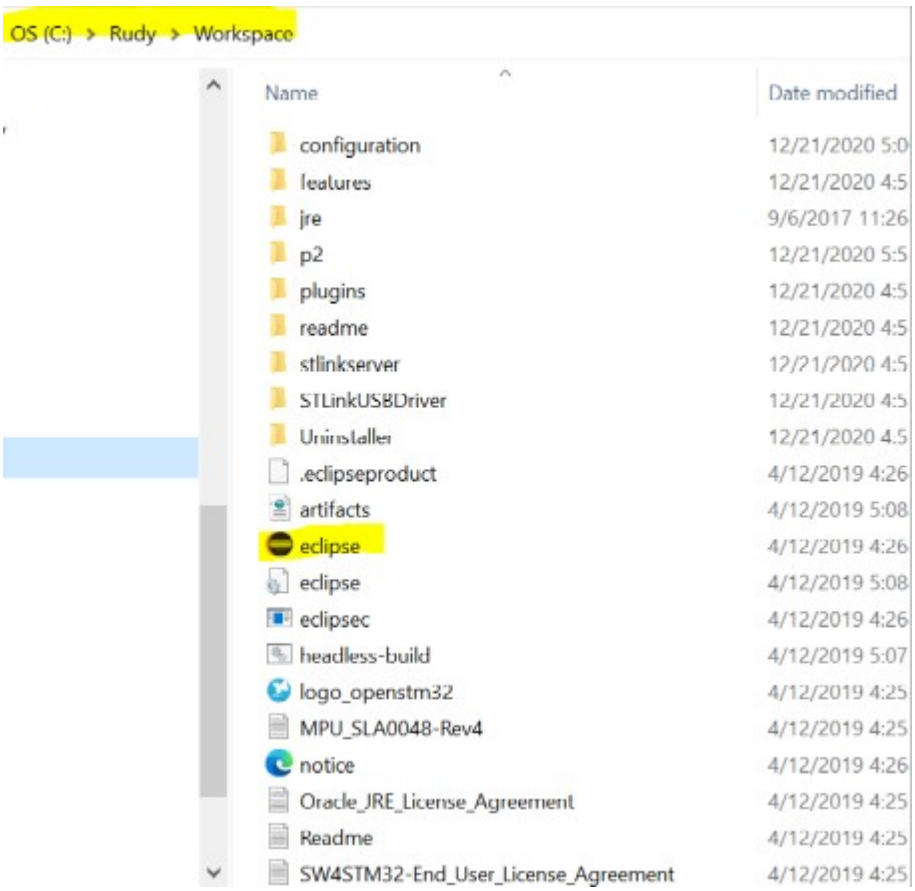
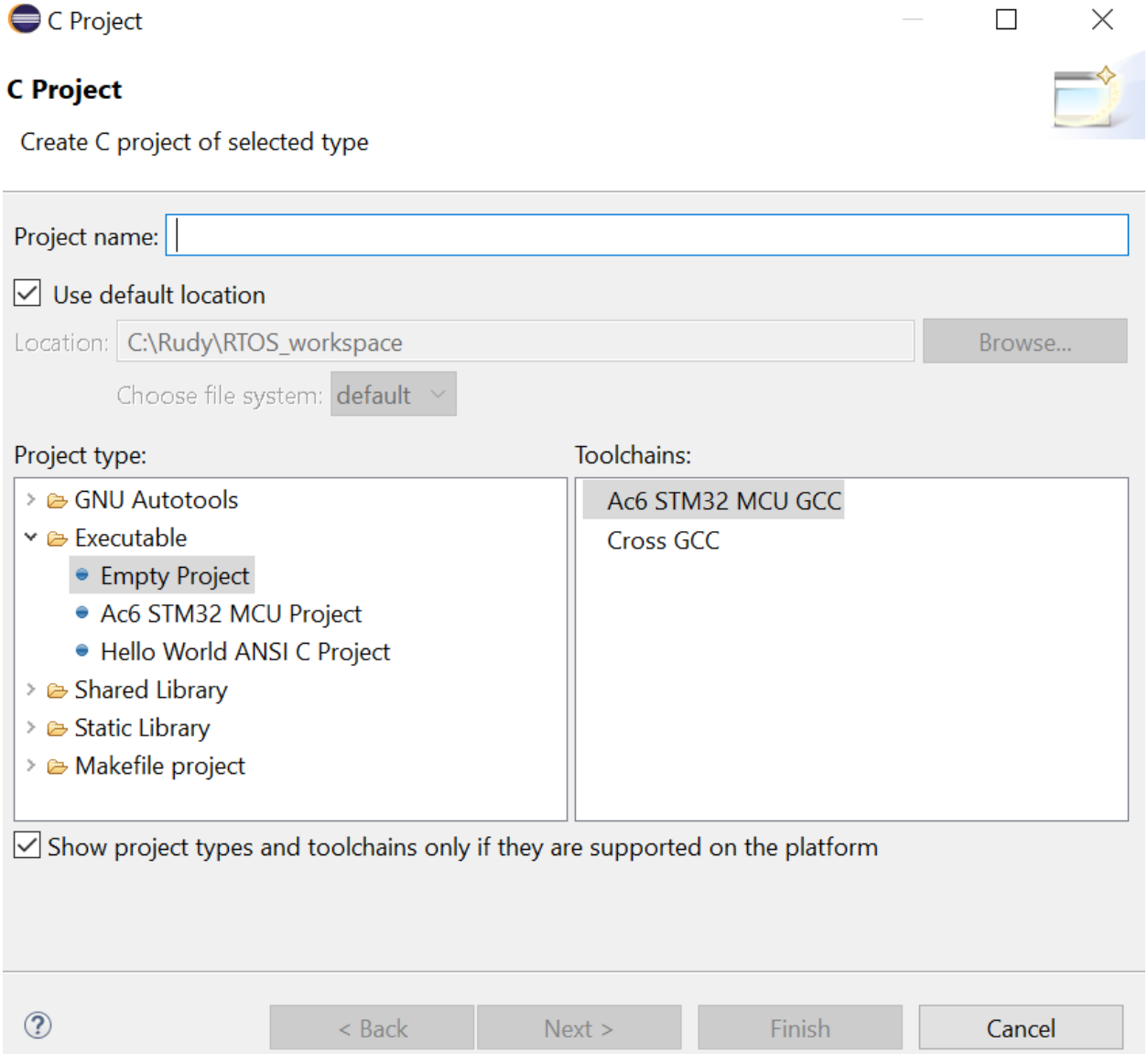
This method is using the STM32 System Workbench from ST.

