

## USAGE of I/O REGISTER FILES

### (Example:C language for 16bit Microcontroller)

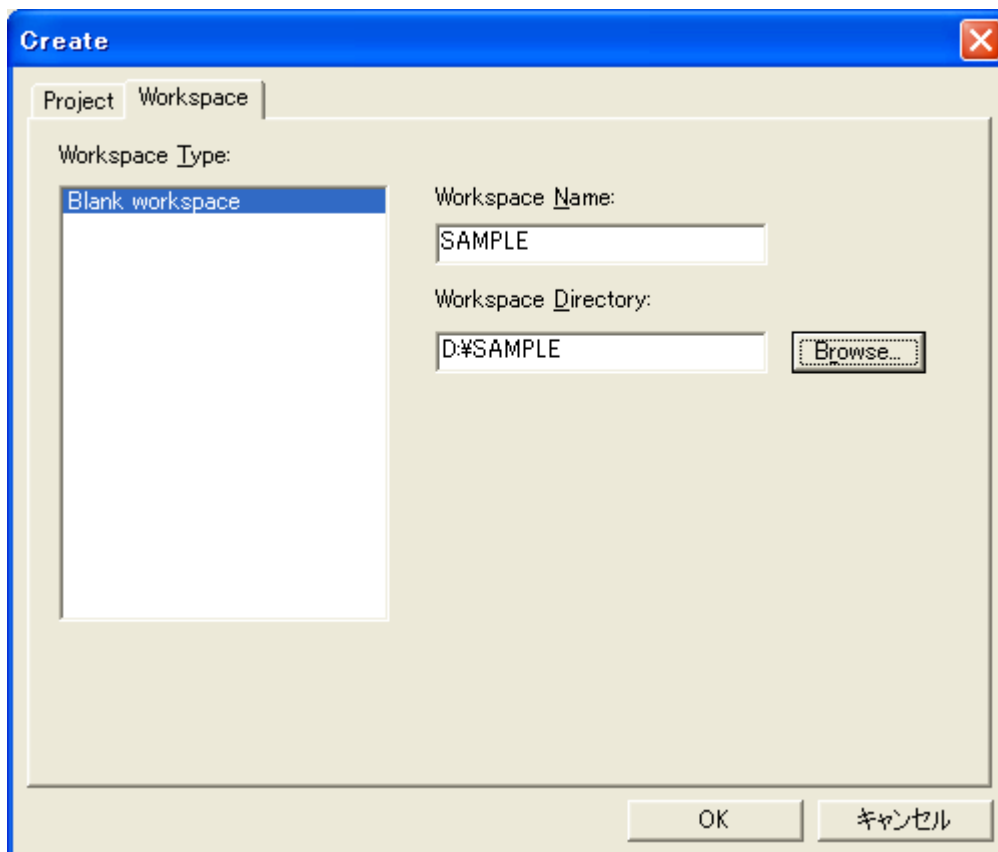
Ver:2.0 JUL.15,2009

[1] Download I/O REGISTER FILE for target Microcontroller.

[2] Unzip download file.

