# Guía de Instalación de Code Composer Studio y TivaWare



## Ingrese al siguiente enlace:

### https://www.ti.com/tool/CCSTUDIO

Home / Design resources

#### **CCSTUDIO**

Code Composer Studio (CCS) Integrated Development Environment (IDE)

Overview Downloads Technical documentation Related design resources Support & training

#### Overview

Code Composer Studio is an integrated development environment (IDE) that supports Ti's Microcontroller and Embedded Processors portfolio. Code Composer Studio comprises a suite of tools used to develop and debug embedded applications. It includes an optimizing C/C++ compiler, source code editor, project build environment, debugger, profiler, and many other features. The intuitive IDE provides a single user interface taking you through each step of the application development flow. Familiar tools and interfaces allow users to get started faster than ever before. Code Composer Studio combines the advantages of the Eclipse software framework with advanced embedded debug capabilities from TI resulting in a compelling feature-rich development environment for embedded developers.

#### Features

By Platform - Find out more about the features available for a specific processor family

- MSP Low Power MCUs
- C2000 Real-time MCUs
- SimpleLink Wireless MCUs

View all 🗸



#### Downloads

Primary software Supported products & hardware



IDE, CONFIGURATION, COMPILER OR DEBUGGER

CCSTUDIO — Code Composer Studio (CCS) Integrated Development Environment

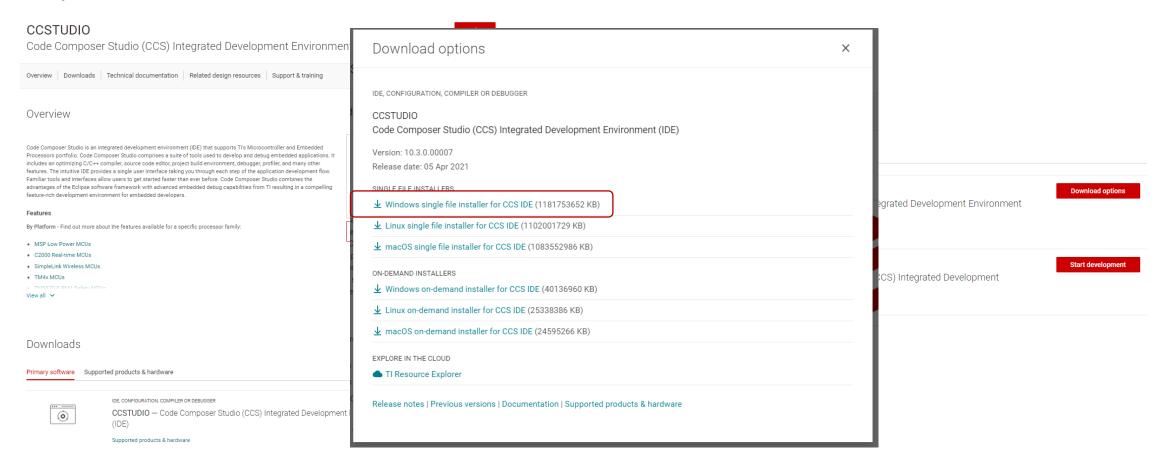
Supported products & hardware

#### Downloads

Primary software Supported products & hardware IDE, CONFIGURATION, COMPILER OR DEBUGGER CCSTUDIO - Code Composer Studio (CCS) Integrated Development Environment (0) Supported products & hardware IDE, CONFIGURATION, COMPILER OR DEBUGGER Start development (0) CCSTUDIO-CLOUD — Code Composer Studio (CCS) Integrated Development Environment (IDE) on Cloud

