Code Composer Studio for Tiva^{TM} C Series Development and Evaluation Kit

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Requirements

This tutorial explains about how to install and use Code Composer Studio for the evaluation of Tiva C Series board LaunchPad EK-TM4C123GXL.
The requirements for the CCS are:

- PC with a USB interface, running Microsoft Windows XP, Windows 7, or Windows 8, or Windows 10 operating systems (OSs).
- Minimum 2GB RAM.
- Tiva C Series Development Kit Software downloaded and extracted kit software (found on www.ti.com/tool/sw-⟨kit_name⟩).

CCS Installation

1. Download "Code Composer Studio (CCS) Integrated Development Environment (IDE) for TM4x ARM MCUs" from *TM4C123G LaunchPad* .
2. You will be asked to fill in a form, after which you can download the software.
3. Follow the instructions in the Code Composer Studio installation program. Select the 'Complete Feature' option and set 'Install'.
4. For all of the other options, keep the default values.

Tivaware

Tivaware software is used to simplify and speed development of Tiva C Series based applications.
The complete software includes:

- Peripheral, USB, Graphics, Sensor libraries.
- Kit-and peripheral-specific code examples for TM4C123x devices.
- Everything you need to use your Tiva C Series kits or boards.
- Release notes and related documentation.

Tivaware Installation

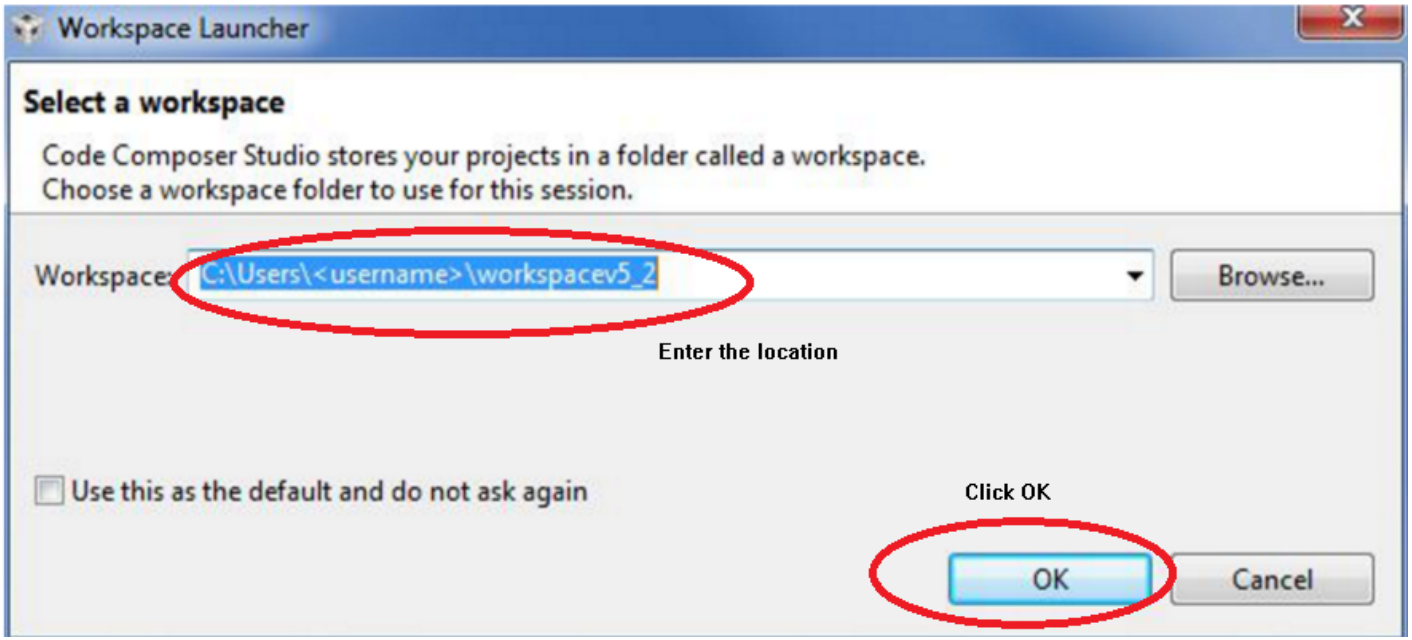
1. Download "Tiva^{TM}C Series LaunchPad Evaluation Board Software " from *TM4C123G LaunchPad*.
2. You will be asked to fill in a form, after which you can download the software.
3. Run the TivaWare installer.
   - The installer is a self-extracting zip file that is located in the Tools/TivaWare directory.
   - A zip file extraction utility such as WinZip can be used to manually extract the contents.

Blink LED Example

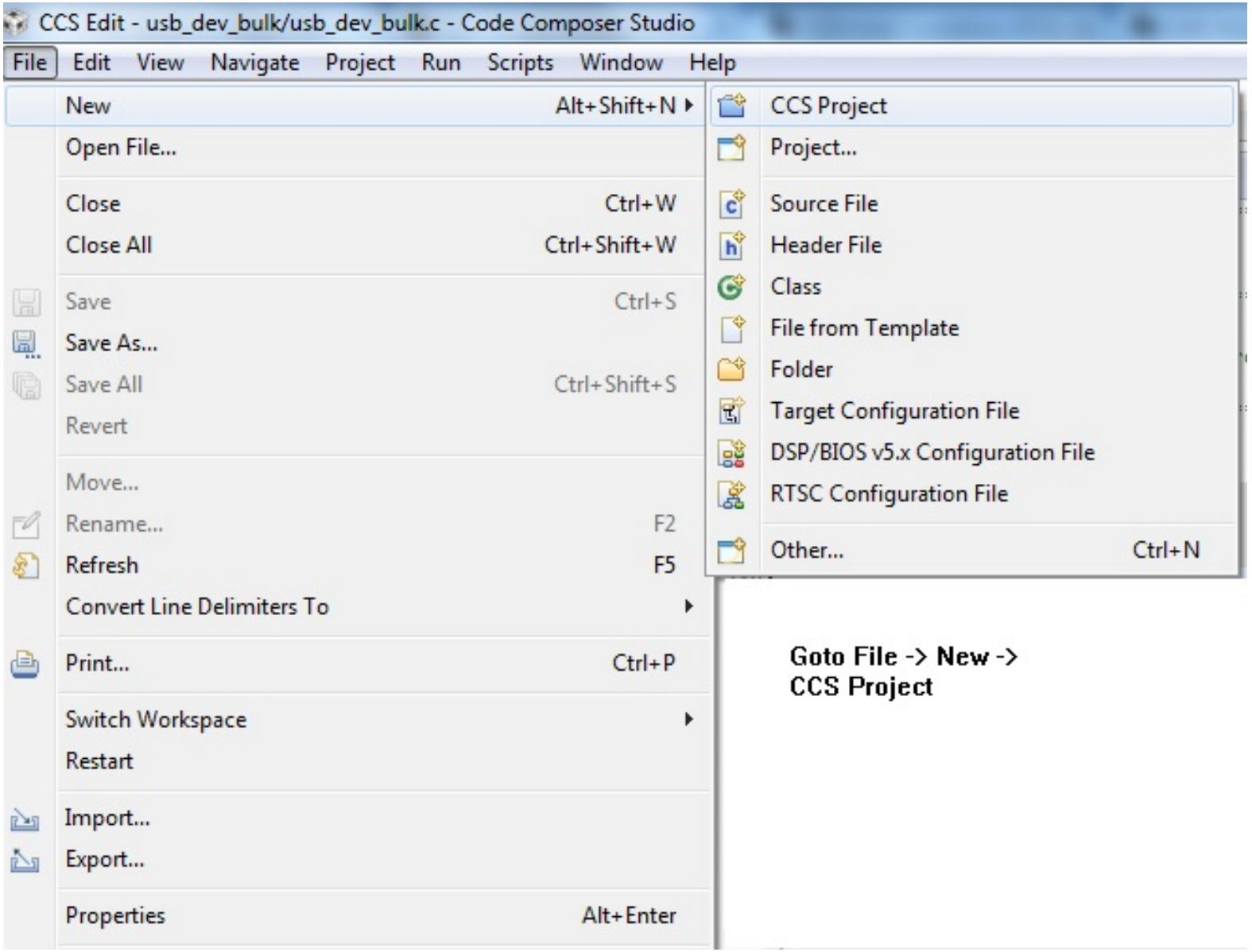
- Download *TI_RTOS_labs_sols_rev2.30.zip* from *WEL EE712*.
- Copy the extracted folders under *C:\TI_RTOS*.
- Check for the Labs and solutions in the TM4C folder.

