Create a new project of C program with existing source files

1. Start IAR EWARM IDE program.
2. Choose Project->Create New Project…

Select the project template **C->main** as shown in Fig. 1. Press OK

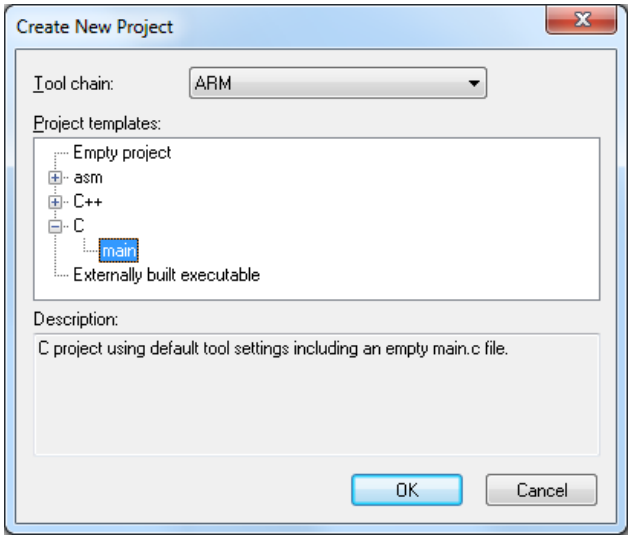

Fig. 1

3. The new project **Lab4** should be saved in the folder \MyDocument\STM32F407\projects\Lab4 as shown in Fig. 2. You may use **New folder** to create required folder.

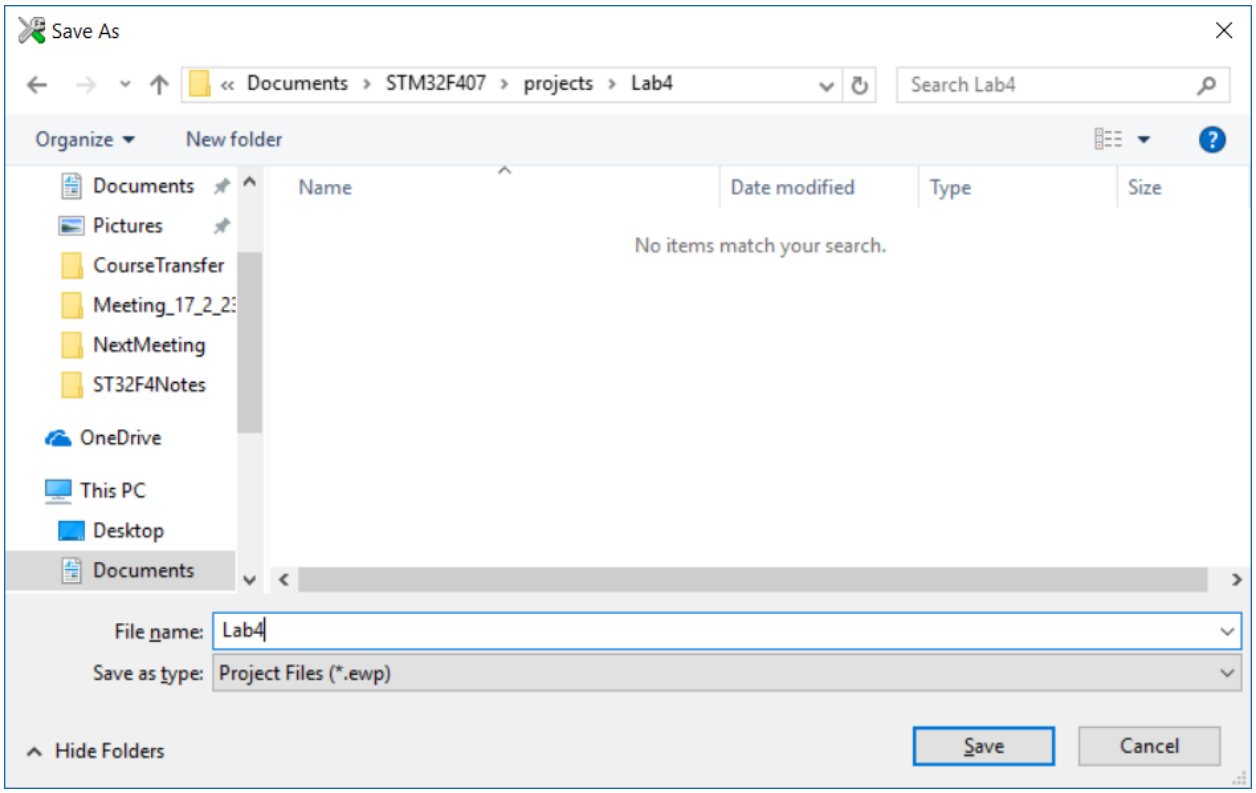

Fig. 2

4. By using File Explorer, copy the selected files from the folder *C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Project\Peripheral_Examples\IO_Toggle* to the folder *C:\Users\zj\Documents\STM32F407\projects\Lab4* as shown in Fig. 3