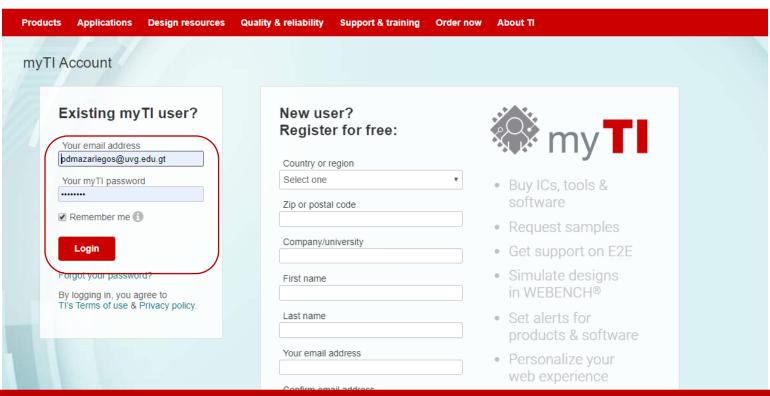
# Escogemos el instalador según nuestro sistema operativo

Home / Design resources



## Tendrá que hacer login de su cuenta en Texas Instruments

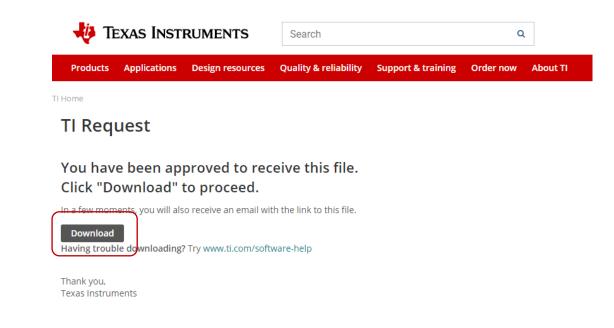




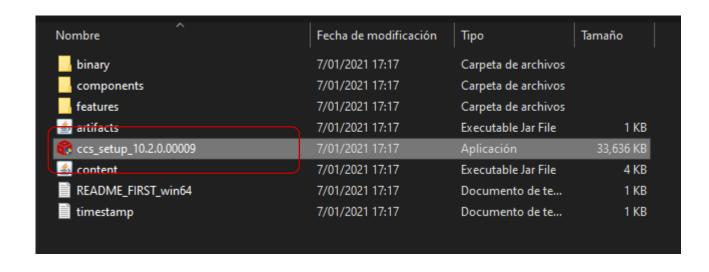
# Tendrá que llenar un formulario y luego podrá descargar el archivo

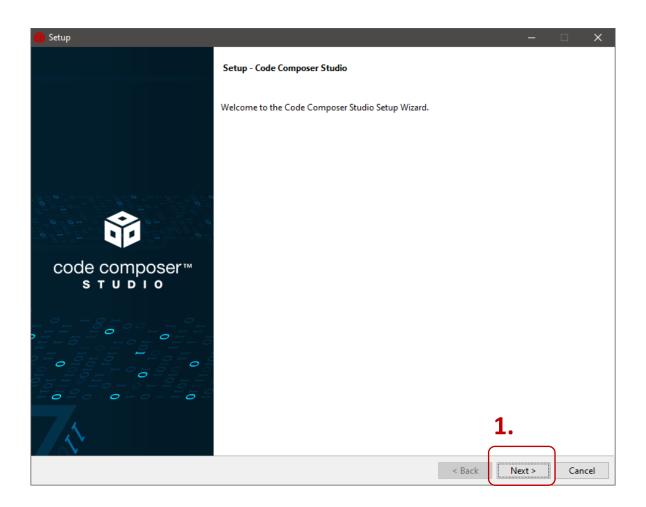
#### To download or access: U.S. Government export approval: · Certain Software/Tools/Documents require export All fields are Required, Incomplete information will be DENIED approval before download or access. • If you are approved, a DOWNLOAD BUTTON will First name: · If you are not immediately approved, a message will Mazariegos appear after this form. . To AVOID delays, please provide complete pdmazariegos@uvg.edu.g Your email address: information Univerisdad del Valle de G Your full company/university name untry this file will be used in: What end-equipment/application will you use this file for: Civil I certify that the following is true: (a) Lunderstand that this Software/Tool/Document is subject to export controls under the U.S. Commerce Department's Export Administration Regulations ("EAR"). (b) I am NOT located in Cuba, Iran, North Korea, Sudan or Syria. I understand these are prohibited destination countries under the EAR or U.S. sanctions regulations. (c) I am NOT listed on the Commerce Department's Denied Persons List, the Commerce Department's Entity List, the Commerce Department's General Order No. 3 (in Supp. 1 t o EAR Part 736), or the Treasury Department's Lists of Specially (d) I WILL NOT EXPORT, re-EXPORT or TRANSFER this Software/Tool/Document to any prohibited destination, entity, or individual without the necessary export license(s) or authorization(s) from the U.S. Government (e) I will NOT USE or TRANSFER this Software/Tool/Document for use in any sensitive NUCLEAR, CHEMICAL or BIOLOGICAL WEAPONS, or MISSILE TECHNOLOGY end-uses unless authorized by the U.S. Government by regulation or (f) I understand that countries other than the United States may restrict the import, use, or export of the Subject Product. I agree that we shall be solely responsible for compliance with any such import, use, or export restrictions · I / We hereby certify that we will adhere to the conditions above. · I / We do not know of any additional facts different from the above. · I / We take responsibility to comply with these terms. • I / We understand we are responsible to abide by the most current. versions of the Export Administration Regulations and other U.S. export and sanctions laws.