Start Code Composer Studio and Open a Workspace

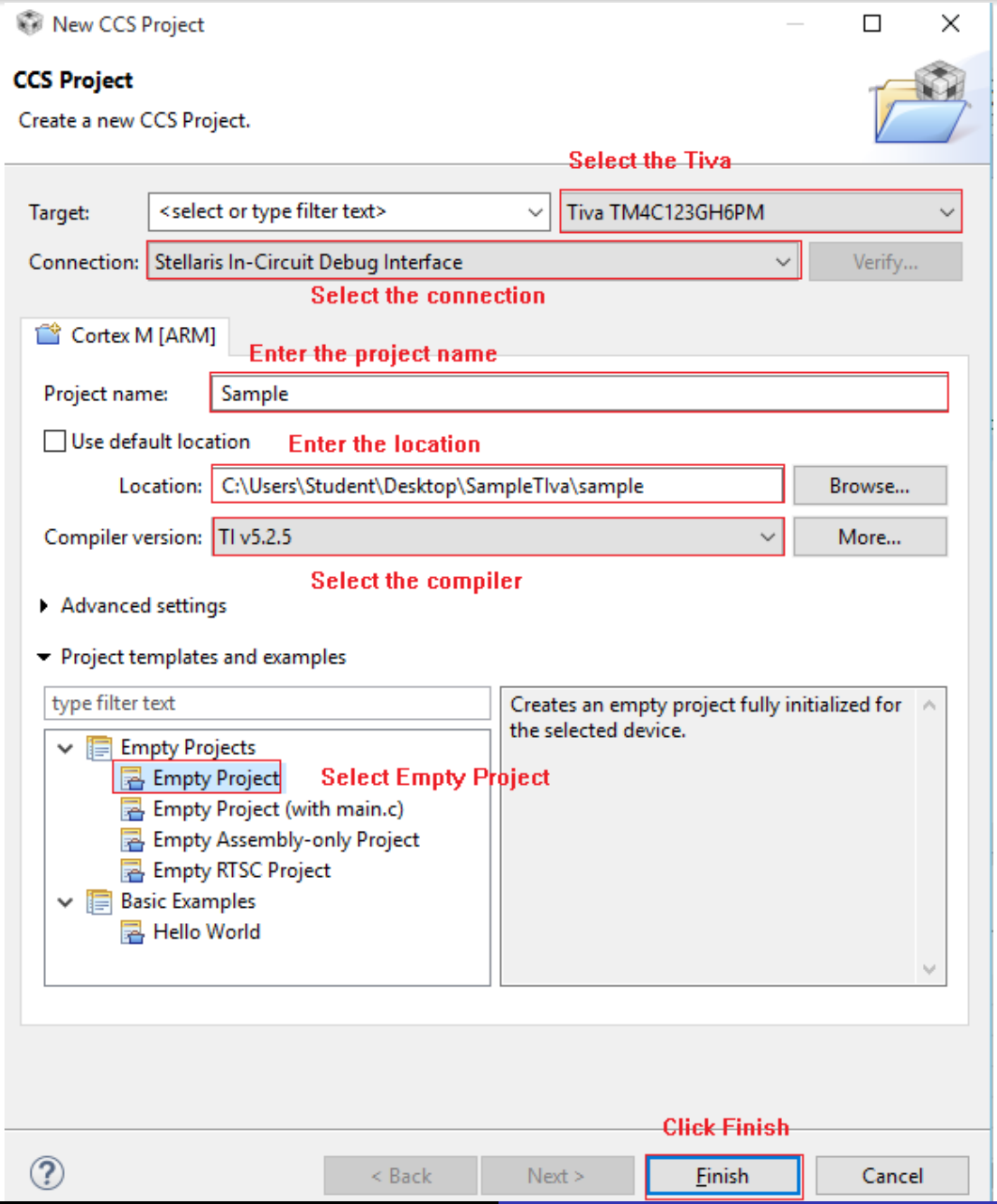
Start the Code Composer Studio IDE by selecting it from the Windows Start menu or double-clicking the icon installed on the desktop.
When the IDE loads, it asks where to open the workspace folder:



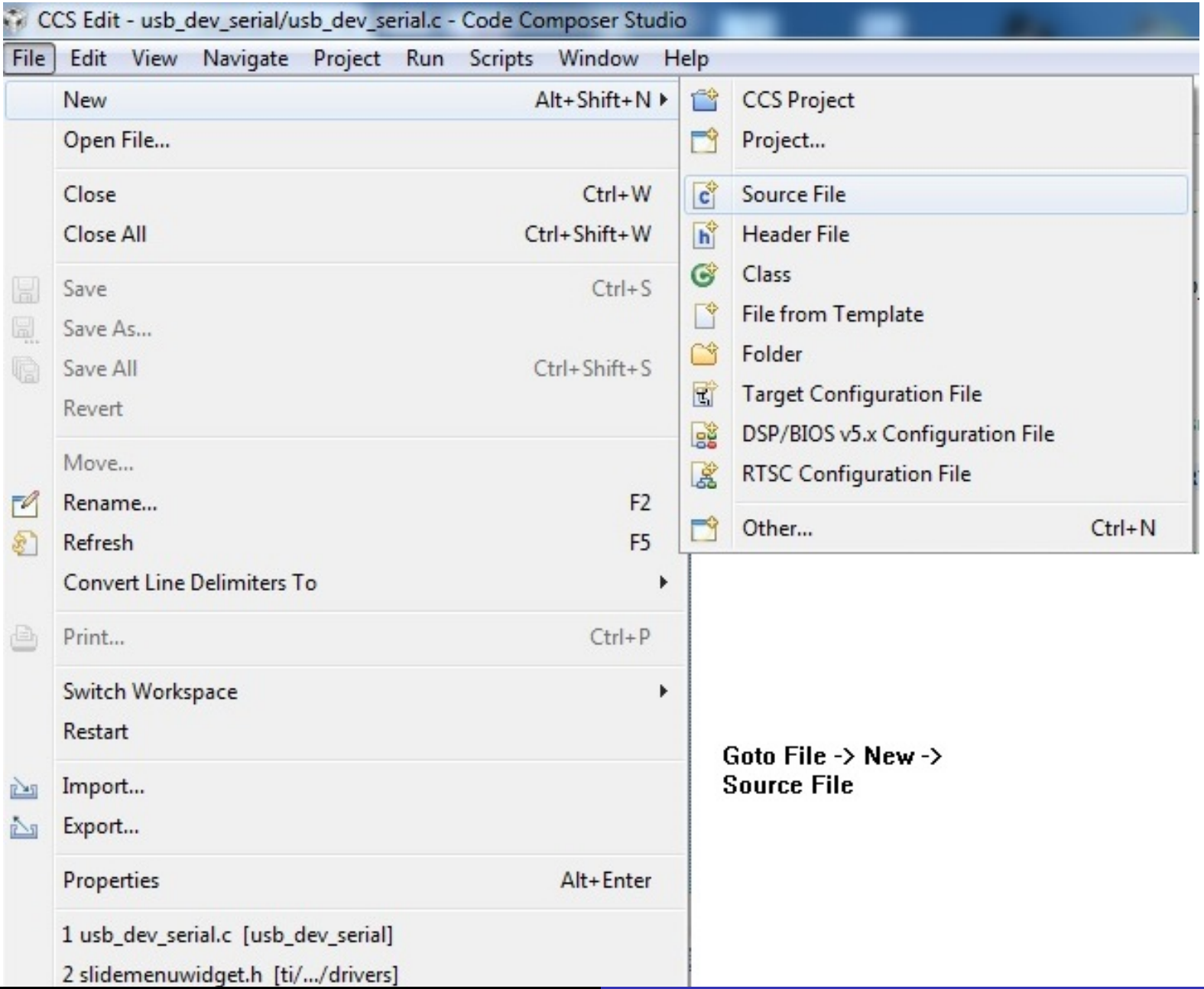
Create New Project



Create New Project

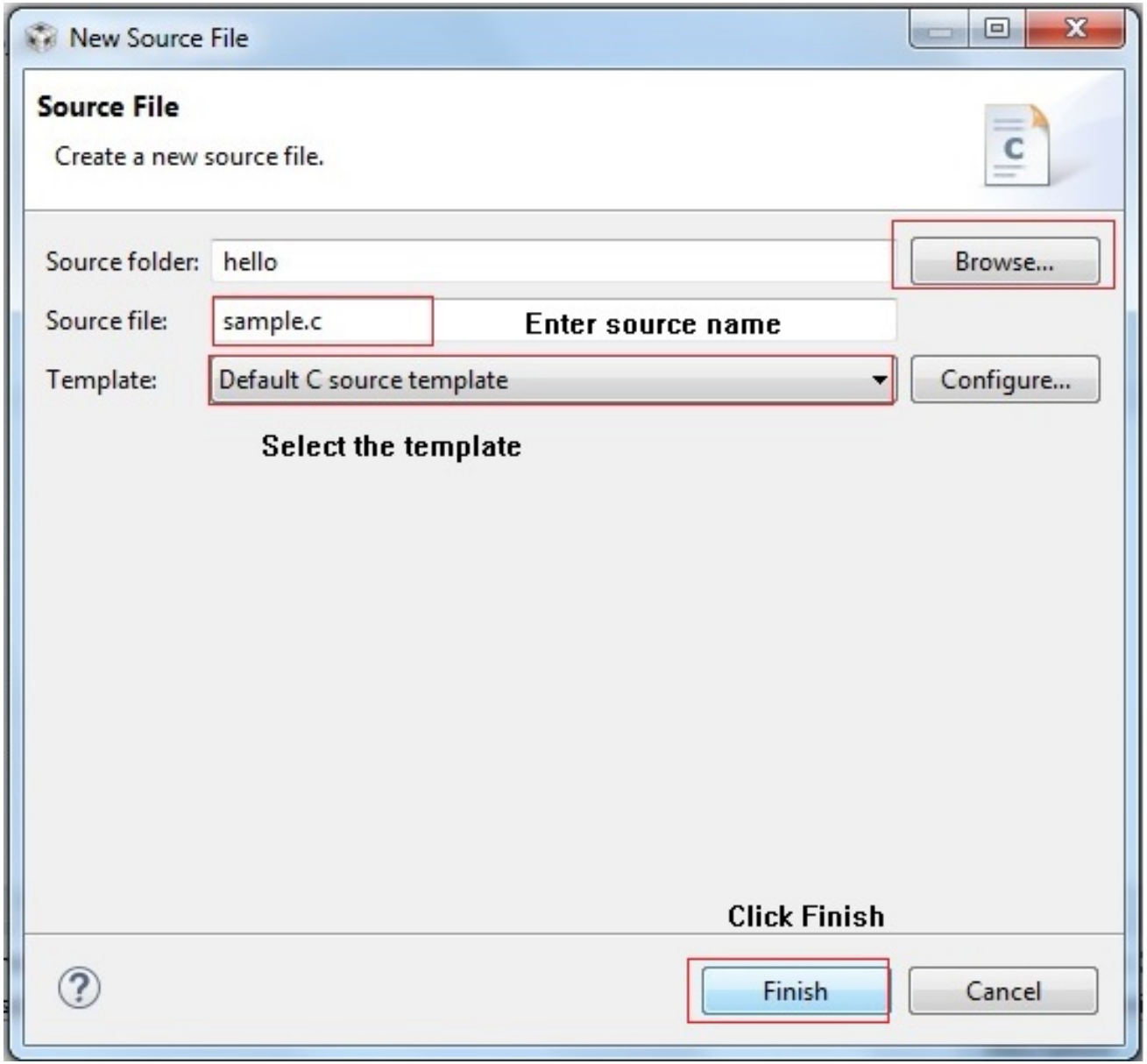


Create New Source File



Goto File -> New -> Source File

Create New Source File



Browse the source folder

Adding the ini file

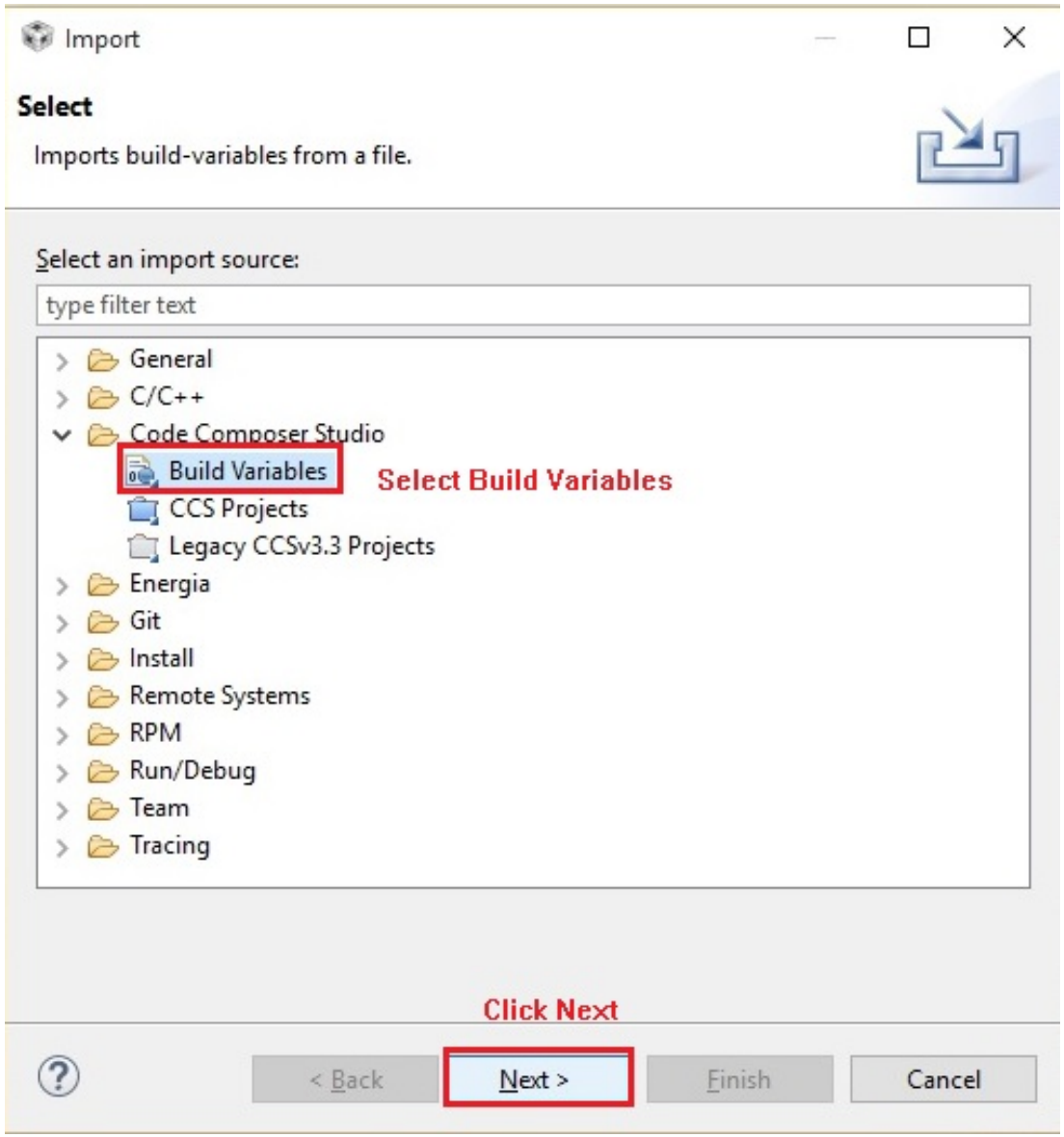
Open the .ini file from C:\TI_RTOS folder and edit the target's path to match your actual tools location in your file system and delete the other variables you don't need. And save vars.ini.
The .ini file is used:

- To make the projects portable, it is important to at least be exposed to the concept of using variables for paths.
- To avoid mismatches in what the author used as the default path vs. a students installation of the tools.