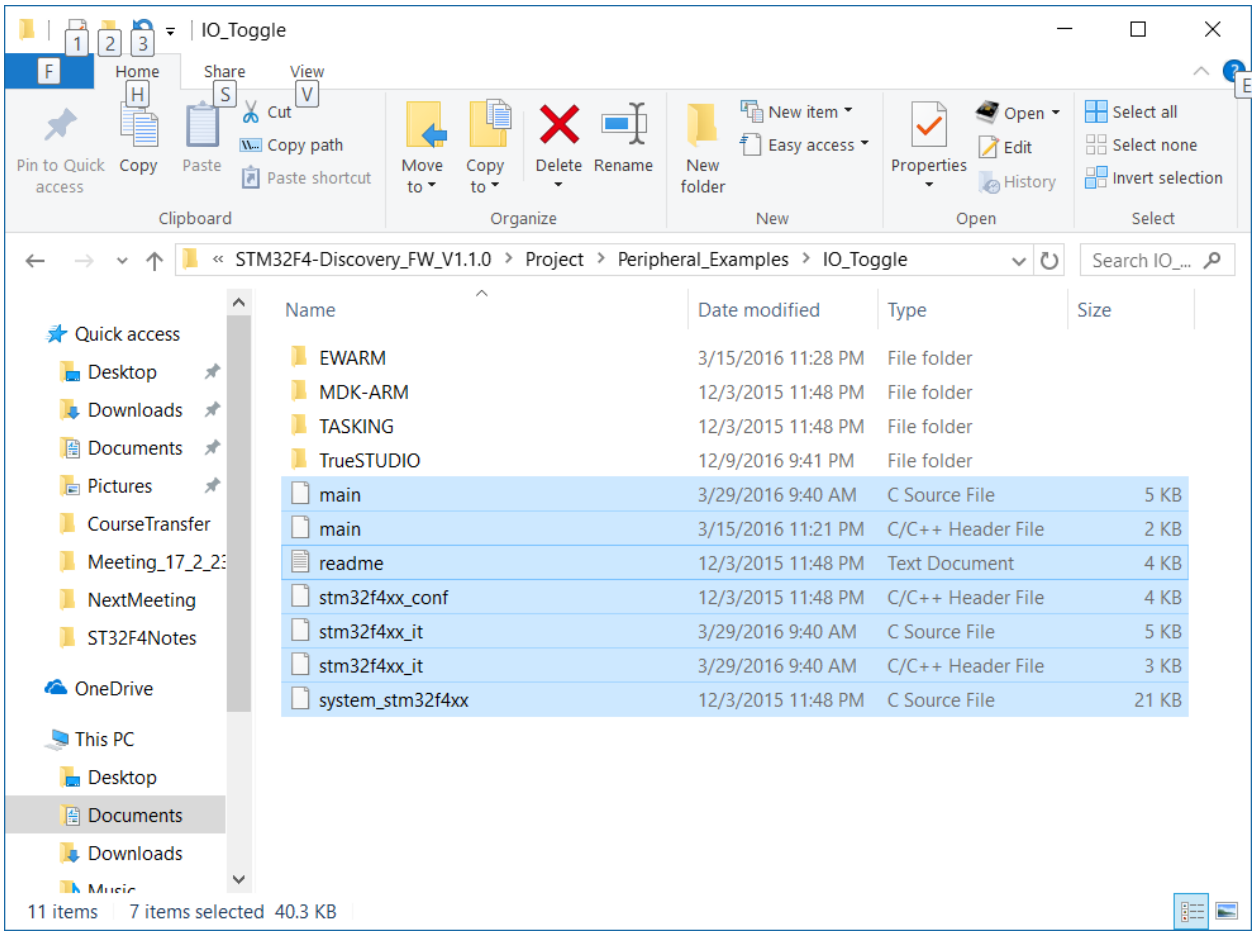

Fig. 3

5. By using Project->Add Group… add the following file group in the project as shown in Fig. 4:

   EWARM

   STM32F4-Discovery

   STM32F4xx_StdPeriph_Driver

   User

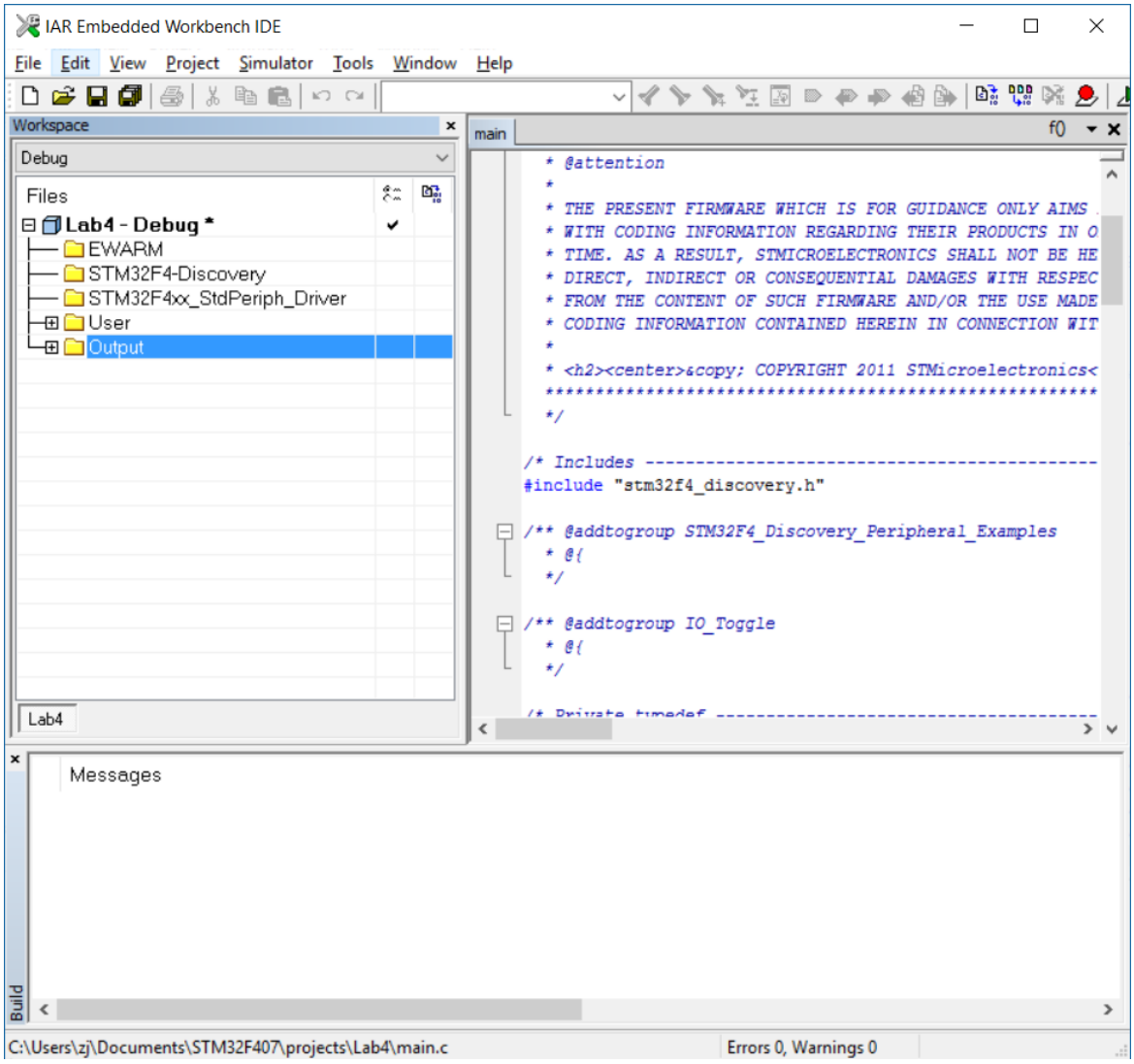

Fig. 4

6. By using Project->Add Files… add files in each group as listed in the following as shown in Fig. 5

   EWARM

   C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Libraries\CMSIS\ST\STM32F4xx\Source\Templates\iar\startup_stm32f4xx.s

   STM32F4-Discovery

   C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Utilities\STM32F4-Discovery\

   stm32f4_discovery.c

   STM32F4xx_StdPeriph_Driver

C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Libraries\STM32F4xx_StdPeriph_Driver\src\

