

A guide to use CMSIS with STM32 microcontrollers

Project

IDE

+ main.c
+ stm32f10x_conf.h
+ stm32f10x_it.c
+ stm32f10x_it.h
+ system_stm32f10x.c

libraries

CMSIS/CM3

StdPeriph_Driver

+ field: type

EWARM

+ project.eww
+ stm32f10x_flash.icf
+ stm32f10x_flash_extsram.icf
+ stm32f10x_nor.icf
+ stm32f10x_ram.icf

(and some other folders that IAR generates)

CoreSupport

+ core_cm3.c
+ core_cm3.h

DeviceSupport/ST/
STM32xxx

+ stm32f10x.h
+ system_stm32f10x.c
+ system_stm32f10x.h

src

+ stm32f10x_adc.c
+ stm32f10x_bkp.c
+ stm32f10x_can.c
+ stm32f10x_cec.c
+ stm32f10x_crc.c
+ stm32f10x_dac.c
+ stm32f10x_dbgmcu.c
+ stm32f10x_dma.c
+ stm32f10x_exti.c
+ stm32f10x_flash.c
+ stm32f10x_fsmc.c
+ stm32f10x_gpio.c
+ stm32f10x_i2c.c
+ stm32f10x_iwdg.c
+ stm32f10x_pwr.c
+ stm32f10x_rcc.c
+ stm32f10x_rtc.c
+ stm32f10x_sdio.c
+ stm32f10x_spi.c
+ stm32f10x_tim.c
+ stm32f10x_usart.c
+ stm32f10x_wwdg.c
+ misc.c

inc

+ stm32f10x_adc.h
+ stm32f10x_bkp.h
+ stm32f10x_can.h
+ stm32f10x_cec.h
+ stm32f10x_crc.h
+ stm32f10x_dac.h
+ stm32f10x_dbgmcu.h
+ stm32f10x_dma.h
+ stm32f10x_exti.h
+ stm32f10x_flash.h
+ stm32f10x_fsmc.h
+ stm32f10x_gpio.h
+ stm32f10x_i2c.h
+ stm32f10x_iwdg.h
+ stm32f10x_pwr.h
+ stm32f10x_rcc.h
+ stm32f10x_rtc.h
+ stm32f10x_sdio.h
+ stm32f10x_spi.h
+ stm32f10x_tim.h
+ stm32f10x_usart.h
+ stm32f10x_wwdg.h
+ misc.h

icf files will be used by IAR
in the Options>>Linker>>cConfig
(linker configuration file)
to write data on ram and rom

startup/armgcc_ride7liar/
TrueStudio/

+ startup_stm32f10x_cl.s
+ startup_stm32f10x_hd.s
+ startup_stm32f10x_hd_vl.s
+ startup_stm32f10x_ld.s
+ startup_stm32f10x_ld_vl.s
+ startup_stm32f10x_md.s
+ startup_stm32f10x_md_vl.s
+ startup_stm32f10x_xl.s

you will be able to use one of these
assembly files (based on your chip)
by either uncommenting the target chip
on line ~65 file stm32f10x.h or adding the
uncommented line in the options>>compiler>>
Preprocessor ,Defined Symbols setion
for mine, I added STM32F10X_MD

STM32

you will get all of these by downloading
stm32f103 std prephiral library

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You should use the following
command in the preprocessor
defined symbols:
USE_STDPERIPH_DRIVER

Also note that you need to add the path of the .h files in to the
"options>>compiler>>preprocessor>>additional include" section.
And <ALL> of your .c files must be added to the project

Recommended hierarchical in IAR
+ CMSIS (core_cm3.c, system_stm32f10x.c)
+ Doc (README.md, ...)
+ EWARM (startup_stm32f10x_XXX.s)
+ StdPeriph_Driver (stm32f10x_adc.c, stm32f10x_i2c.c, ...)
+ User (main.c, stm32f10x_it.c, AnyOtherFilesOfUser)
+ Output (Project.out)
[+STM32_Eval or ... (the drivers of the dev boards like sram.c, lcd.c, ...)]