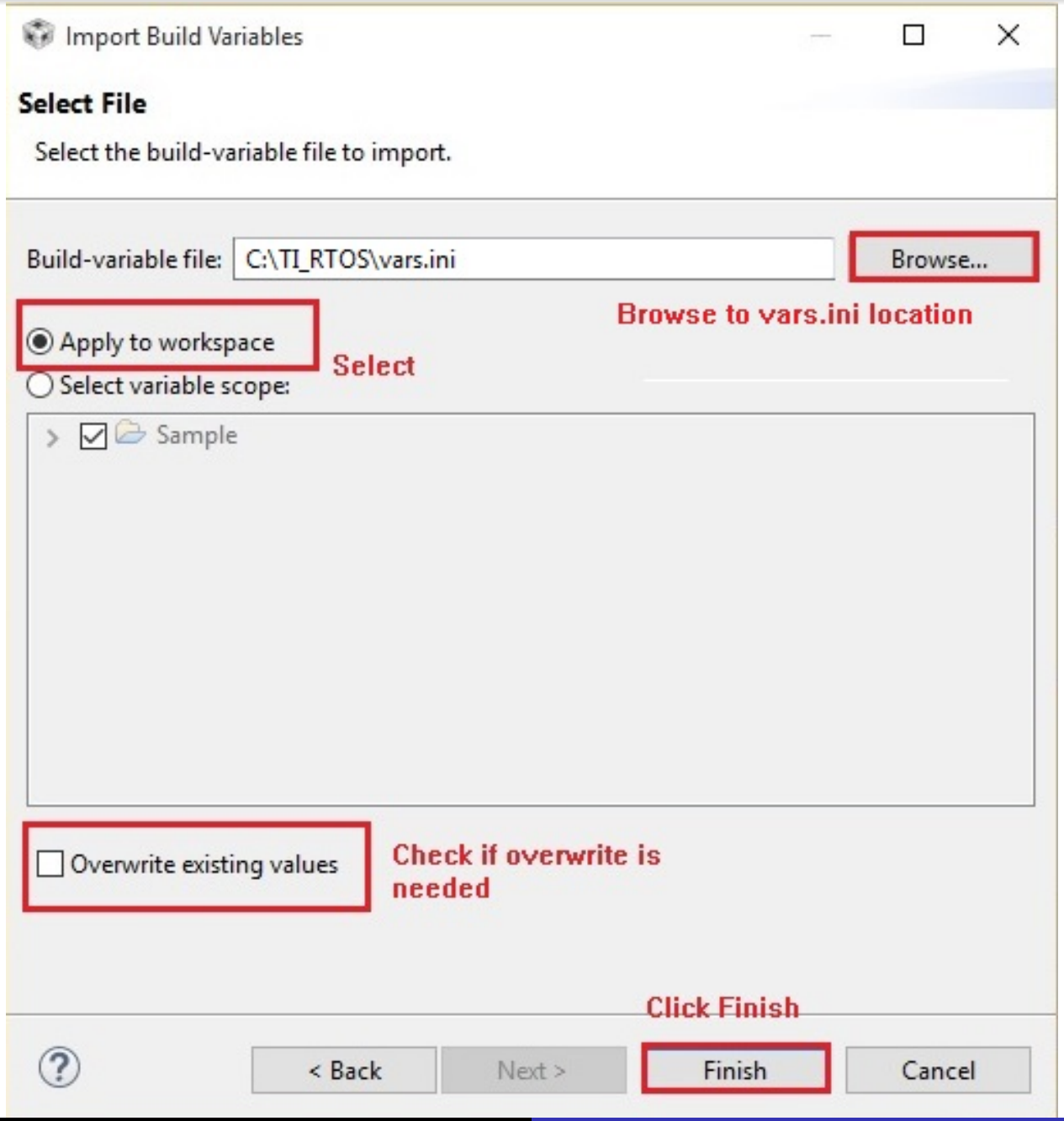
Note: If .ini file is not available, skip to slide 15 (Not recommended).

Adding the ini file

Goto Import option from File menu.