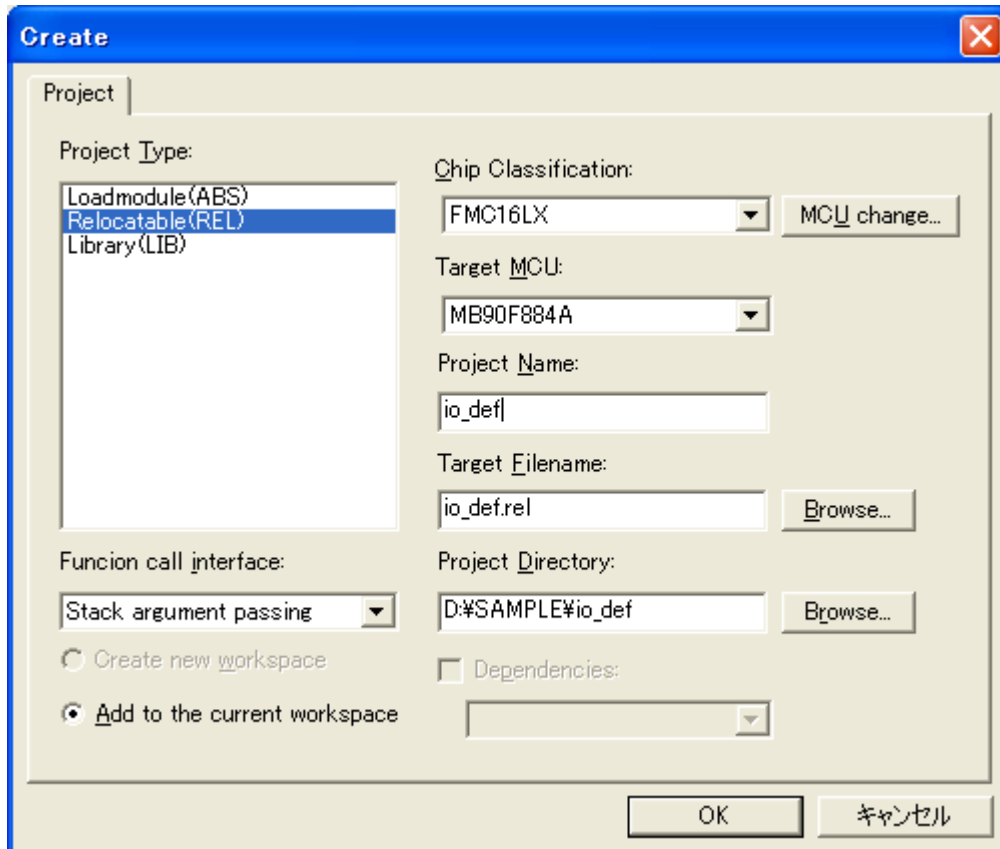
[3] Make workspace by starting SOFTUNE Workbench.

File -> New -> Workspace/Project file -> Workspace



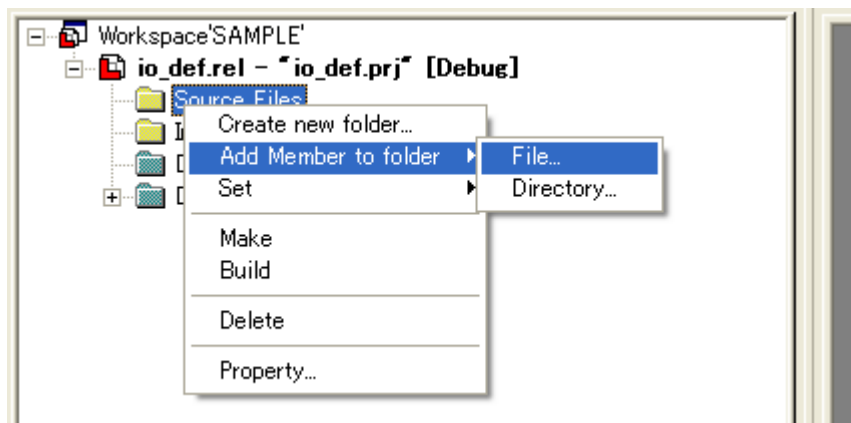
[4] Make relocatable (REL) project.

File -> New -> Workspace/Project file -> Project((Relocatable(REL))



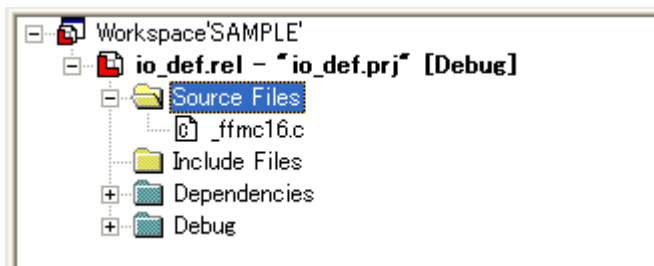
[5] Add the I/O register file to the member.