misc.c

stm32f4xx_exti.c

stm32f4xx_gpio.c

stm32f4xx_rcc.c

stm32f4xx_syscfg.c

User

C:\Users\zj\Documents\STM32F407\projects\Lab4

main.c

stm32f4xx_it.c

system_stm32f4xx.c

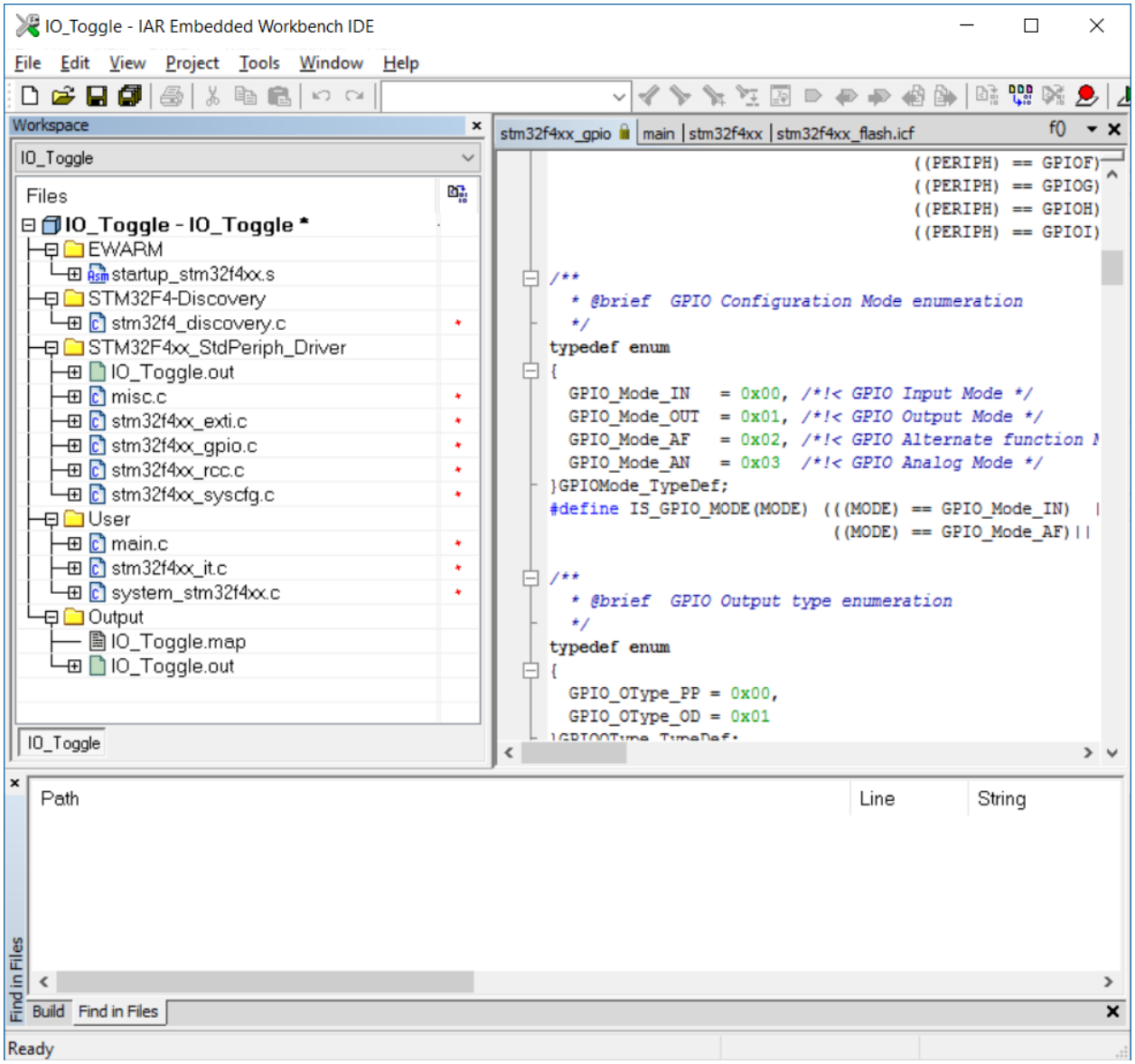

Fig. 5

7. Set project general options by clicking Project-> Options -> General Options

You can choose the device of microcontroller in tag Target -> Device as shown in . You can browse the device by clicking the Browse icon and choose ST -> STM32F407 -> STM32F407VG.

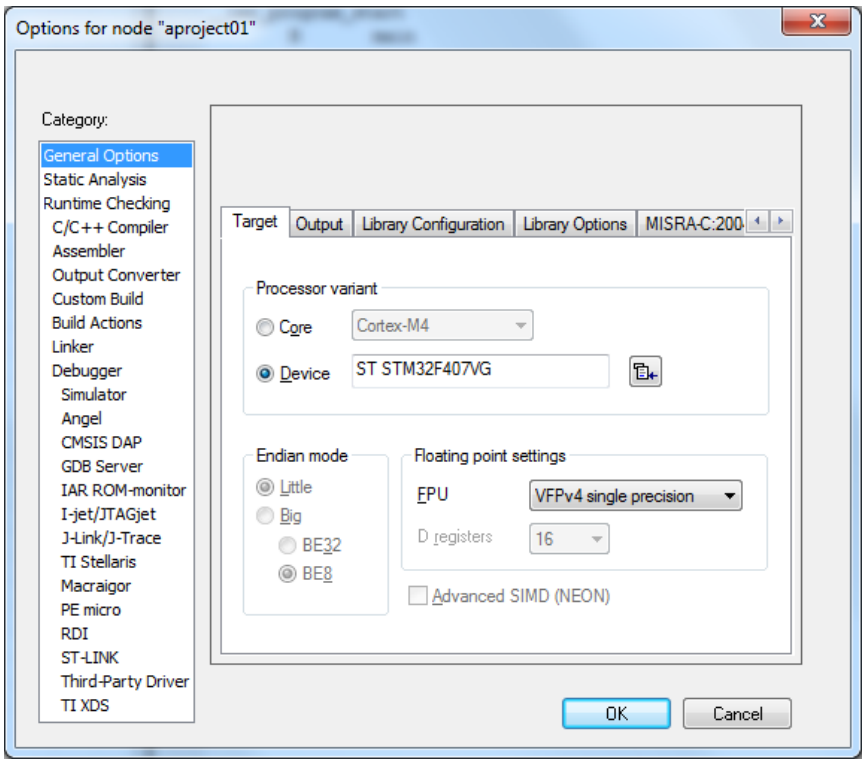

Fig. 6

8. Set Preprocessor option by choosing C/C++ Compiler in Options window as shown in Fig. 7.
   Add the following include directories in Additional include directories: (one per line) (as shown in Fig. 8).