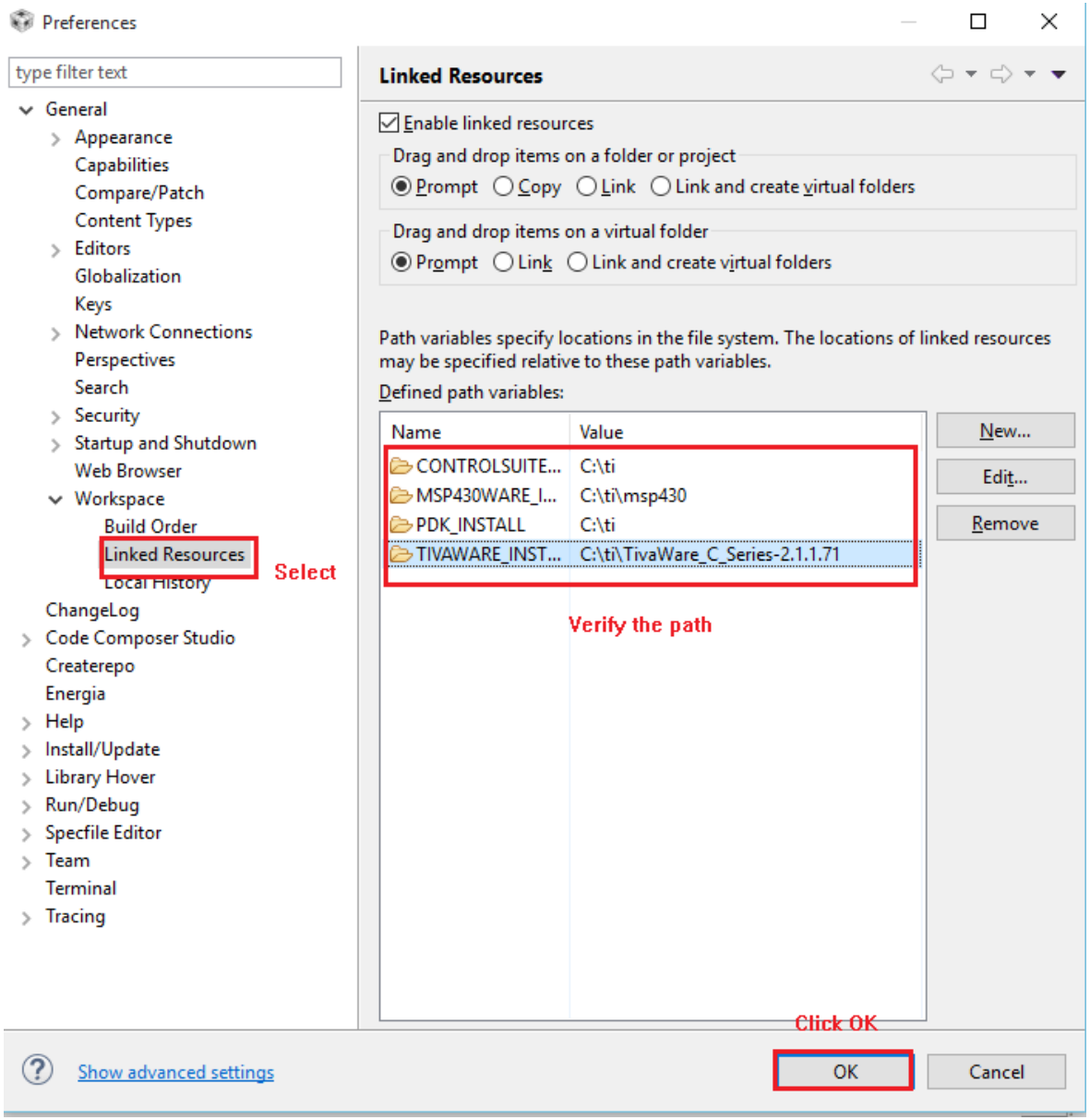


Adding the ini file



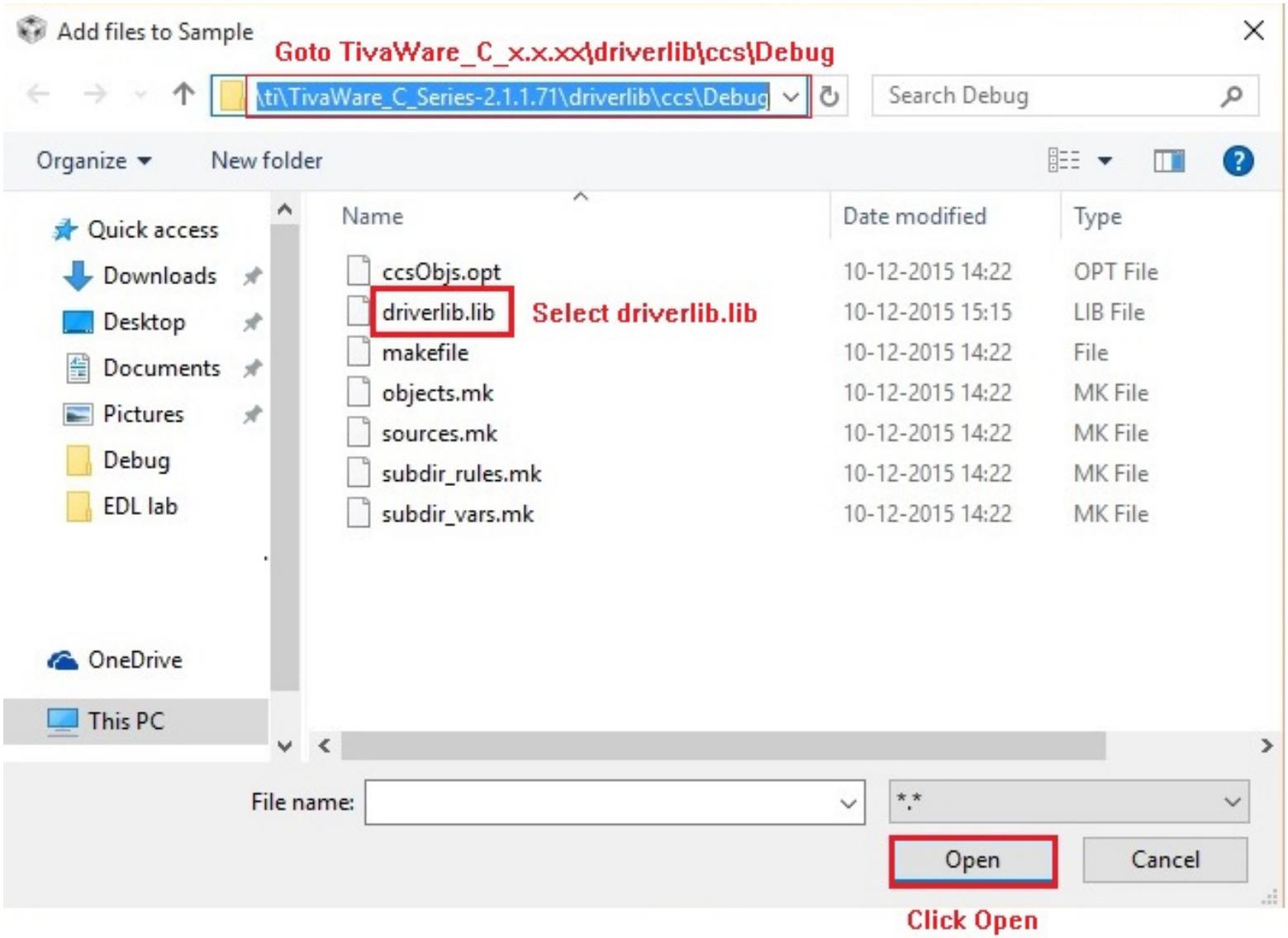
Adding the ini file

Goto Preferences from Windows Menu

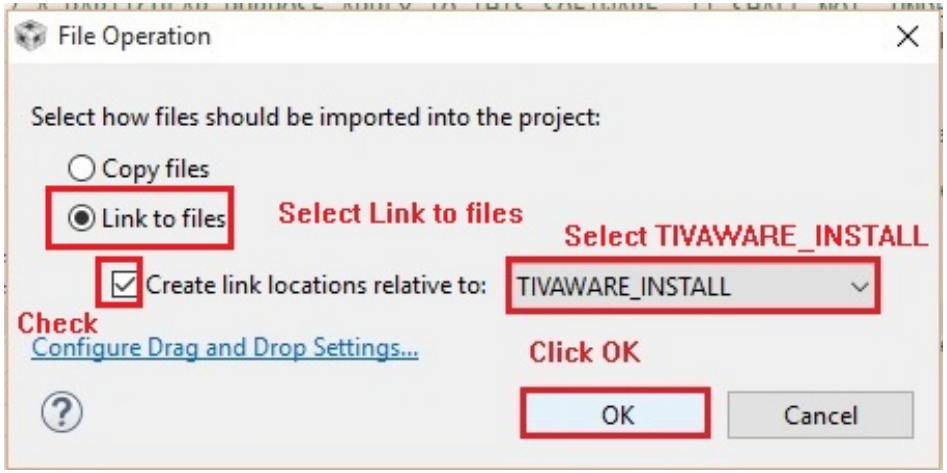


Add Library Files

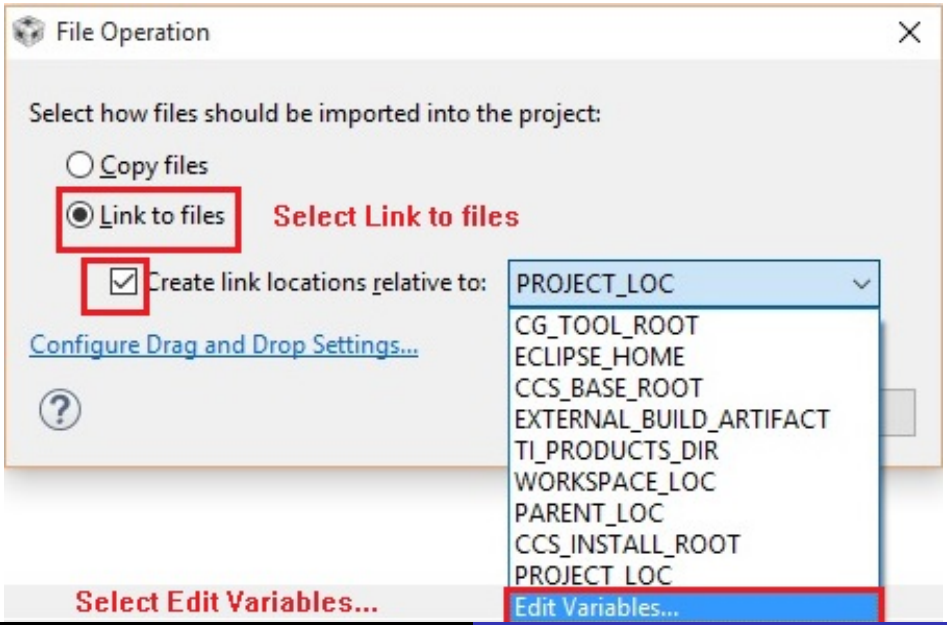
