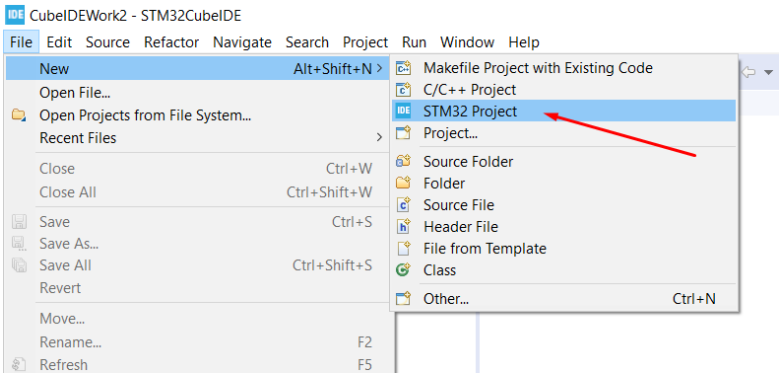
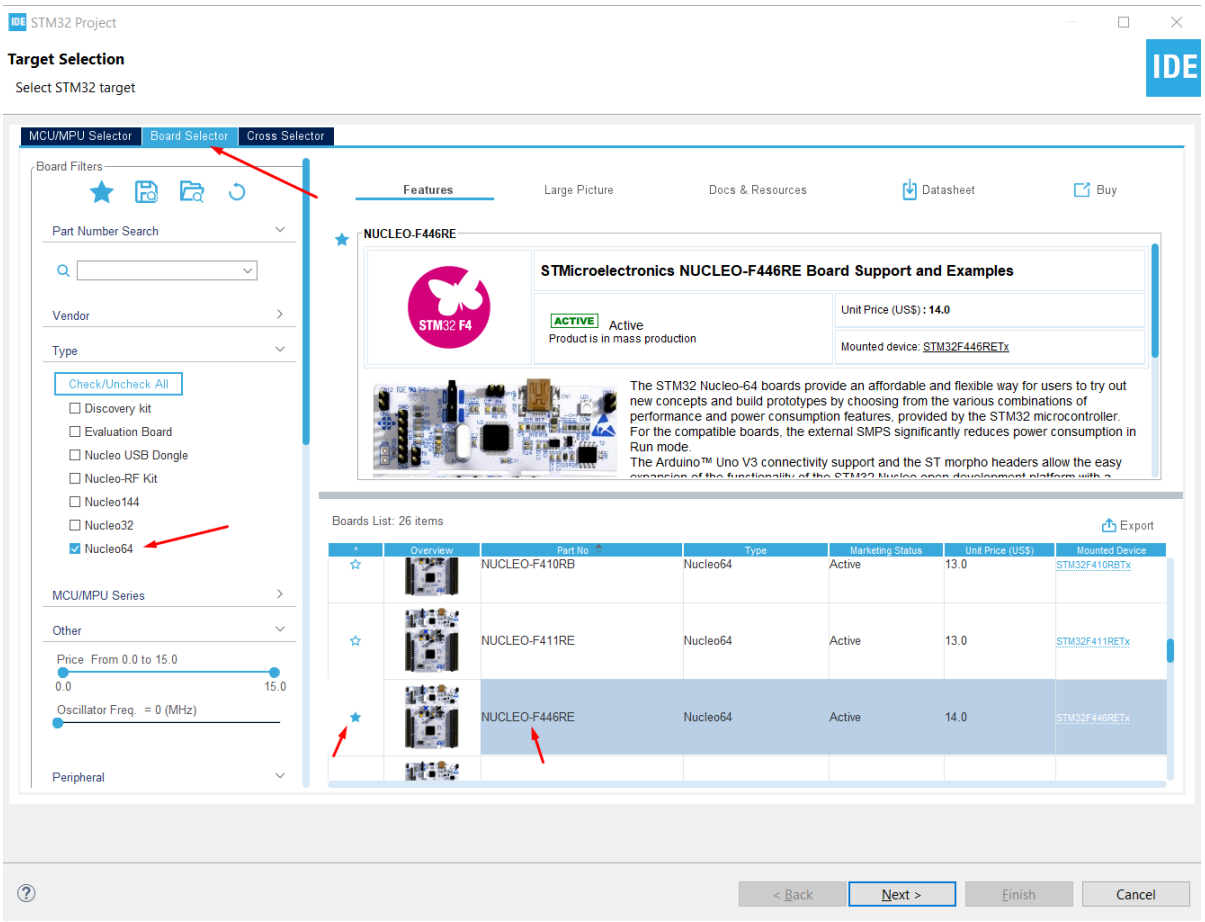
Creating Template Project in CubeIDE with Serial Console