Source Files(right-clicking) -> Add Member to folder -> File





[Note] When there are two or more \*.c files, Add all \*.c files.



[6] Confirm it is error-free in Make/Build.

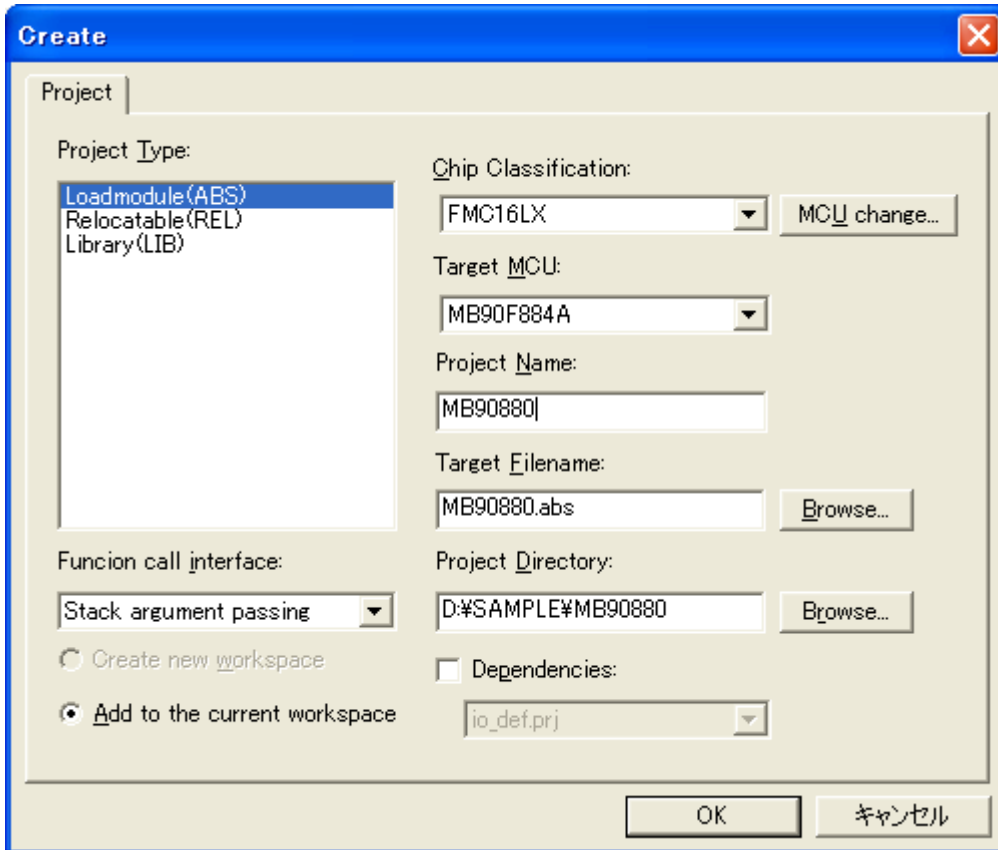
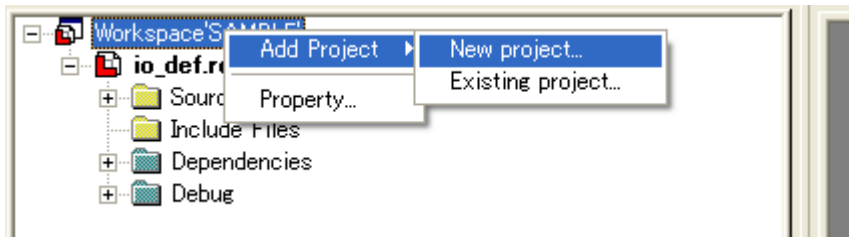
```

Now building...
-----Configuration: io_def.prj - Debug-----
_ffmc16.c
Now linking...
*** W1321L: REL モード時には (-rg) オプションは無視されます
*** W1321L: REL モード時には (-ro) オプションは無視されます
*** W1321L: REL モード時には (-ra) オプションは無視されます
D:¥SAMPLE¥io_def¥Debug¥ABS¥io_def.rel
-----
Warning detected.
-----

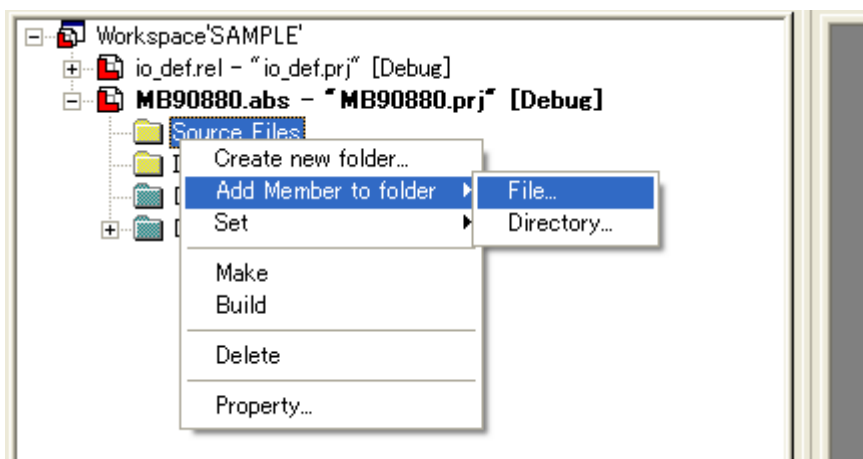
```