Right-Click on the project and goto Add Files...



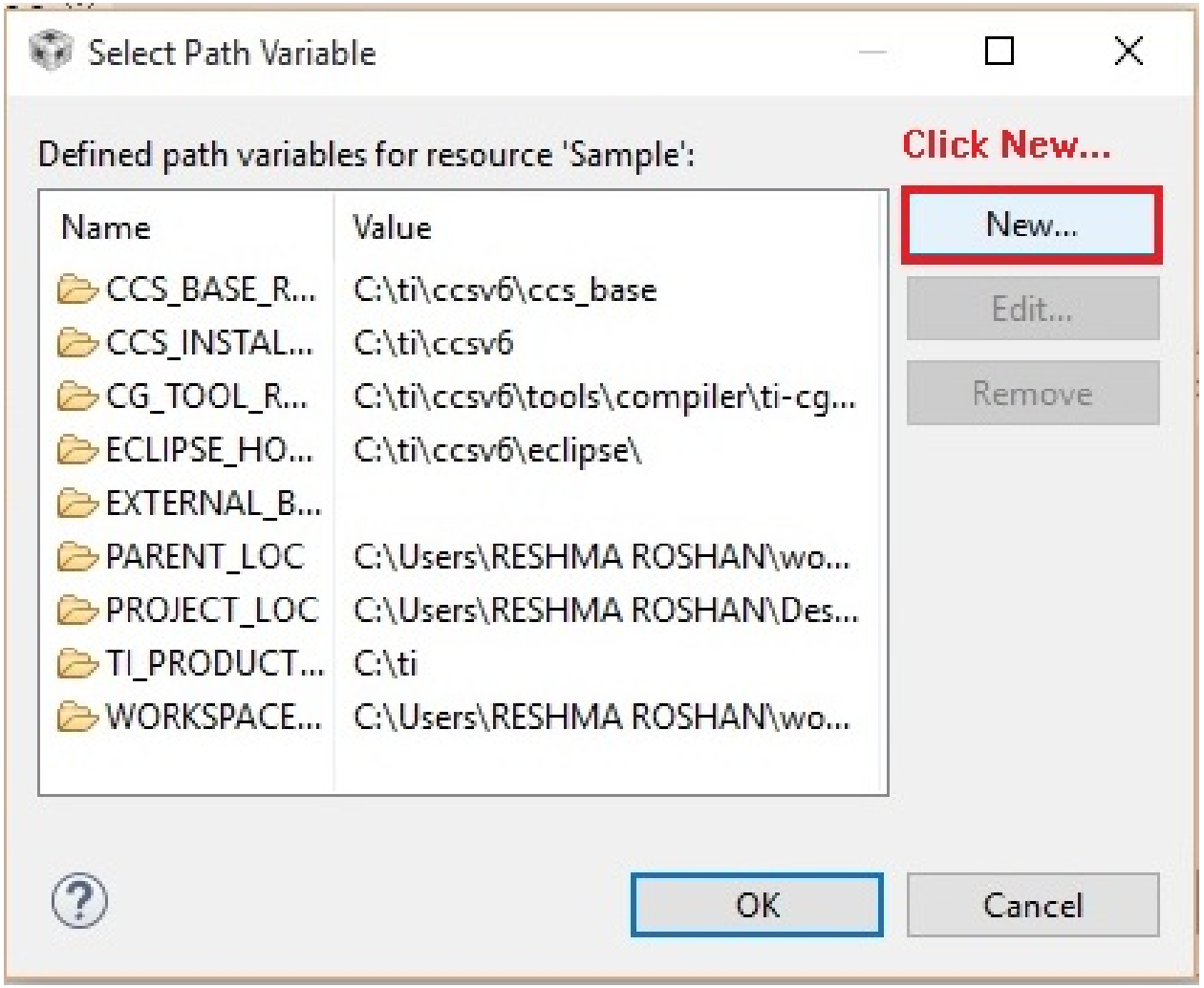
Add Library Files



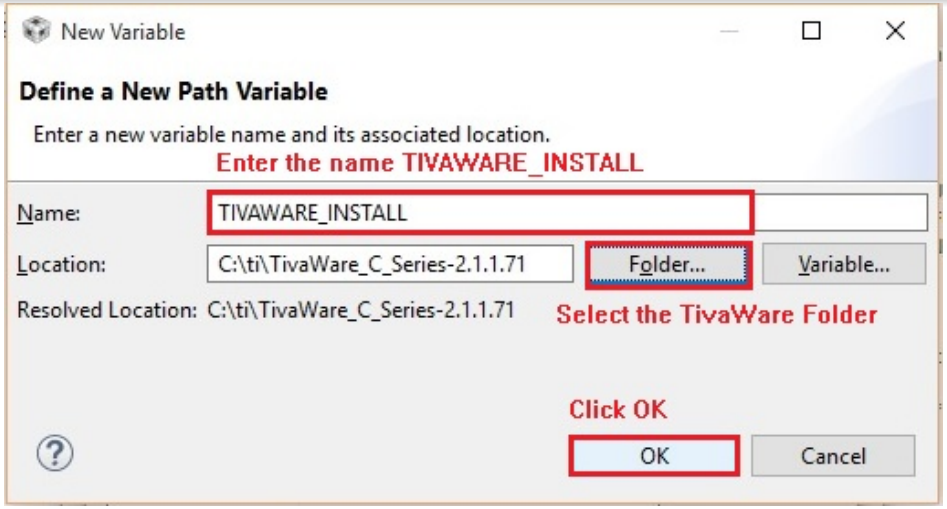
If the path variables are not correct or if TIVAWARE_INSTALL is not available, you can create the path variables as follows...