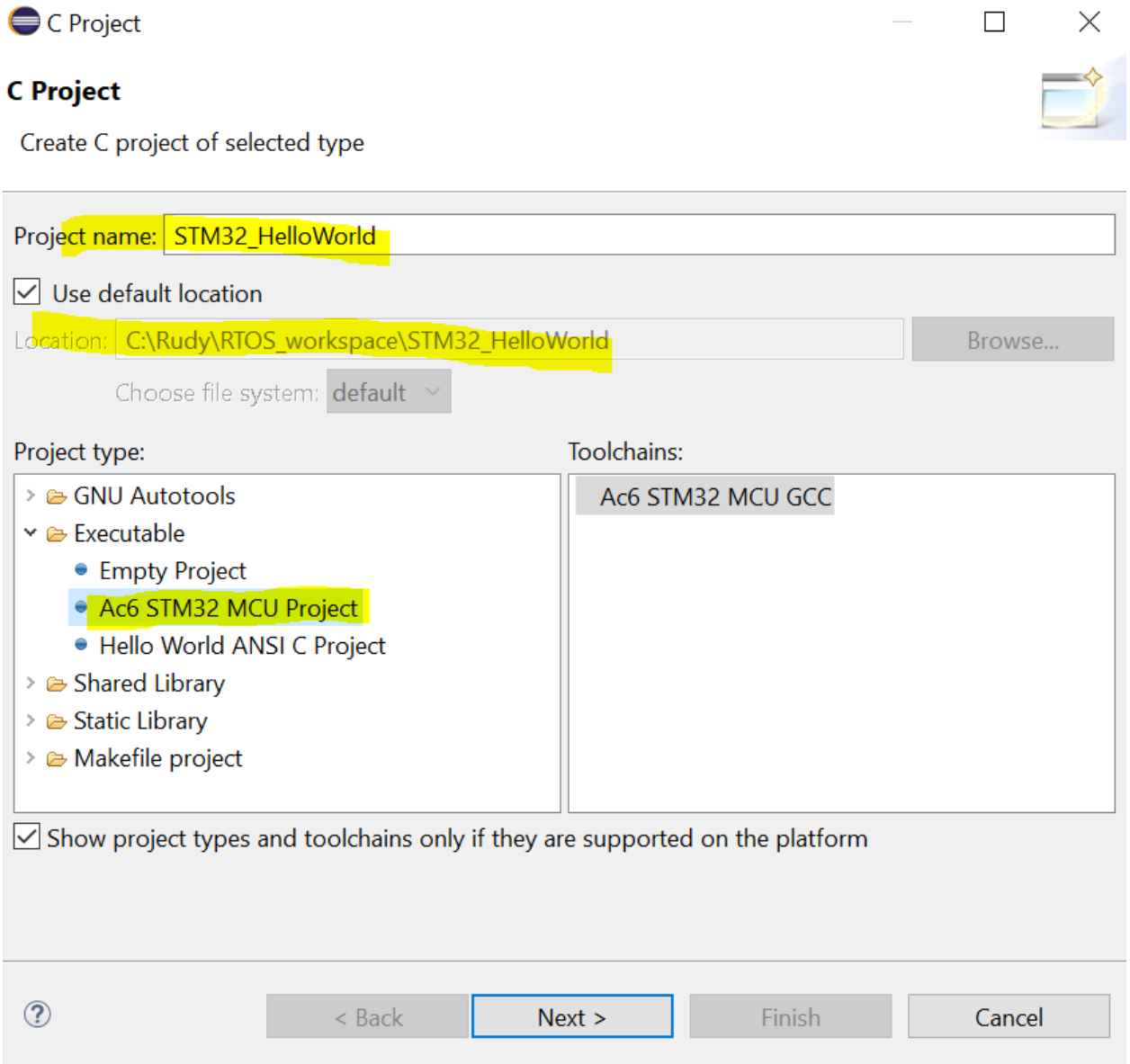
1. Run the eclipse inside the directory where the STM32 System Workbench is installed. In my case, it was installed in C:\Rudy\Workspace



