Short Beginner's Tutorial

Projects

mikroC organizes applications into *projects*, consisting of a single project file (extension `.ppc`) and one or more source files (extension `.c`). You can compile source files only if they are part of a project.

The project file carries the following information:

- project name and optional description,
- target device,
- device flags (config word),
- device clock,
- list of project source files with paths.

Note that the project does *not* include files in same fashion as preprocessor does, see **Add/Remove Files from Project** below.

1. New Project

The easiest way to create project is by means of New Project Wizard, drop-down menu **Project › New Project**. Just fill the dialog with desired values (project name and description, location, device, clock, config word) and mikroC will create the appropriate project file.

For example:

Project name : DemoProject
Description: Optional
Location: C:\my-microc-files
Device: PIC18F452
Clock : 08.0000000 MHz
Device Flags : Select Default and then Save
Press OK

Also, an empty source file named after the project will be created by default. mikroC does not require you to have source file named same as the project, it's just a matter of convenience.

1.1 Edit Project

Later, you can change project settings from the drop-down menu **Project › Edit Project**. You can rename the project, modify its description, change chip, clock, config word, etc.

To delete a project, simply delete the folder in which the project file (extension `.ppc`) is stored.

1.2 Add/Remove Files from Project

A project can contain any number of source files (extension `.c`). The list of relevant source files is stored in the project file (extension `.ppc`).

To add source file to your project, select **Project › Add to Project** from the drop-down menu, or click the Add to Project Icon   . Each added source file must be self-contained, i.e. it must have all the necessary definitions after preprocessing.

To remove file(s) from your project, select **Project › Remove from Project** from the drop-down menu, or click the Remove from Project Icon

2. Creating new source file

To create a new source file, do the following:

1. Select **File › New** from the drop-down menu, or press `Ctrl+N`, or click the New File icon.
2. A new tab will open, named "Untitled1". This is your new source file. Select **File › Save As** from the drop-down menu to name it the way you want.

If you have used New Project Wizard, an empty source file, named after the project with extension `.c`, is created automatically. mikroC does not require you to have a source file named same as the project, it's just a matter of convenience.

In this example the source file will have the name **DemoProject.c**

3. Writing your code into the source file.

Example for turning on and off LEDs in port D.

```
main ()   {

TRISD = 0x00;

do {

    PORTD = 0x55;

    delay_ms(1000);

    PORTD = 0xAA;

    delay_ms(1000);

  } while(1);

}
```

4.   Compiling your program and creating the executable code.

In order to compile your source code and generate the output files you **can** select **Project > Build and** upon successful compilation, mikroC will generate the output files in the project folder (folder which contains the project file `.ppc`).

Output files are summarized in the table below:

Format	Description	File Type
Intel HEX	Intel style hex records. Use this file to program PIC MCU.	.hex
Binary	mikro Compiled Library. Binary distribution of application that can be included in other projects.	.mcl
List File	Overview of PIC memory allotment: instruction addresses, registers, routines, and labels.	.lst
Assembler File	Human readable assembly with symbolic names, extracted from the List File.	.asm

5.   Loading the executable code to a PICSIMLAB virtual board.

Start the PICSIMLAB virtual environment.

Select the target board. **e.g. Board > 4 PicGenios**

Select the Microcontroller to match the one specified in the device of your project. **E.g. Microcontroller > PIC 18F452**

Select the Clock Frequency to match the one specified in your project. **E.g. Clock (MHZ) > 8**

Load the HEX file from your project directory **E.g. File > Load Hex > C:\my-microc-files\DemoProject.hex**