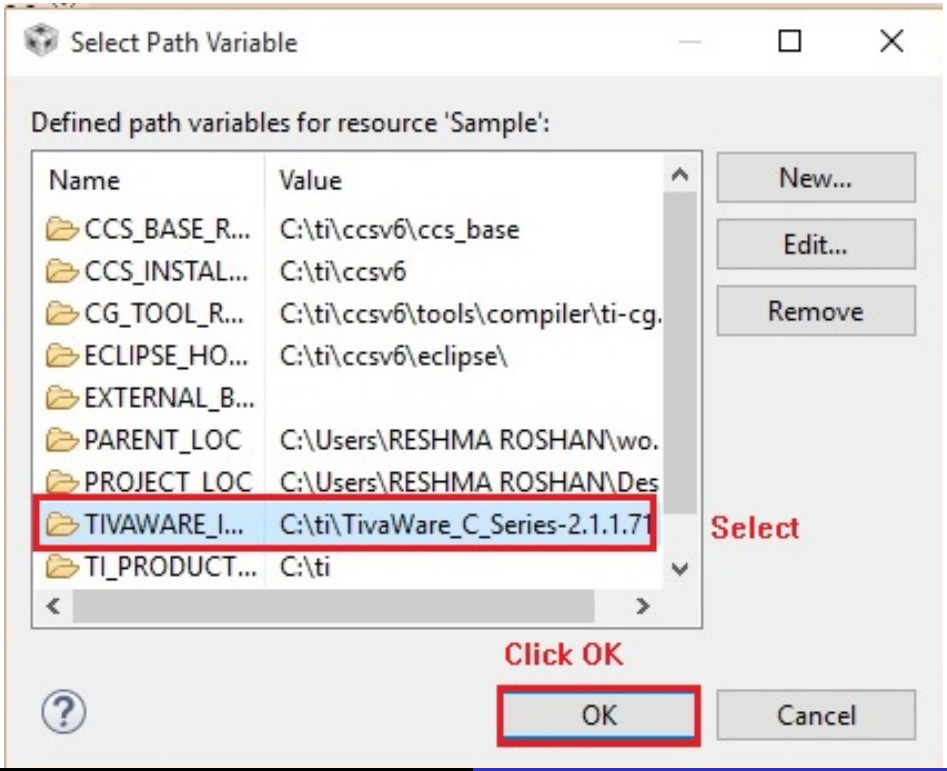


Add Library Files

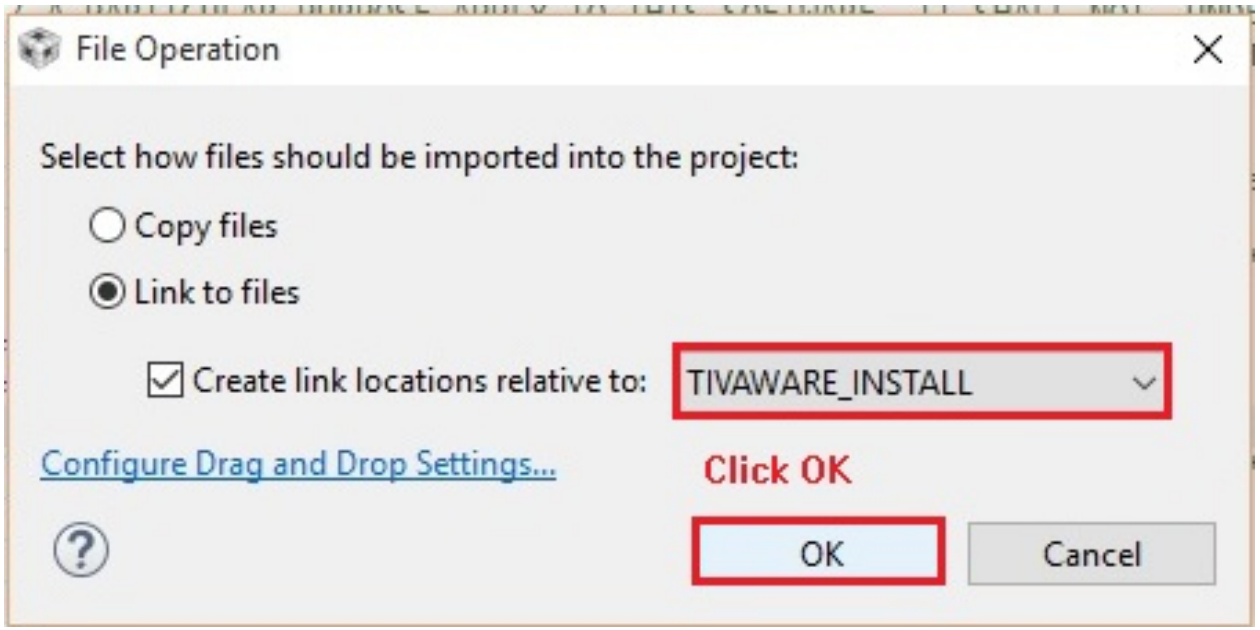


Add Library Files





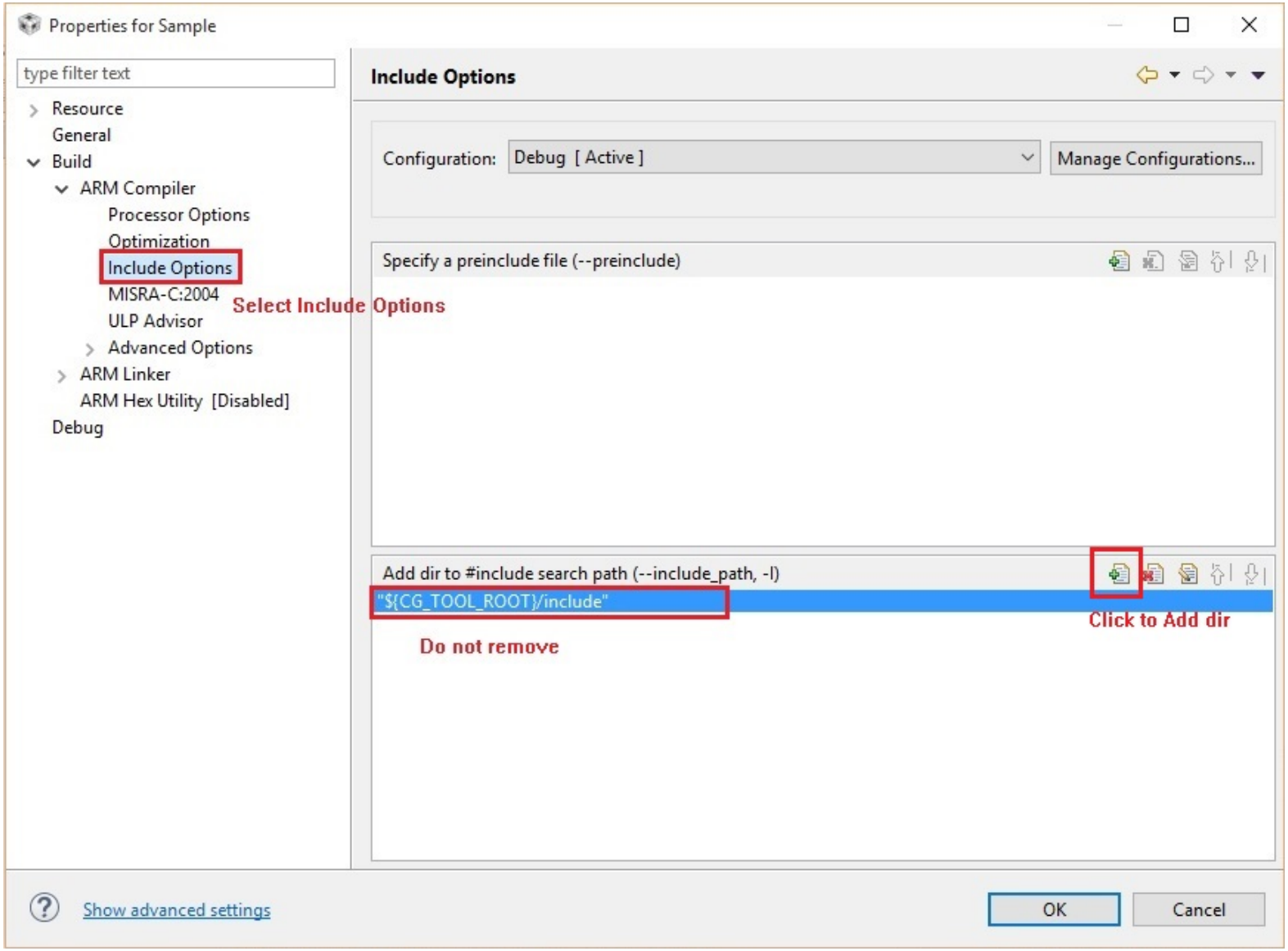
Add Library Files



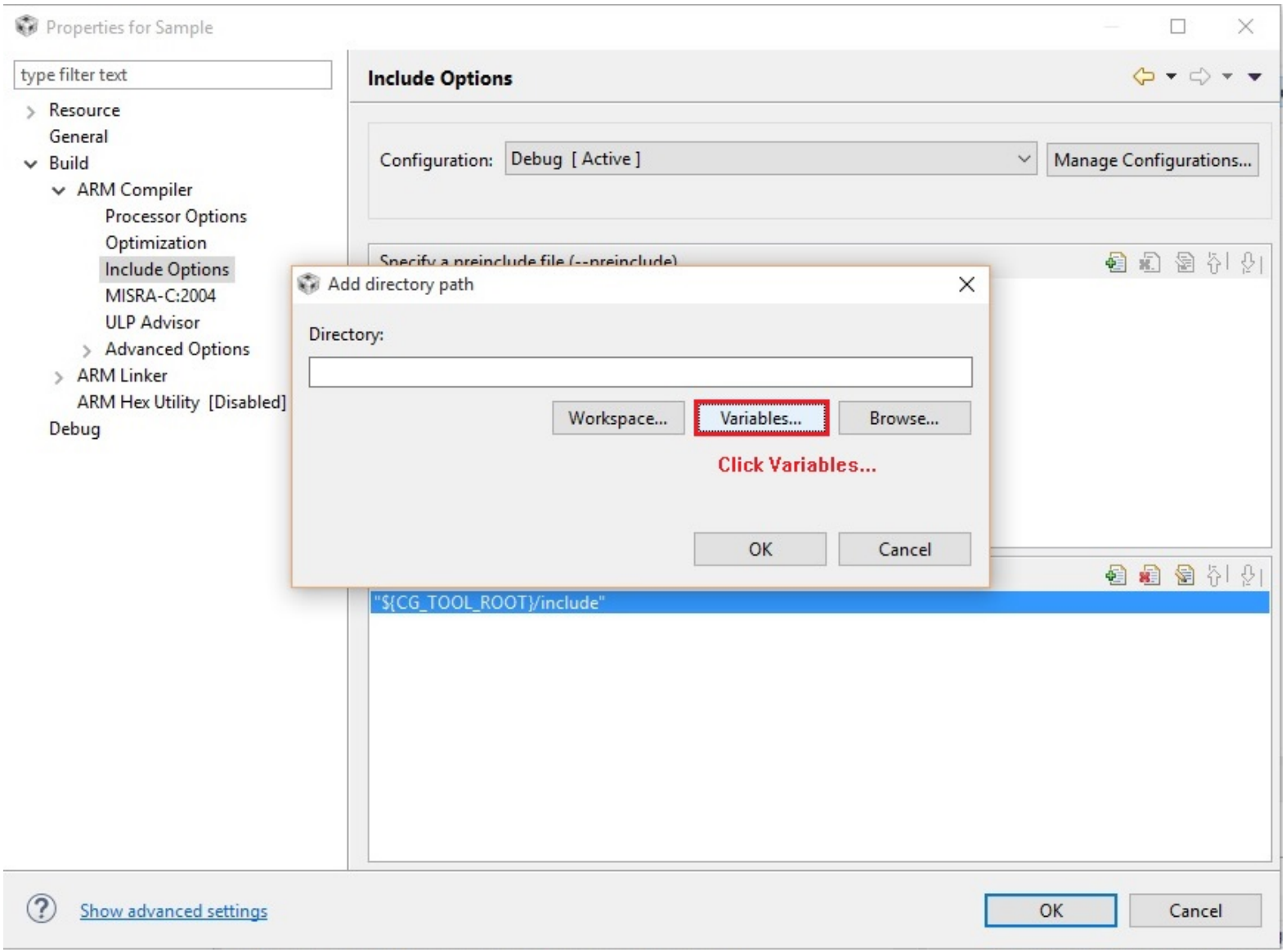
The library files will be added to the workspace.

Add directory

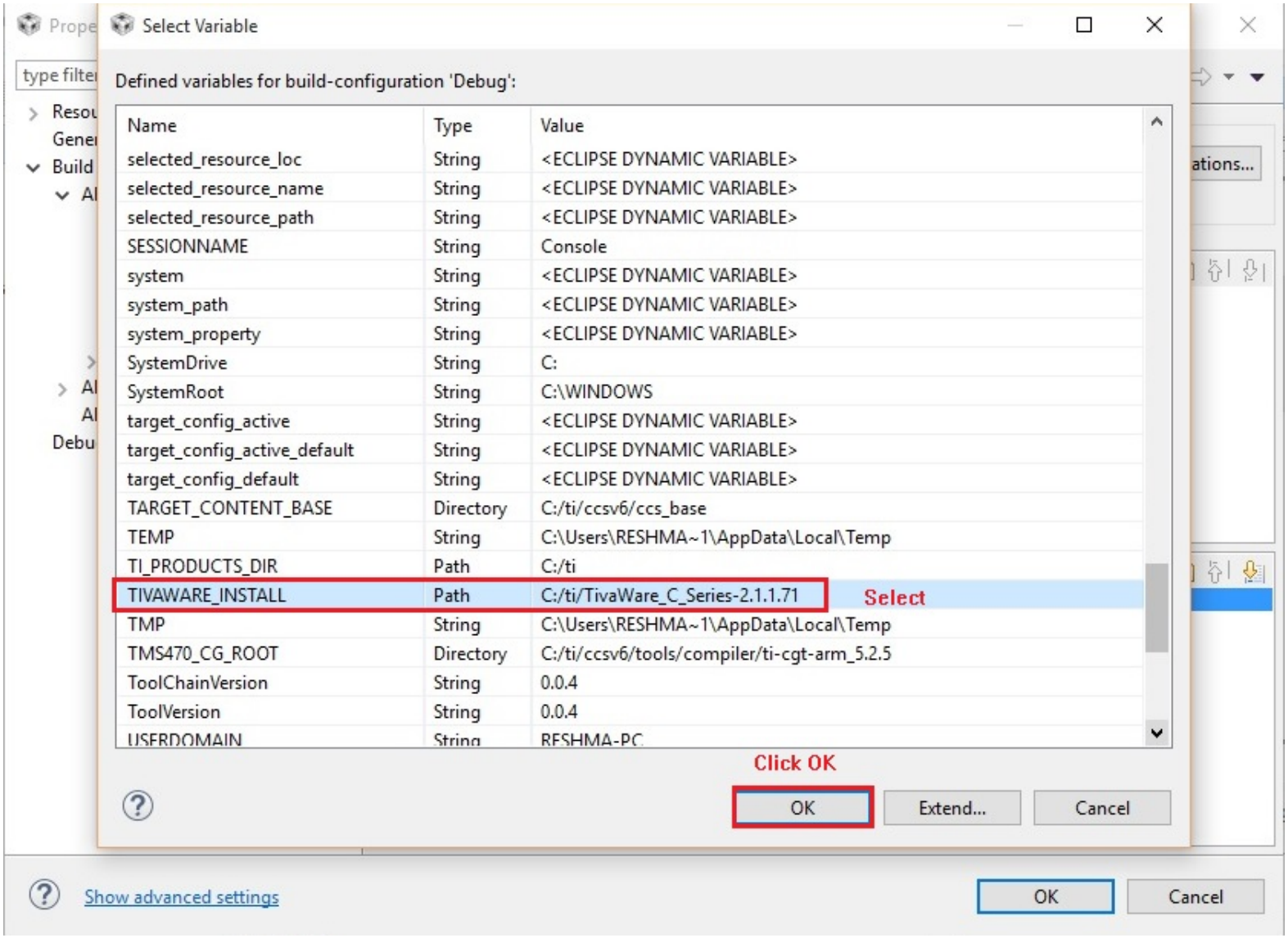
Right-Click on the project and goto Properties