2. File -> New -> C Project

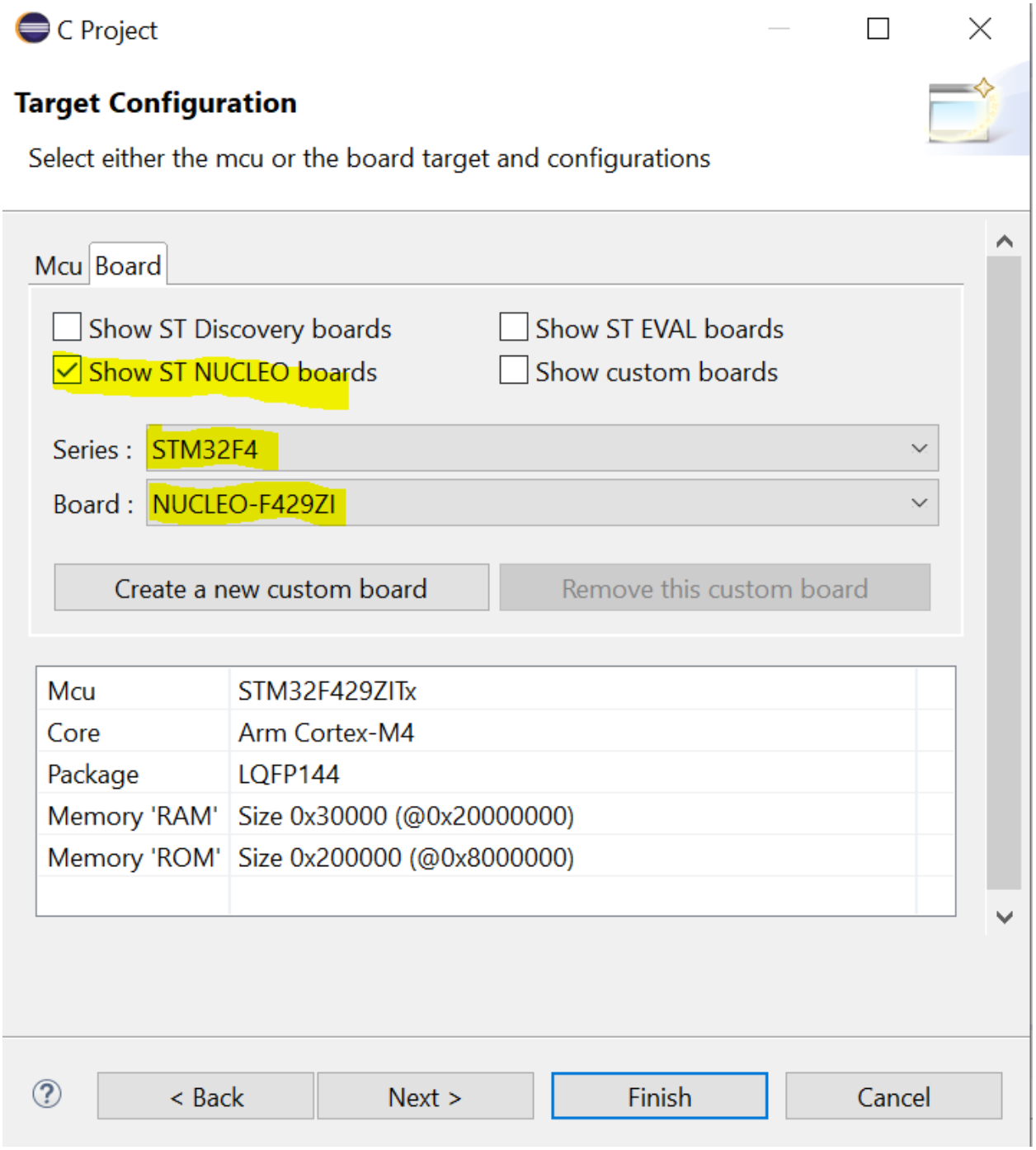


3. Put “Project name”, select “Location” and select “Executable” -> “Ac6 STM32 MCU Project”.

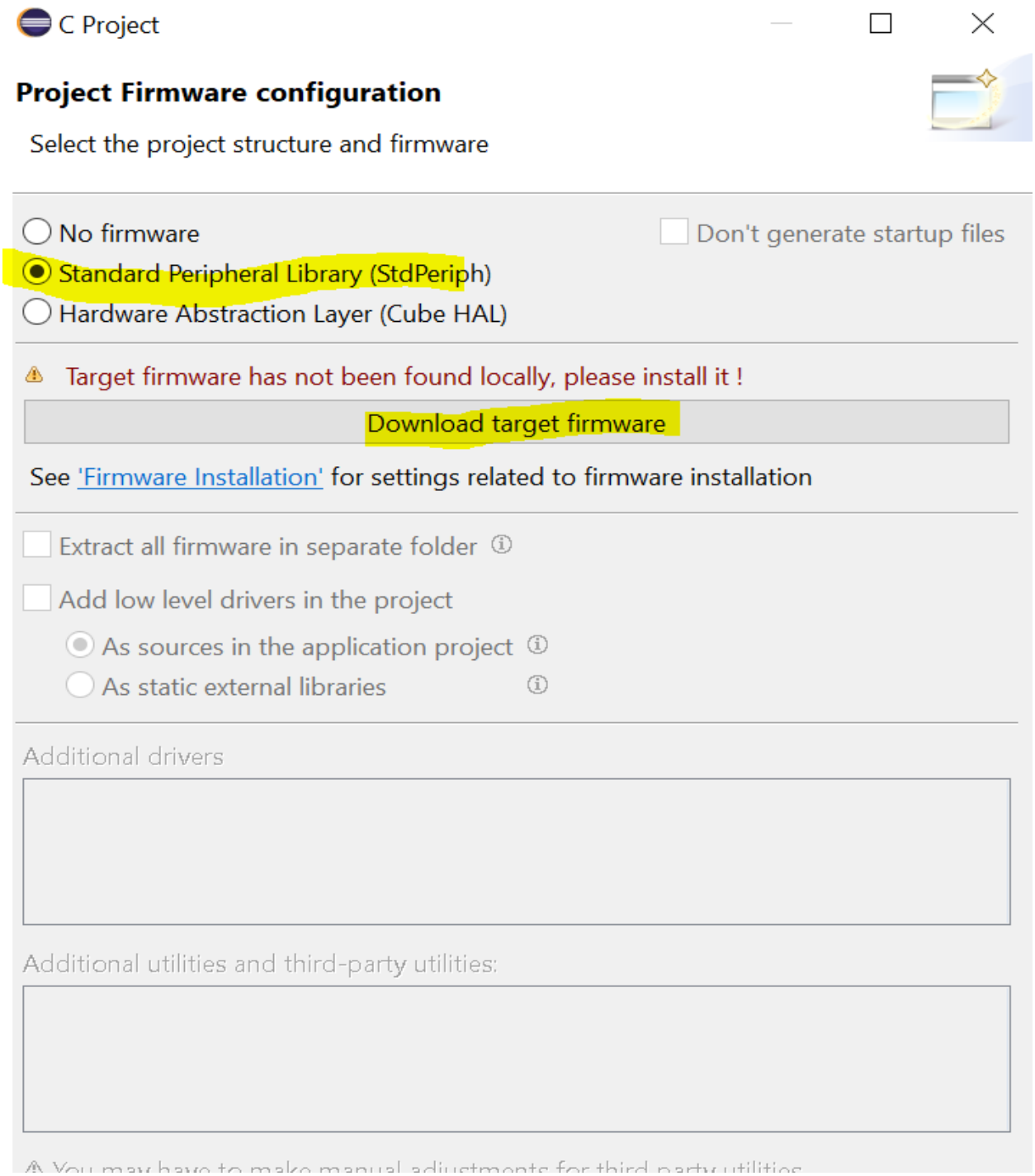


4. Click Next then one more Next

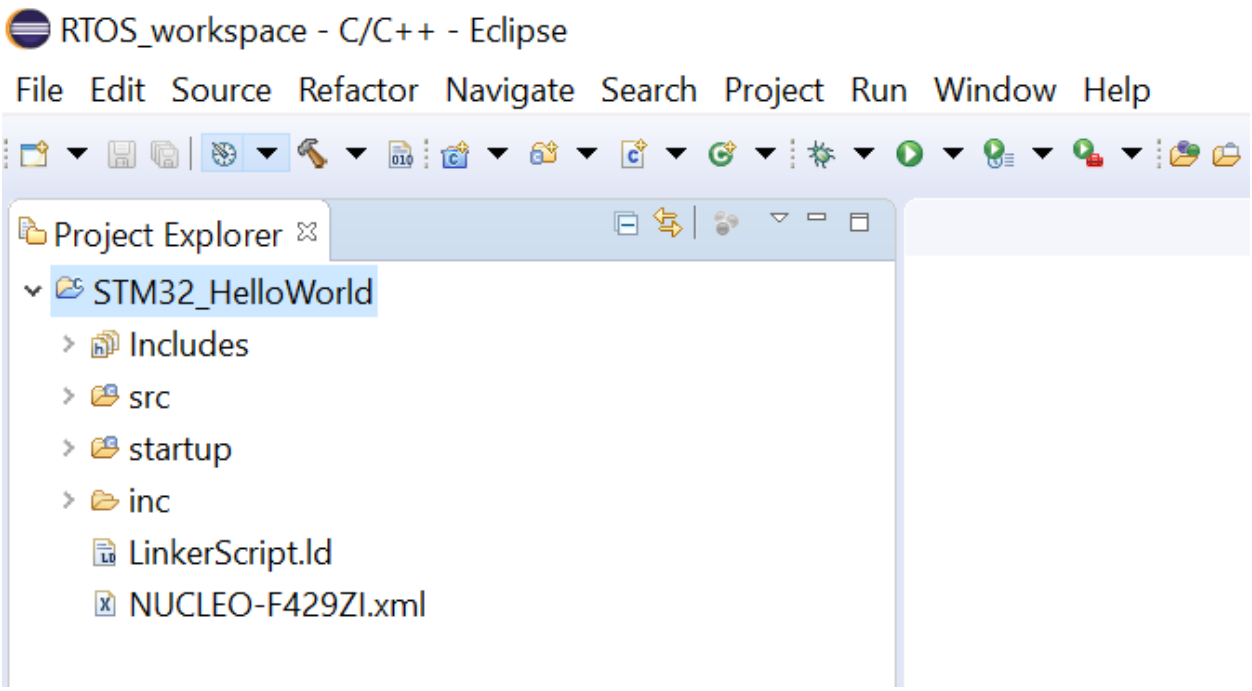