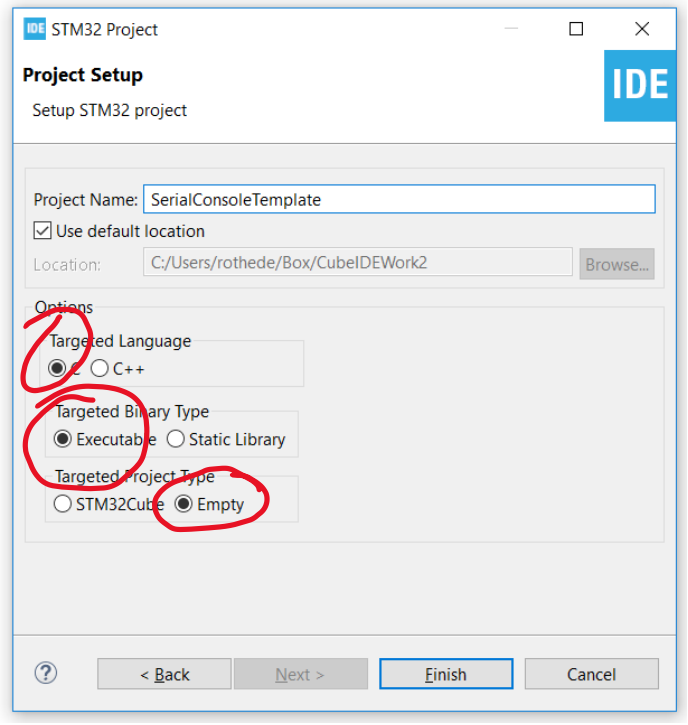
1. Create new C project with File -> New -> STM32 Project.



2. The Target Selector will be invoked. Switch to the Board tab and locate the NUCLEO-F446RE. The filters can help narrow down the selections. Clicking the star will make it easier to find in the future. Click Next when ready.



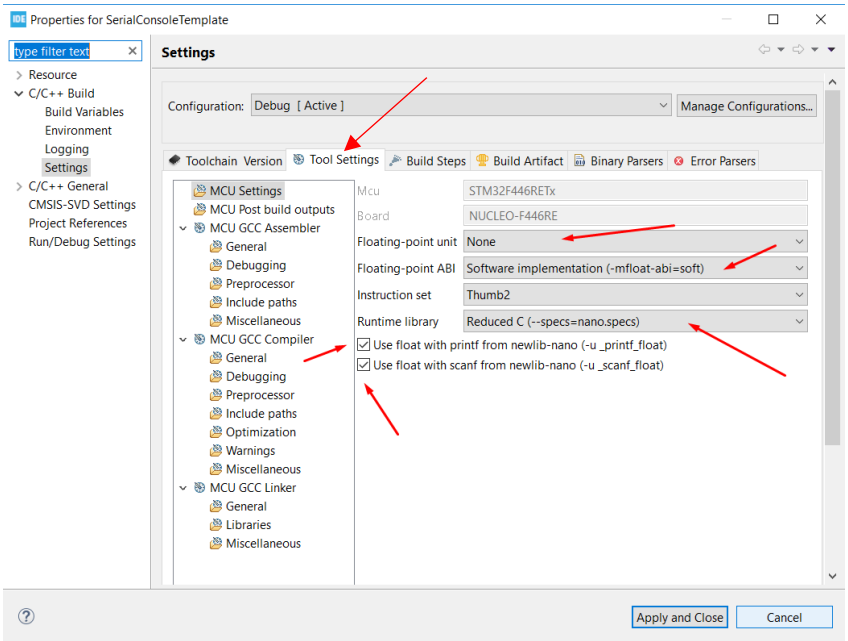
3. On the following dialog, give the project a name such as “SerialConsoleTemplate,” C language, Executable, and Empty project. Click Finish to create the new project.