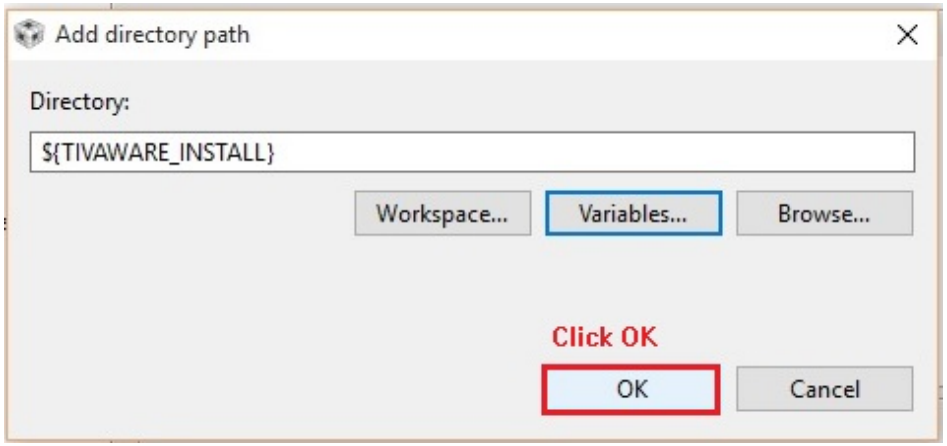
Add directory



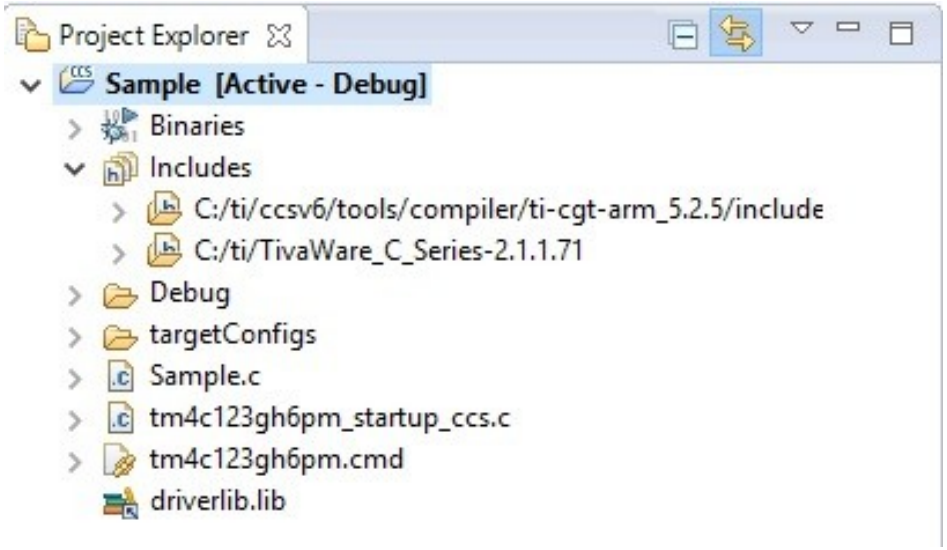
Add directory



Add directory



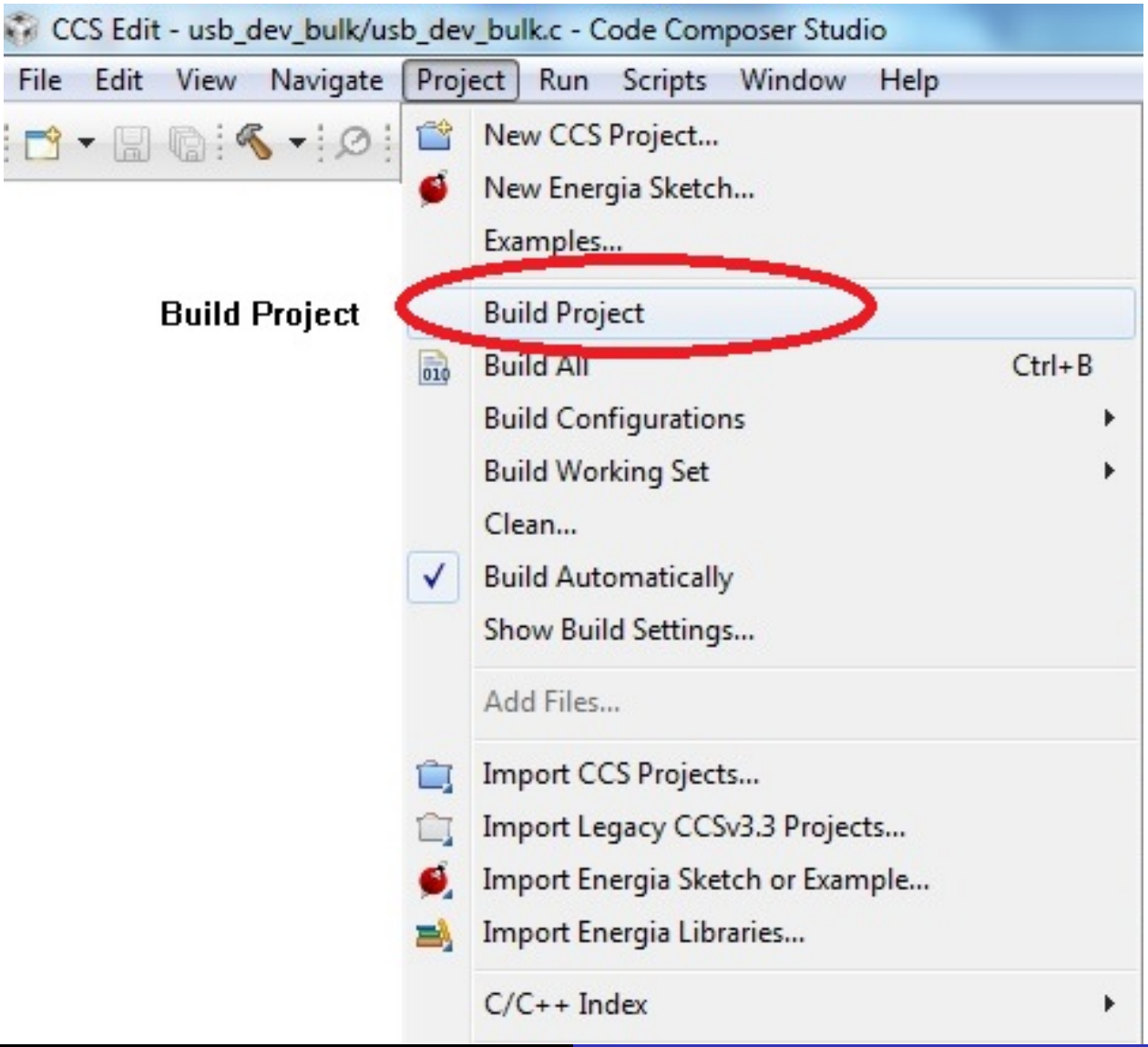
The project will look like below:



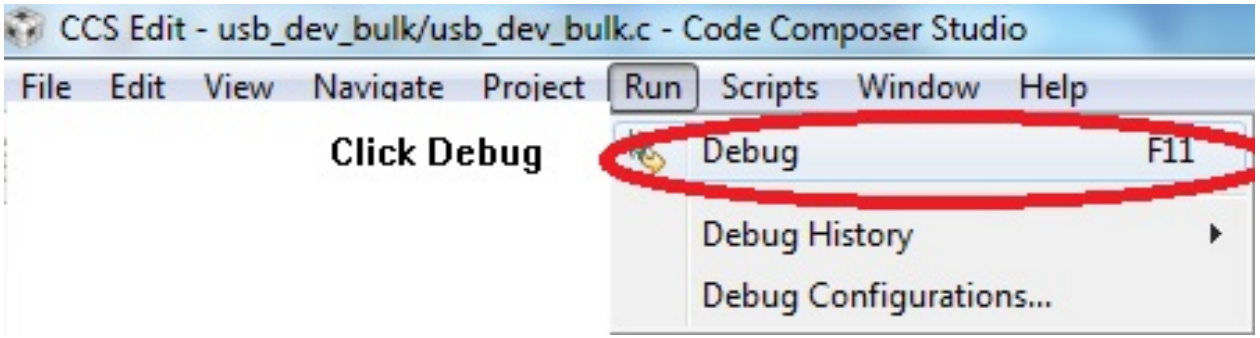
Open main.c and copy the sample code, from C:\TI_RTOS\TM4C\Lab_02\Files.

Build and Debug Project

Connect the Tiva Board in the Debug mode(As mentioned in the Tiva C Board Manual).



Build and Debug Project



The sample program will be executed.
The resume, pause and stop button in the toolbar can be used to control the execution.
Step controls are also provided for debugging.