5. Select the board (e.g. STM32F4)



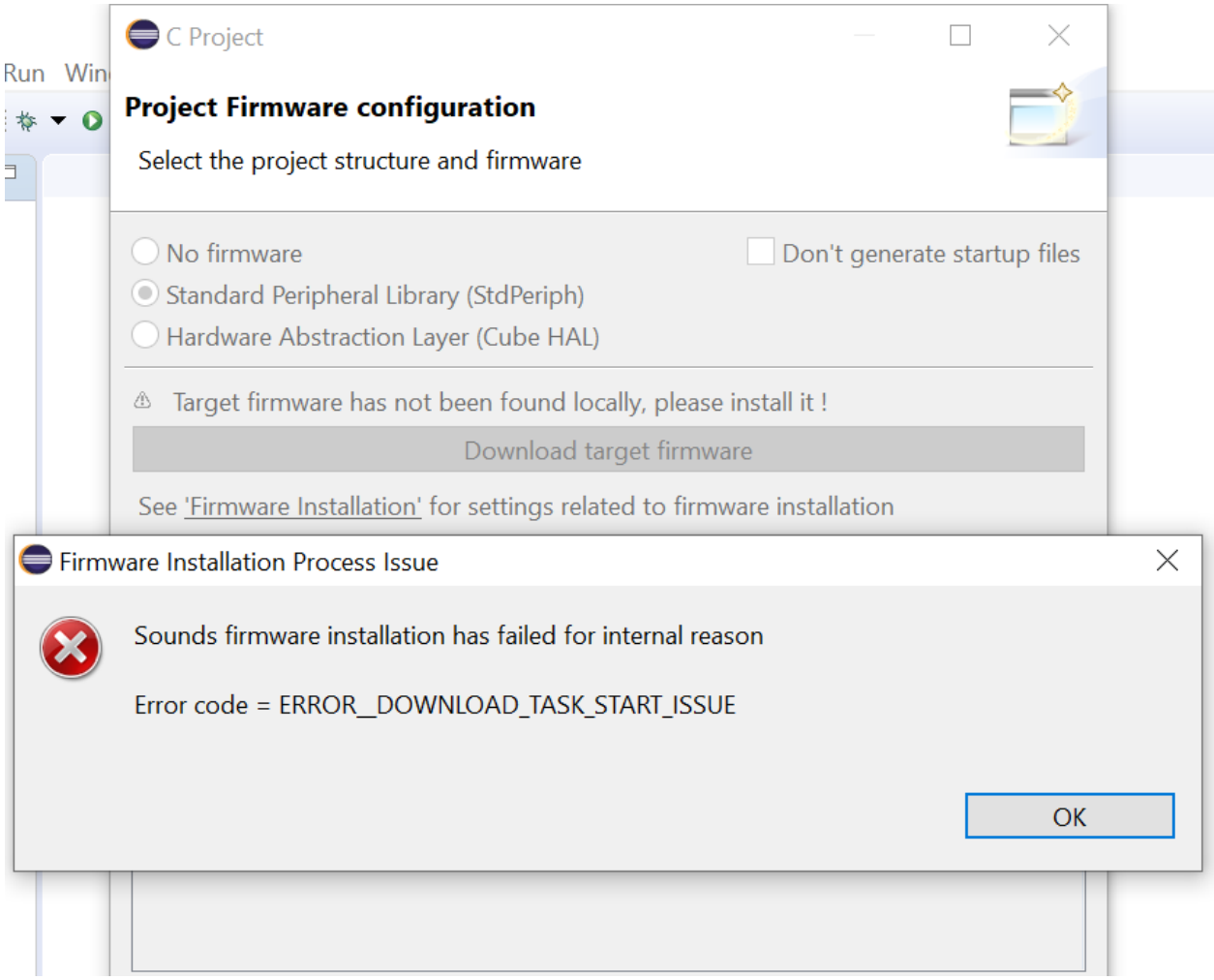
6. Click Next and select “Standard Peripheral Library (StdPeriph)
   If Target firmware has not been found locally, simply click the “Download target firmware”
   If there is an error, just finish the setup.



