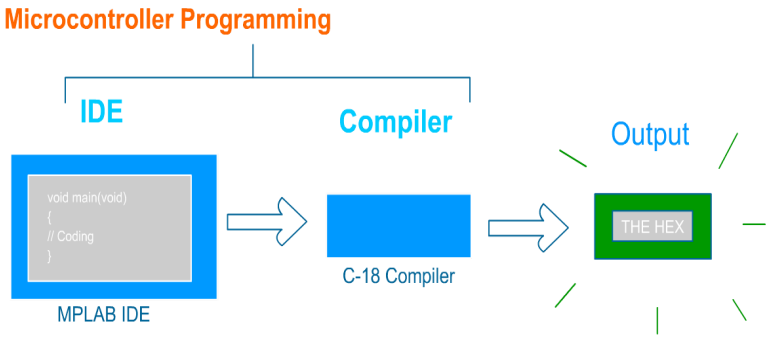
environment for writing codes. IDE makes life really easy for

Before we can Start coding we need out weapons.

MPLAB IDE AND C18 COMPILER

The IDE that we are going to use is microchips **"MPLAB IDE** "a be " **C18 compiler** " **from Microchip** . MPLAB IDE will help platform where you can write your Hardware Code, (Just like the **Compiler** installed with MPLAB IDE will convert the Hum Machine language.

Please note that the microcontroller can only understand th and 1). The code [instructions] written in the IDE is converte by the compiler. After compilation the output will be genera filename with .hex) [AN Example .hex], all we have to do i .HEX file into the microcontroller and then the pic18f4550 is



There are different types of compiler. Suppose if you working microcontroller then the same MPLAB IDE will require a C3 Compiler your code. C30 and C18 are just the versions of comp

of Converting your code into machine language (0's and 1's) wh would understand.

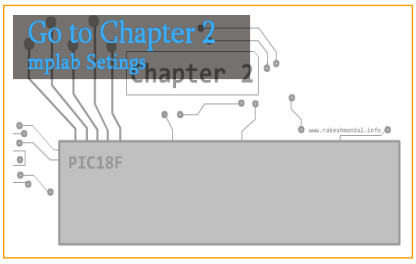
However since we are going to use a "**PIC18F**" series of microc use a **C18 compiler**.

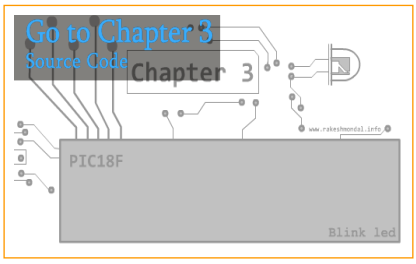
A lite version of C18 compiler and MPLAB ide is completely Microchips website. Apart form C18 Compiler, a Hi-Tech C comp for coding a pic18f4550 series of microcontroller. Hi-Tech C r codes specially when I prefer to write LCD programs, Hi-Tech not free if you wish to optimize the code, So we are go Compiler, lite version.

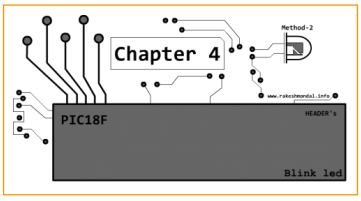
You need to login into microchip account which is free to download the C18 lite version and MPLAB IDE. The mplab refere version v8.60. You can download the latest Release from their

-DOWNLOAD C18 Lite Version Compiler
-DOWNLOAD MPLAB IDE

Once you are downloading the MPLAB and C18 Compiler then move section which would deal with setting up your project for the







NEXT Tutorial 2

Tutorial 3 – Blinking an LED Method-1

Tutorial 4– Blink LED Method-2 Header

Tutorial 5– Blink LED –Mplab X IDE – XC8

PIC18F2550 – Blink LED – XC8 Compiler

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