   C:\Users\zj\Documents\STM32F407\projects\Lab4

   C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Utilities

   \STM32F4-Discovery

   C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Libraries

   \CMSIS\Include

   C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Libraries

   \CMSIS\ST\STM32F4xx\Include

   C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Libraries

   \STM32F4xx_StdPeriph_Driver\inc

Add the following symbols in Defined symbols: (one per line)

   USE_STDPERIPH_DRIVER

   STM32F4XX

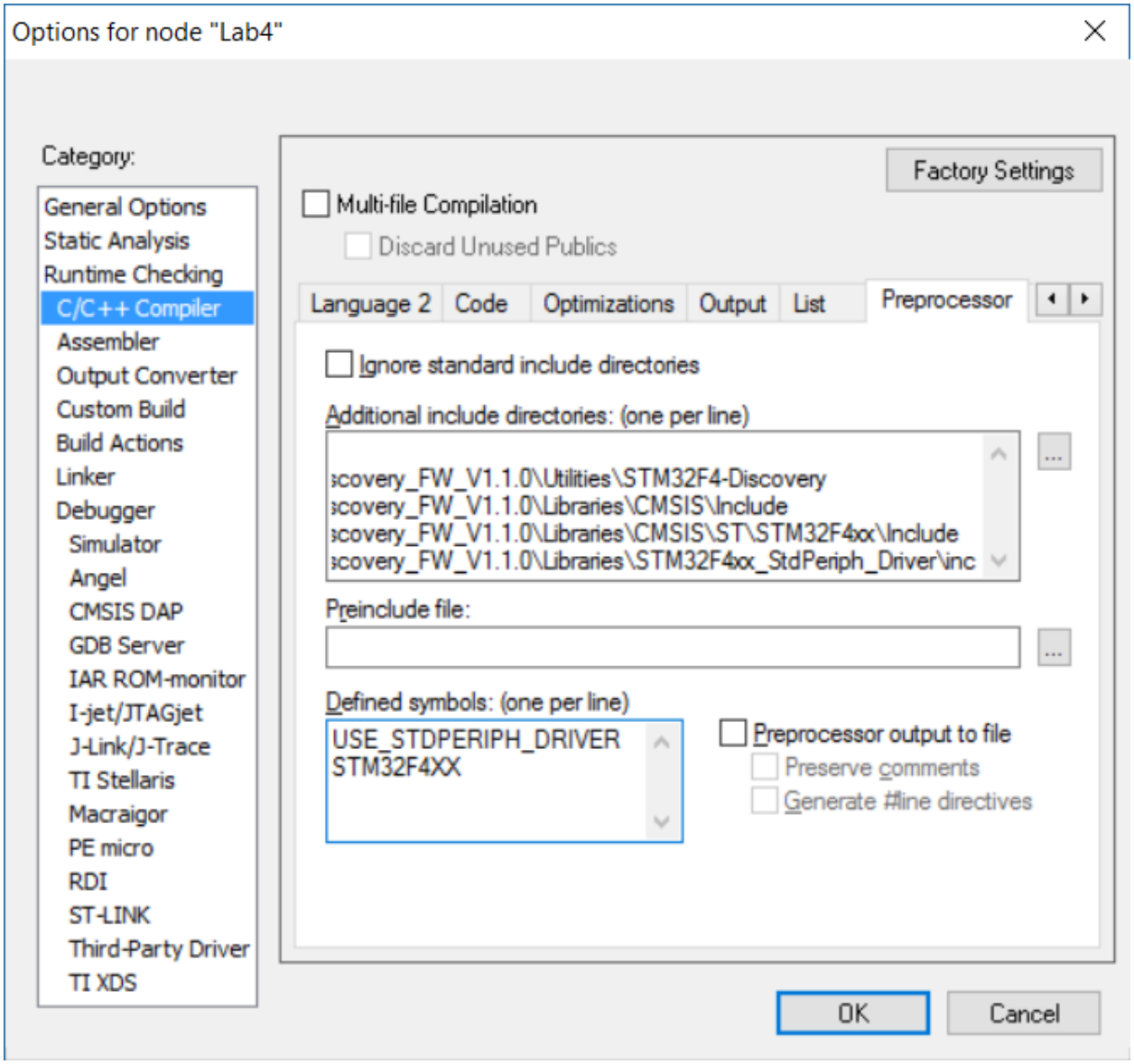
Options for node "Lab4"
Category:
General Options
Static Analysis
Runtime Checking
C/C++ Compiler
Assembler
Output Converter
Custom Build
Build Actions
Linker
Debugger
Simulator
Angel
CMSIS DAP
GDB Server
IAR ROM-monitor
I-jet/JTAGjet
J-Link/J-Trace
TI Stellaris
Macraigor
PE micro
RDI
ST-LINK
Third-Party Driver
TI XDS
Factory Settings
Multi-file Compilation
Discard Unused Publics
Language 2
Code
Optimizations
Output
List
Preprocessor
Ignore standard include directories
Additional include directories: (one per line)
scovery_FW_V1.1.0\Utilities\STM32F4-Discovery
scovery_FW_V1.1.0\Libraries\CMSIS\Include
scovery_FW_V1.1.0\Libraries\CMSIS\ST\STM32F4xx\Include
scovery_FW_V1.1.0\Libraries\STM32F4xx_StdPeriph_Driver\inc
Preinclude file:
Defined symbols: (one per line)
USE_STDPERIPH_DRIVER
STM32F4XX
Preprocessor output to file
Preserve comments
Generate #line directives
OK
Cancel