7. Click Finish
   The new C Project is now created.



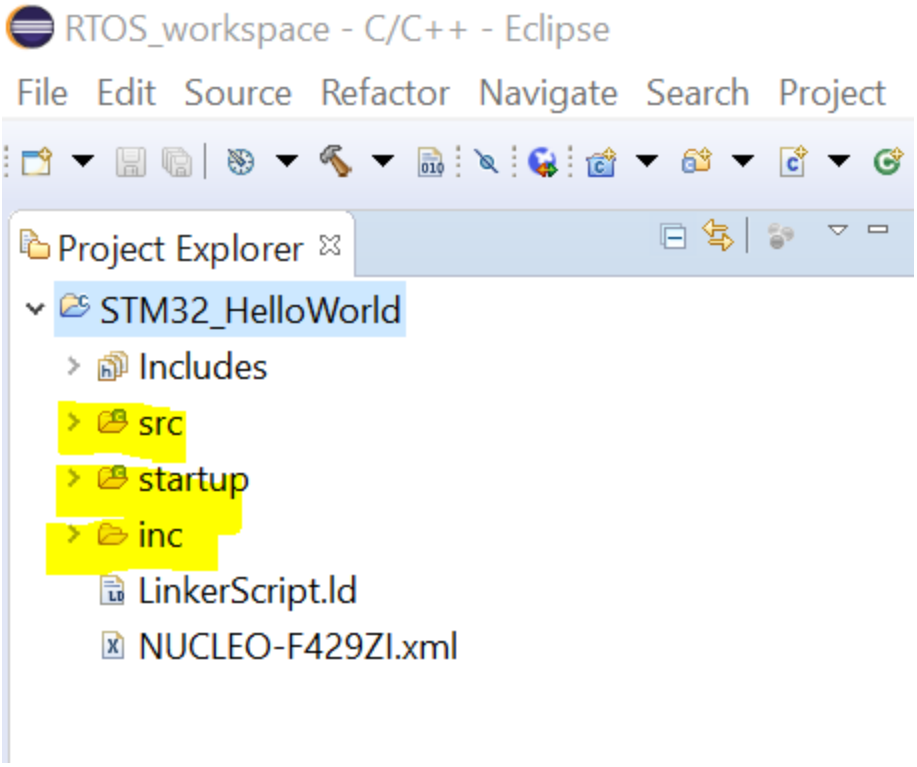
8. If there is an error in step #5(as shown below), we need to integrate the StdPeriph library manually.
   The following steps will show on how to setup the StdPeriph manually.



9. Use the attached standard peripheral library. The file is also available under STM32/Standard_Preripheral_Library folder.

StdPeri_fles.zip

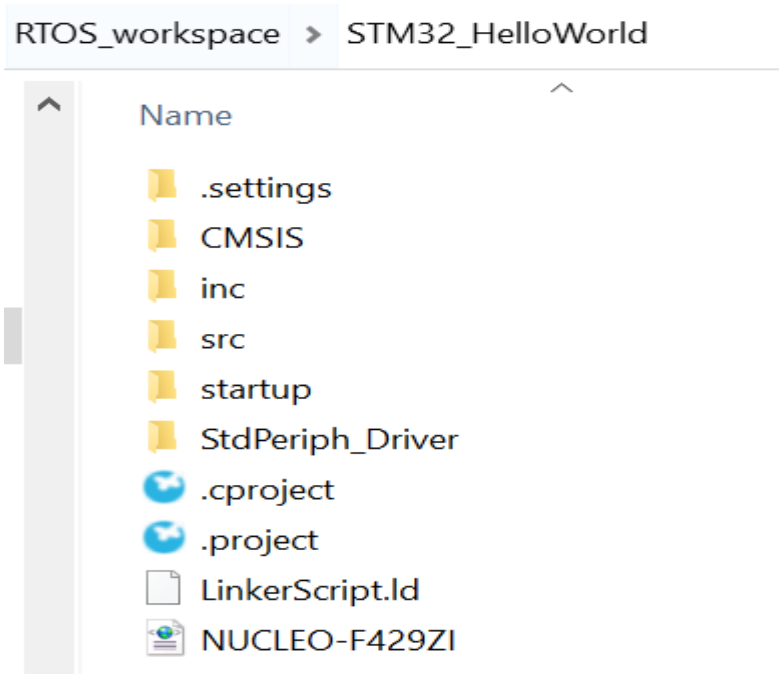
10. As we need to add the StdPeriph manually, we need to delete the folder "src", "startup" and "inc" from our project. Right click and click "Delete"