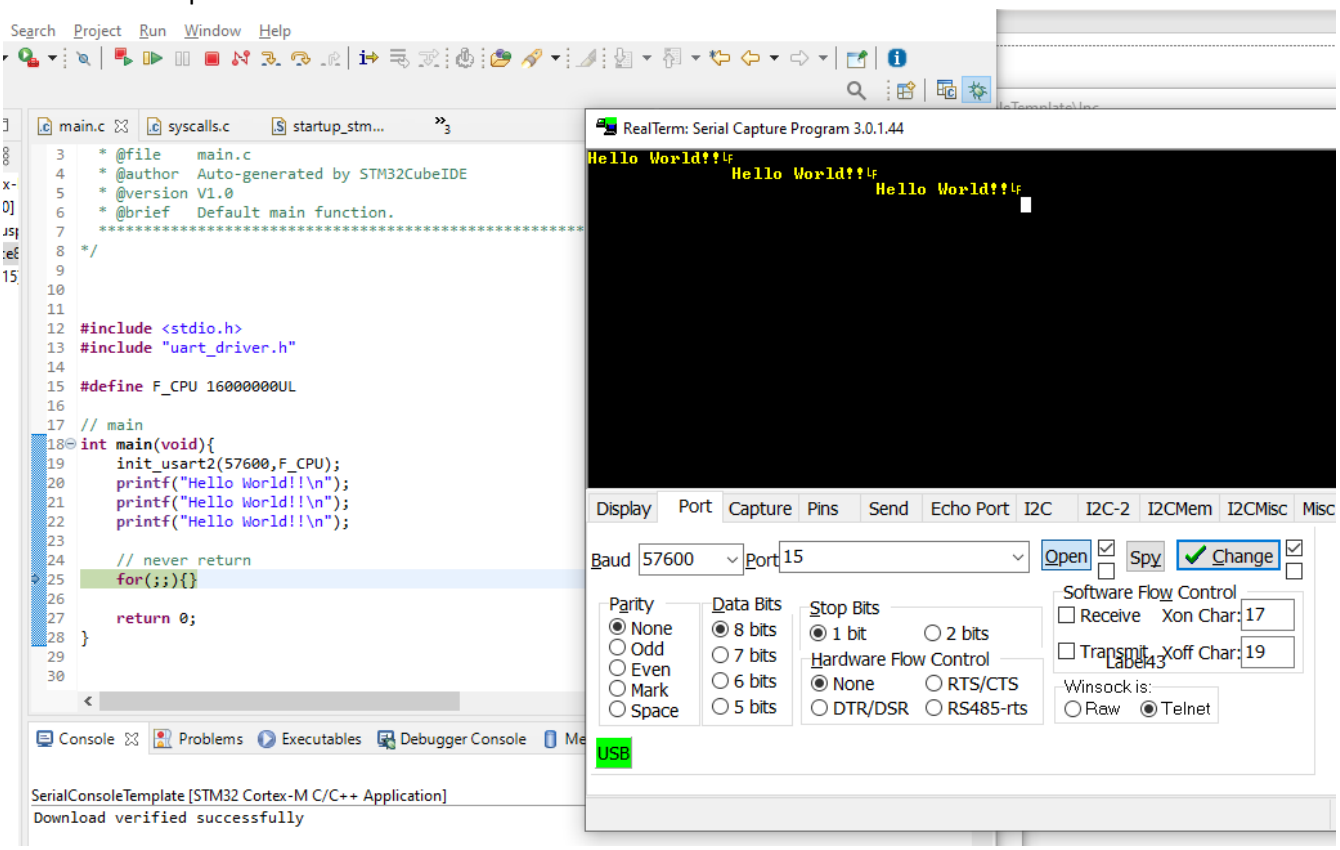
4. The supplied zip file should contain three files – main.c, uart_driver.c, and uart_driver.h. Browse to project location in workspace and place files into the proper locations:
    a. main.c and uart_driver.c → Src (main.c will overwrite the existing main.c, leave other files in place)
    b. uart_driver.h → Inc

5. Return to CubeIDE and refresh project (F5 or right-click -> Refresh). The files you added should now show up in the Project Explorer.