Fig. 7

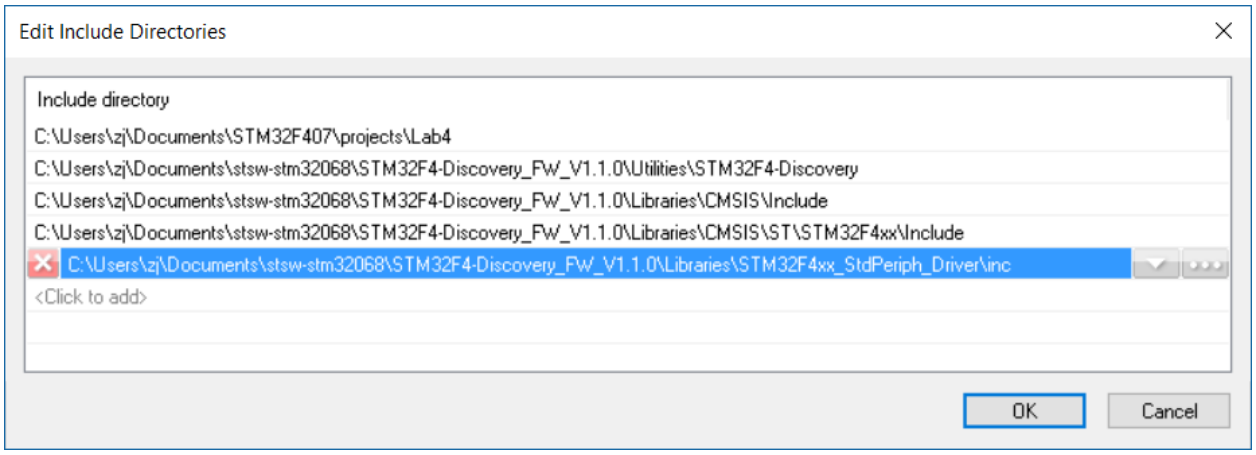
Edit Include Directories
Include directory
C:\Users\zj\Documents\STM32F407\projects\Lab4
C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Utilities\STM32F4-Discovery
C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Libraries\CMSIS\Include
C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Libraries\CMSIS\ST\STM32F4xx\Include
C:\Users\zj\Documents\stsw-stm32068\STM32F4-Discovery_FW_V1.1.0\Libraries\STM32F4xx_StdPeriph_Driver\inc
<Click to add>
OK
Cancel