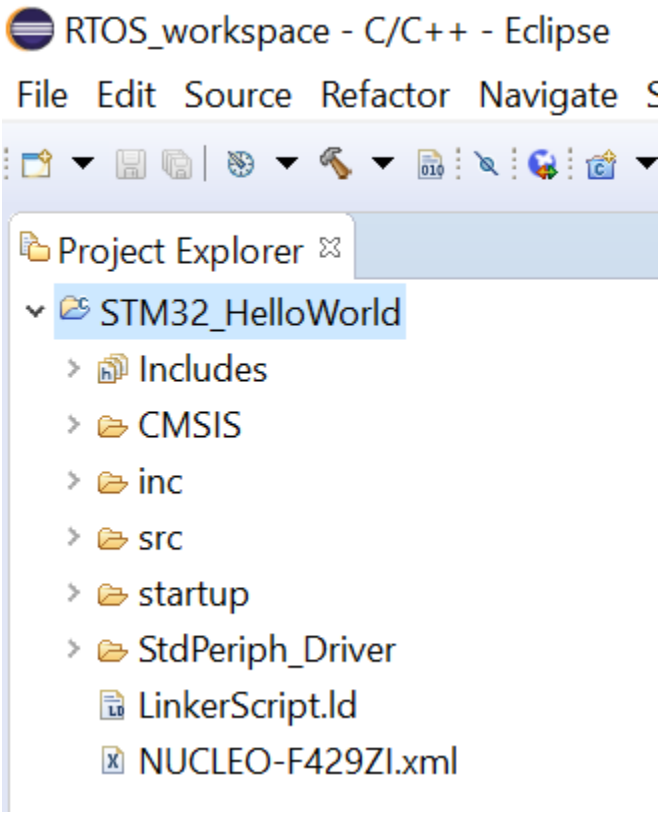


11. Extract the dowloaded "StdPeri_files.zip" file. It contains the following files.

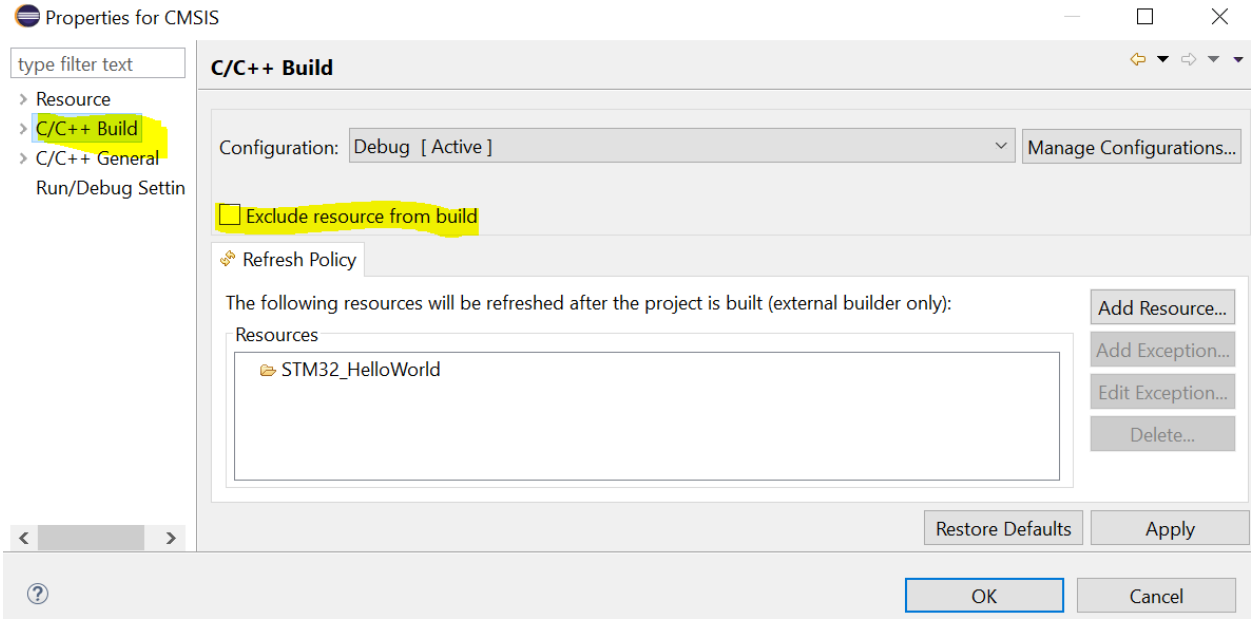
Name	Date modified
CMSIS	12/22/2020 9:47 AM
inc	12/22/2020 9:47 AM
src	12/22/2020 9:47 AM
startup	12/22/2020 9:47 AM
StdPeriph_Driver	12/22/2020 9:47 AM

12. Select all the files shown in step #10 and copy into the project directory. You can also do drag and drop to copy the files.
    Go to the Eclipse and press F5 to reflesh the project.