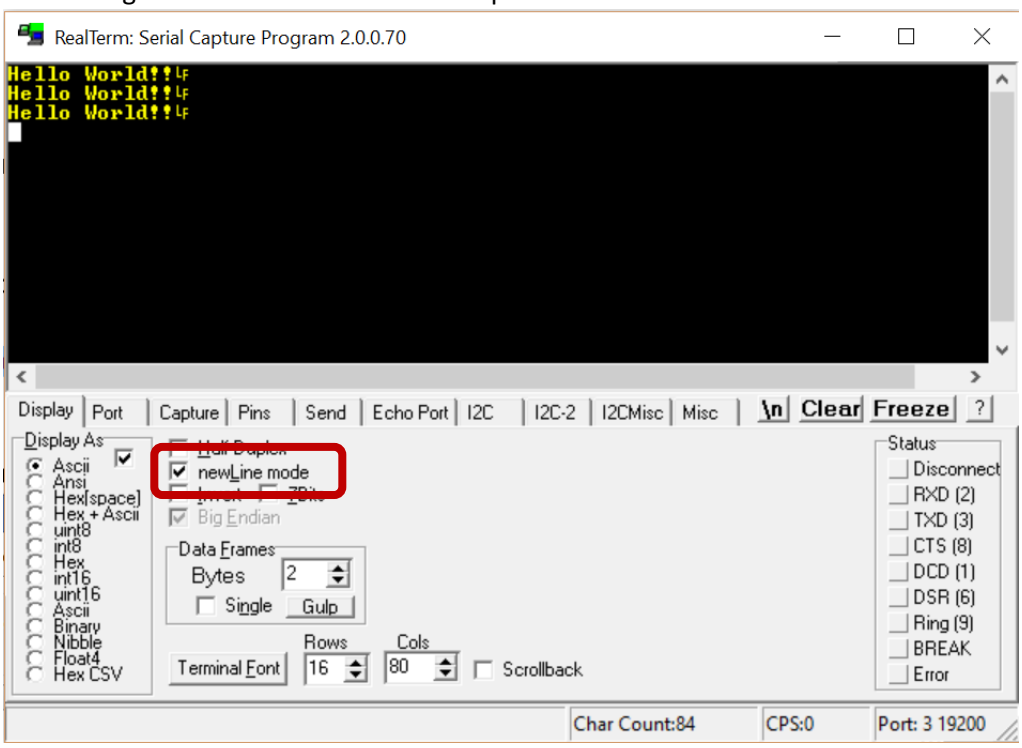
6. For good measure, go into the project properties, and make the following settings (these are not strictly needed, but may reduce confusion later):



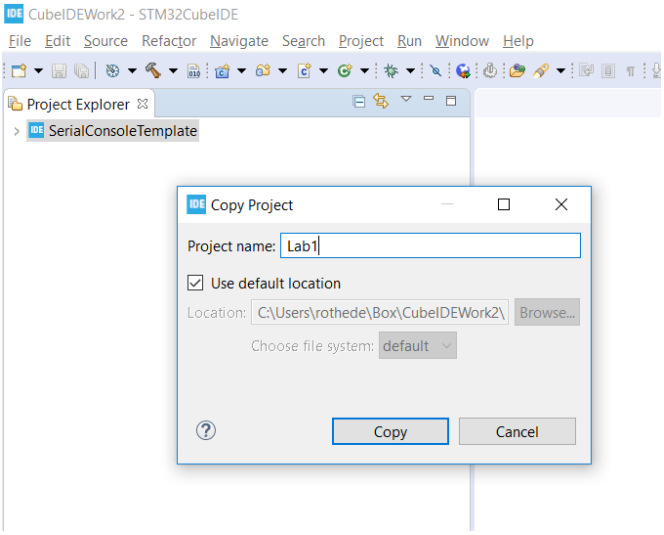
7. You can test the configuration by building and running the program. Be sure to also run Realterm so you can see the console output.



8. In RealTerm, use “newLine mode” for terminal to behave most similar to an actual console in terms of linefeed and carriage return behavior. Select the port and baud rate under the Port tab.



9. Now, instead of going through this configuration for every project, simply clone this project. You can do this in CubeIDE by copying-and-pasting the project in the Project Explorer. You can give the new copy a different name in the process. You will want to delete the Debug subdirectory in the new project if it copies over from your template. If you do not do this last step, you may not be running the latest version of your code when you think you are.



10. One final note – you may see that your program may execute more than once when running or debugging via CubeIDE. When transferring your code to the board, the board is reset and then CubeIDE takes control and transfers the new executable. In between the time the board is reset and CubeIDE takes control, the previous version of your code, the version that is currently on the board, will run and you may see output from it. You can generally ignore this.