Fig. 8

9. Set Linker->Output-> Output filename: Lab4.out as shown in Fig. 9

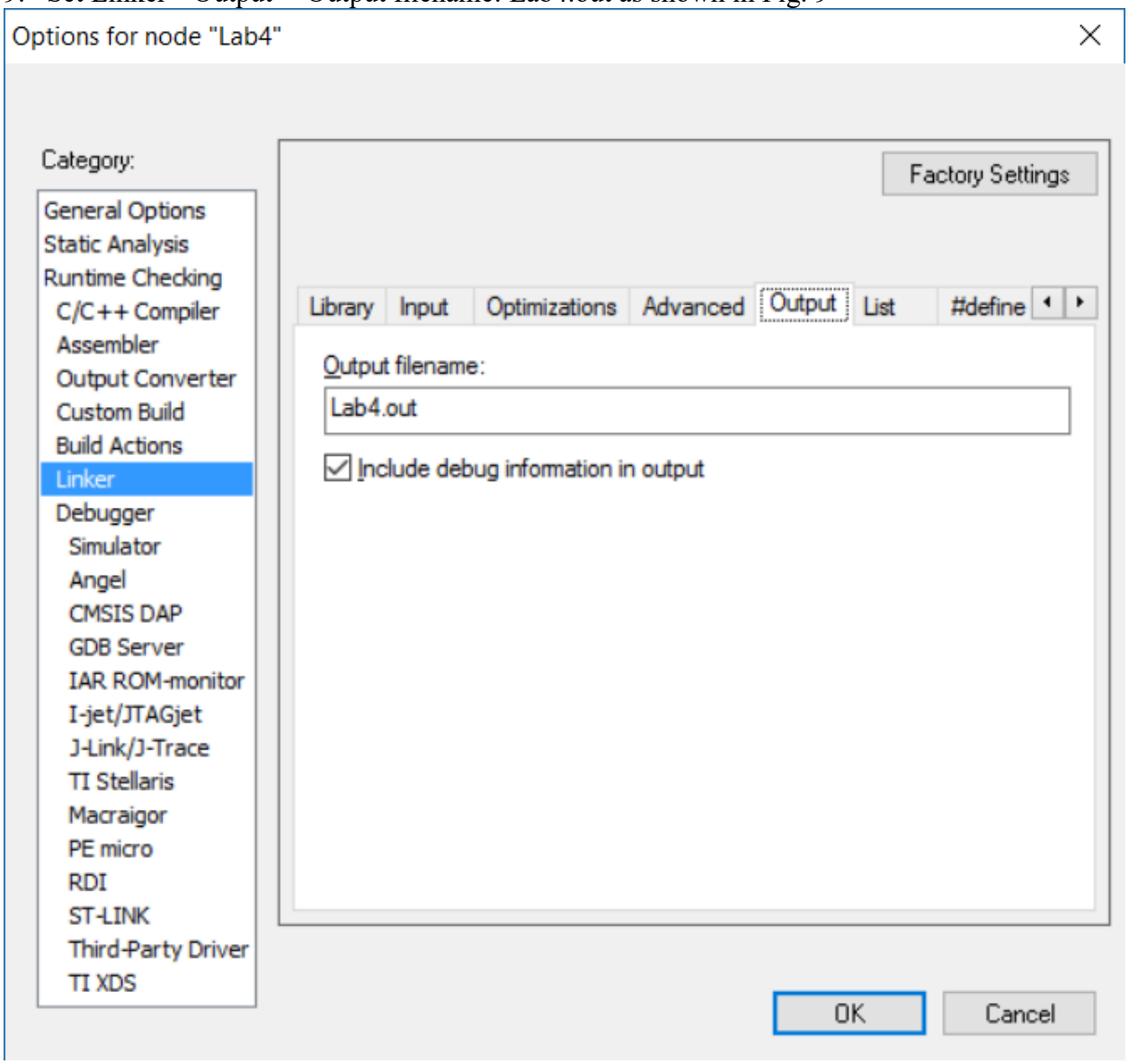

Fig. 9

10. Set project debugger option by choosing Debugger in Options window as shown in Fig. 10. Choose tag **Setup** and select **Driver ST-LINK**. In tag Download check Use flash loader(s) as shown in Fig. 11.