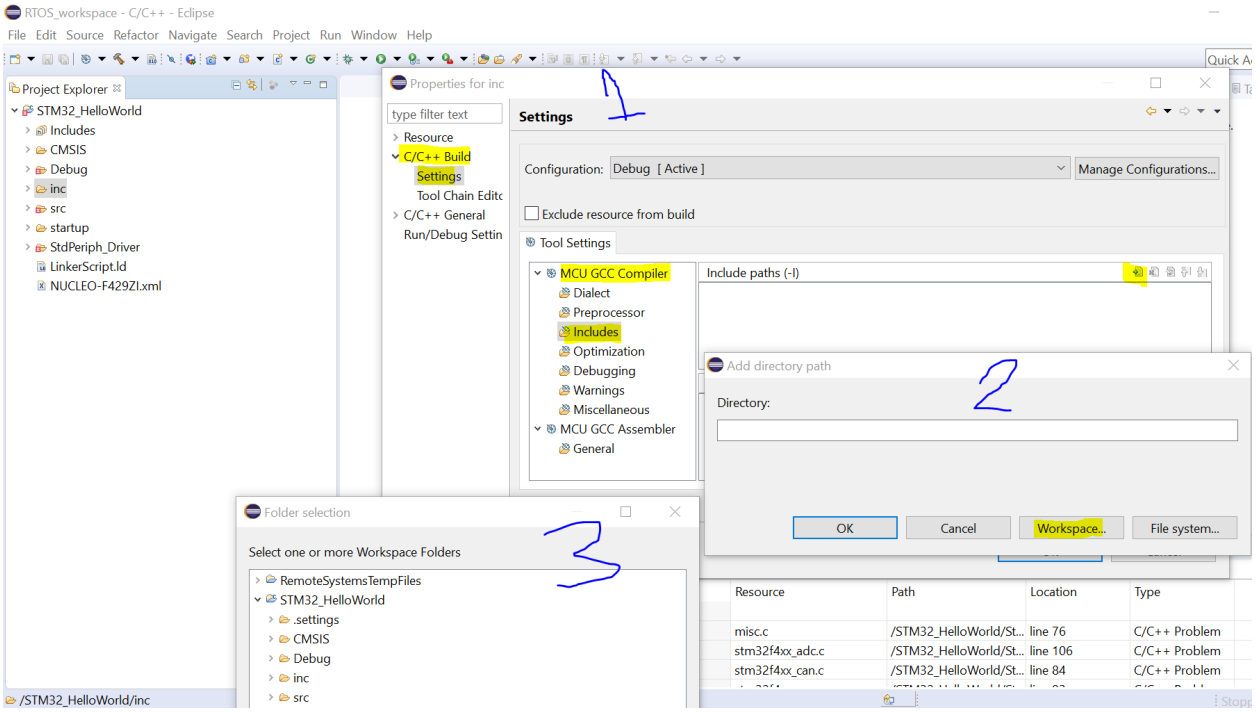




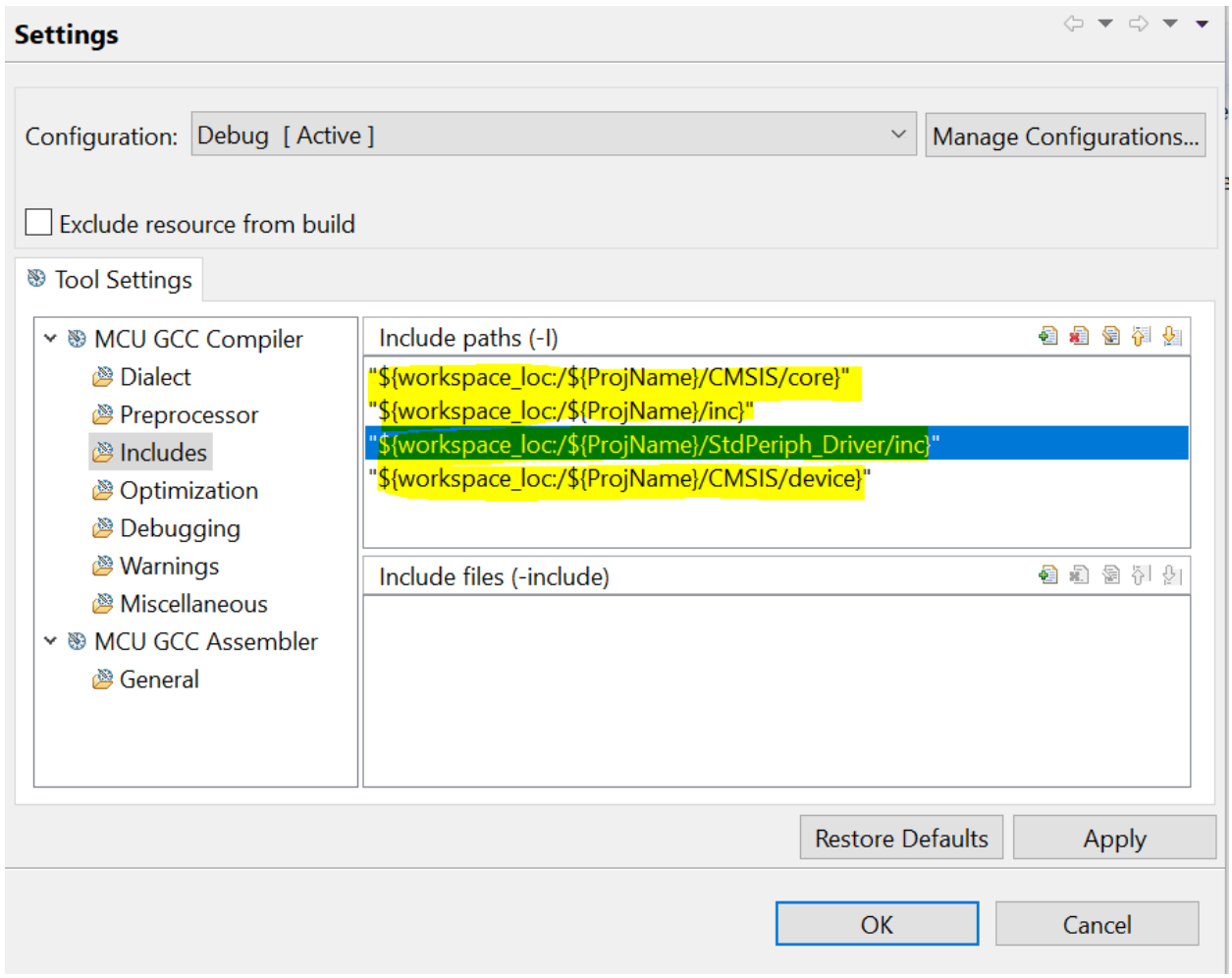
13. Right click each folders then “Properties” and make sure in the “C/C++ Build” -> “Exclude resource from build” is not checked.



14. Then add the include files
Right Click on the Project -> Properties -> C/C++ Build -> Settings -> MCU GCC Compiler -> Includes > Click the “+” icon to add the directory of the include files -> Click on Workspace -> Select the folder that contains include file(s) from the project.



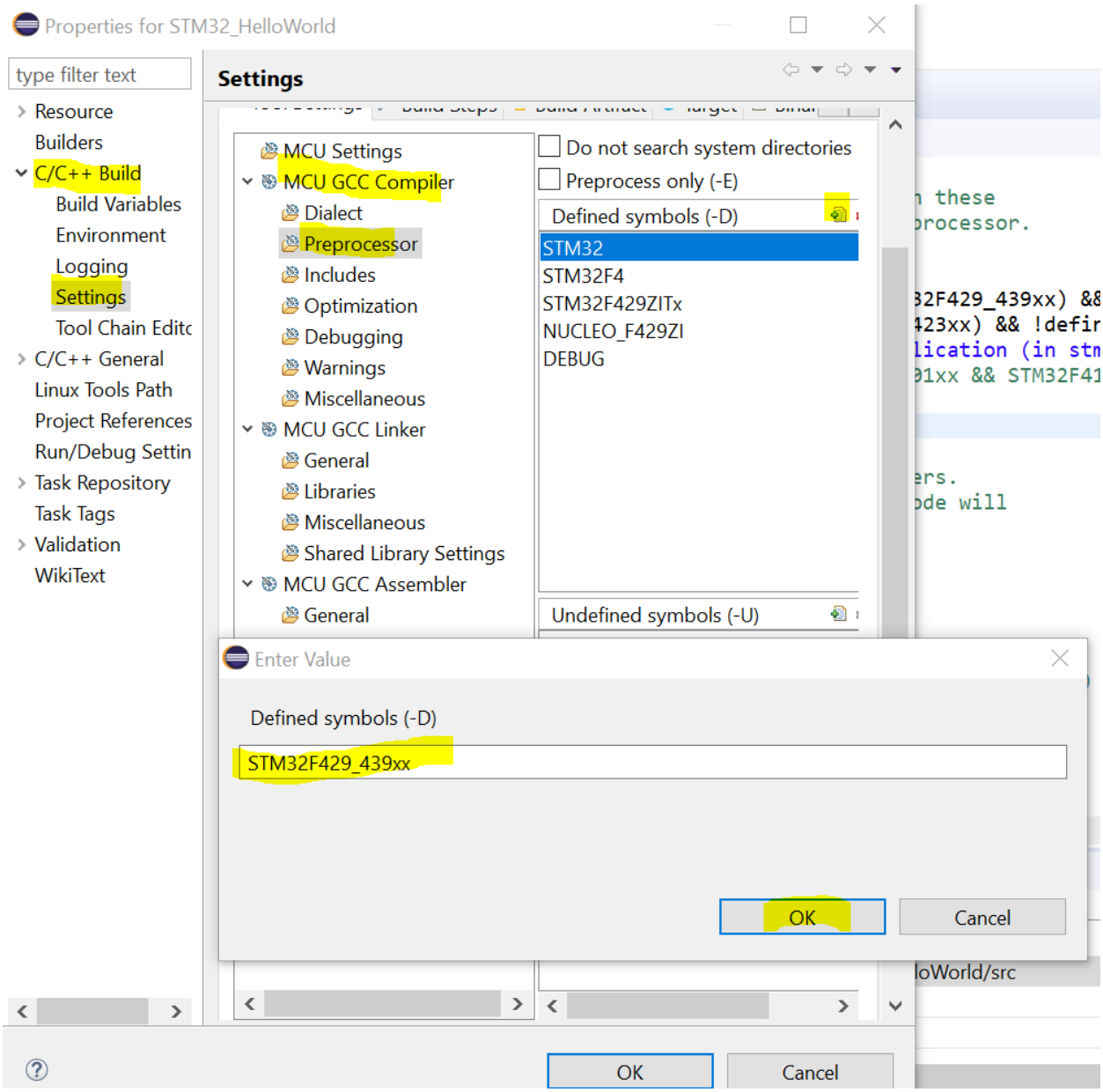
Click Apply then OK.