[Note] Disregard W1321L: Ignore(option) Option at mode-identification mode Warning.

[7] Make Loadmodule(ABS) project.



[8] Add the user program to the member.



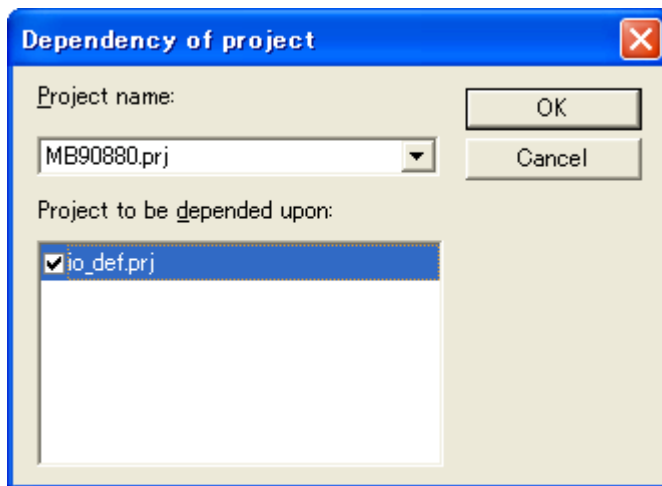
Describe it as follows when you describe the user program that refers to the I/O register variable.

Example:

```
#include "_ffmc16.h"
void func0{
.....
        IO_PDR0.bit.P00 = 1;
.....
}
```

[9] Relate the I/O register file to the user program in the dependence of the project.