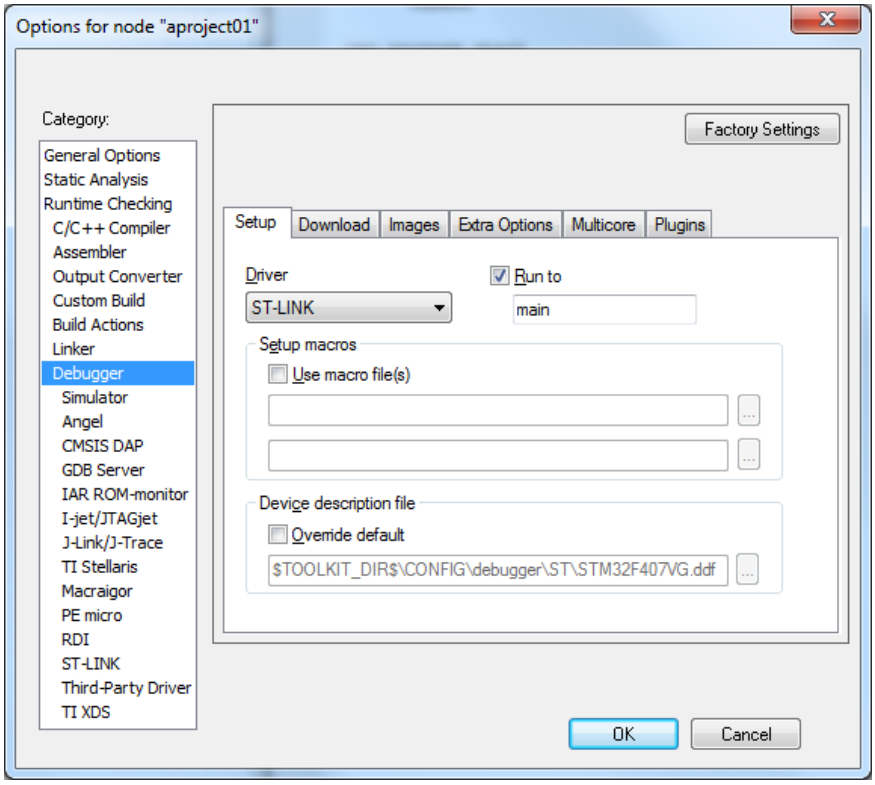

Fig. 10

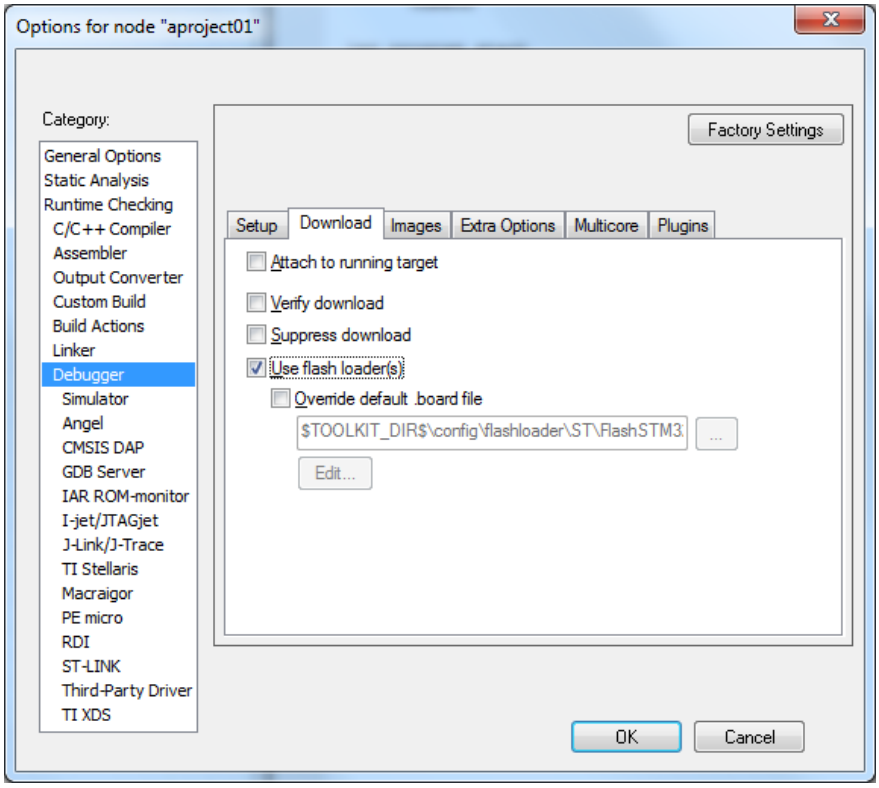

Fig. 11

11. Setup ST-LINK in Debugger option as shown in Fig. 12. In tag Setup, check **SWD**.

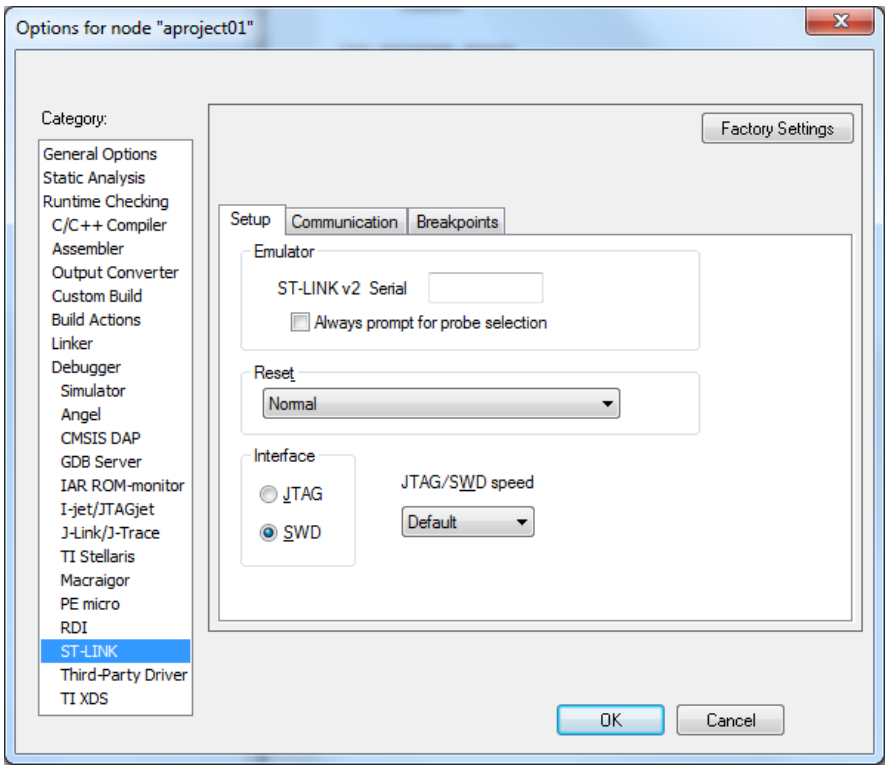

Fig. 12

12. You can click OK button to complete the setting of project options. You should also save workspace by clicking File->Save Workspace. You may name the workspace as **Lab4**.
13. Build the project by clicking Project -> Rebuild All. In the Messages window you can find the information of the project build. Make sure there is no error and warning.
14. To download and debug the project, you can refer to "Guide to Create a New Project for Assembly Program".