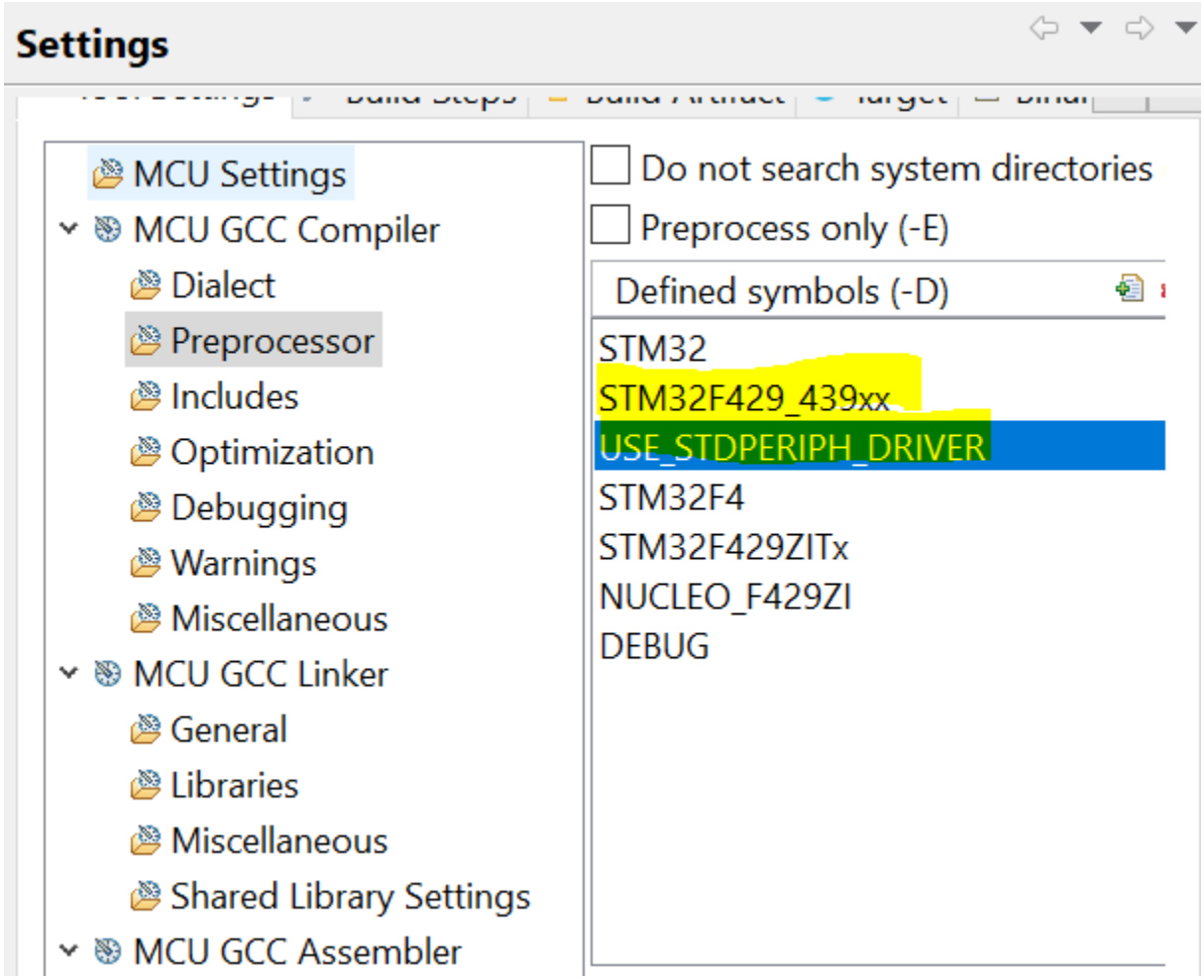


15. Add the macro that suite to the microcontroller you are using. The definition are located in the following link: CMSIS/device/stm32f4xx.h
In my case, since I'm using STM32F49ZI, I'll select the macro "STM32F429_439xx".
Also the macro "USE_STDPERIPH_DRIVER"

```
#if !defined(STM32F40_41xxx) && !defined(STM32F427_437xx) && !defined(STM32F429_439xx) && !defined(S
    !defined(STM32F411xE) && !defined(STM32F412xG) && !defined(STM32F413_423xx) && !defined(STM32F4
  /* #define STM32F40_41xxx */   /*!< STM32F405RG, STM32F405VG, STM32F405ZG, STM32F415RG, STM32F415
                                       STM32F407VG, STM32F407VE, STM32F407ZG, STM32F407ZE, STM32F407
                                       STM32F417VG, STM32F417VE, STM32F417ZG, STM32F417ZE, STM32F417

  /* #define STM32F427_437xx */  /*!< STM32F427VG, STM32F427VI, STM32F427ZG, STM32F427ZI, STM32F427
                                       STM32F437VG, STM32F437VI, STM32F437ZG, STM32F437ZI, STM32F437

  /* #define STM32F429_439xx */  /*!< STM32F429VG, STM32F429VI, STM32F429ZG, STM32F429ZI, STM32F429
                                       STM32F429NG, STM32F439NI, STM32F429IG, STM32F429II, STM32F439
                                       STM32F439ZG, STM32F439ZI, STM32F439BG, STM32F439BI, STM32F439
                                       STM32F439IG and STM32F439II Devices */

  /* #define STM32F401xx */      /*!< STM32F401CB, STM32F401CC,  STM32F401RB, STM32F401RC, STM32F401
                                       STM32F401CD, STM32F401RD, STM32F401VD, STM32F401CExx, STM32F4
```

Right click on the Project and go to Properties -> MCU GCC Compiler -> Preprocessor -> Click “+” icon to add. Repeat the process until all macros are added.





Now, the StdPeriph is successfully added.
Build the Project and you should able to build it without any error. The binary file is also able to generate.