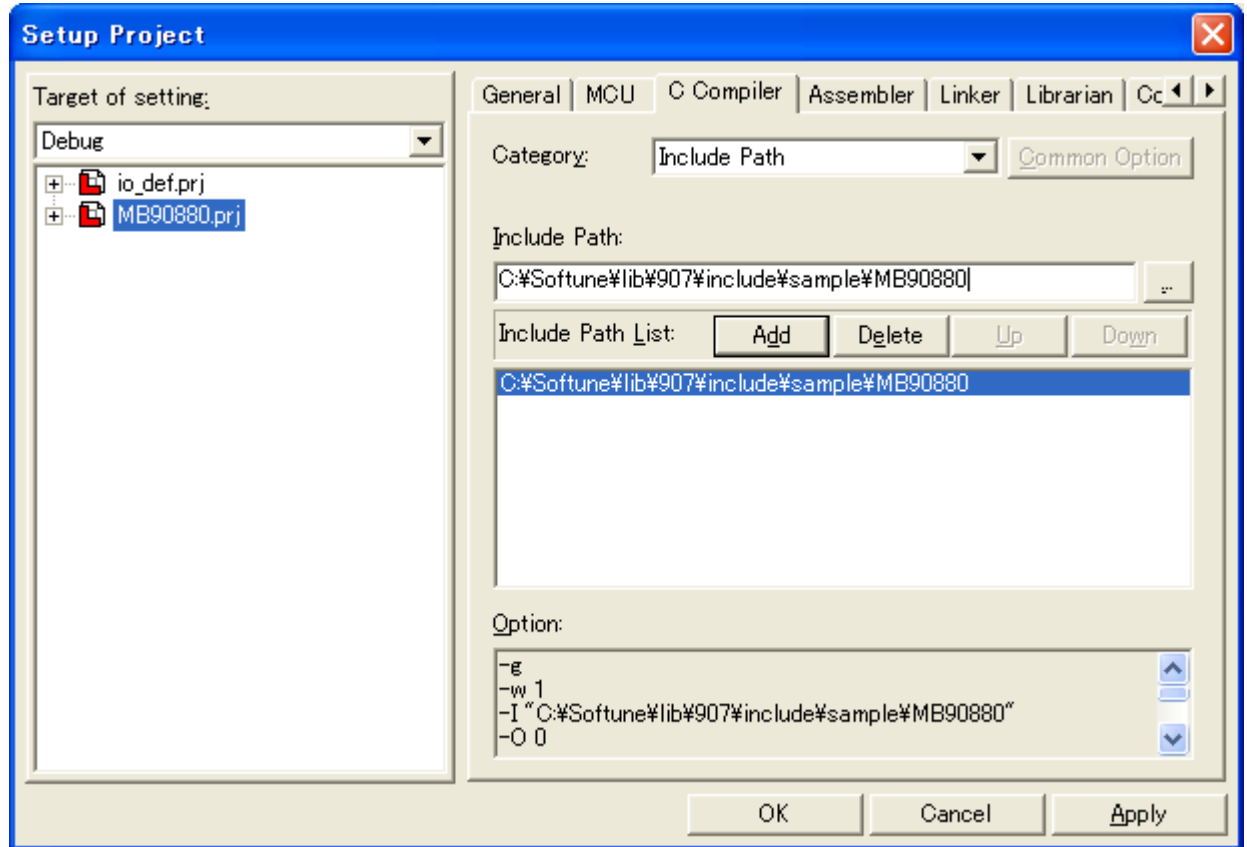
Project -> Project Dependencies



[10] Set the include path.

Project -> Setup Project -> C Compiler -> Category(Include path)

[Note] It becomes effective by pushing the Add button after the include path is selected.



[11] Confirm it is error-free in Make/Build.

```
Now building...
-----Configuration: io_def.prj - Debug-----
_ffmc16.c
Now linking...
*** W1321L: REL モード時には (-rg) オプションは無視されます
*** W1321L: REL モード時には (-ro) オプションは無視されます
*** W1321L: REL モード時には (-ra) オプションは無視されます
D:\SAMPLE\io_def\Debug\ABS\io_def.rel

-----Configuration: MB90880.prj - Debug-----
main.c
Now linking...
*** I0312L: S.C.Fチェックで0個のワーニングが出力されました
D:\SAMPLE\MB90880\Debug\ABS\MB90880.abs

-----
Warning detected.
-----
```

[Note] Disregard W1321L: Ignore(option) Option at mode-identification mode Warning.

END