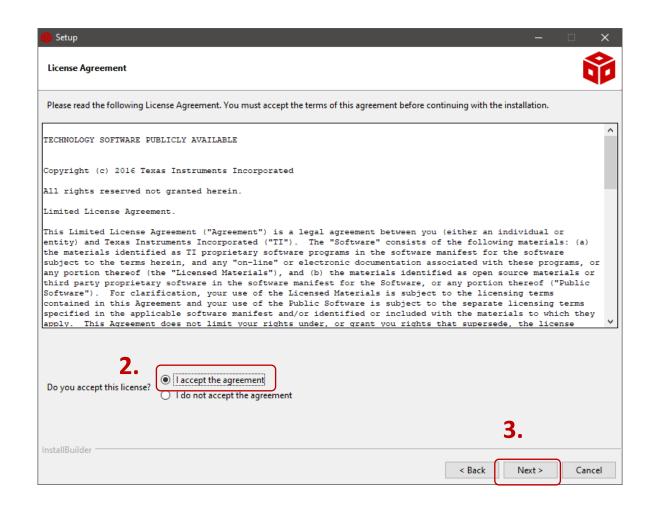
ALL THE ABOVE IS TRUE:

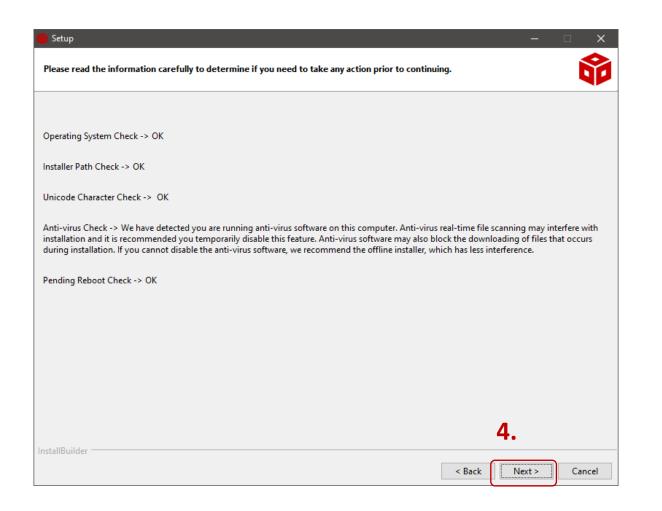


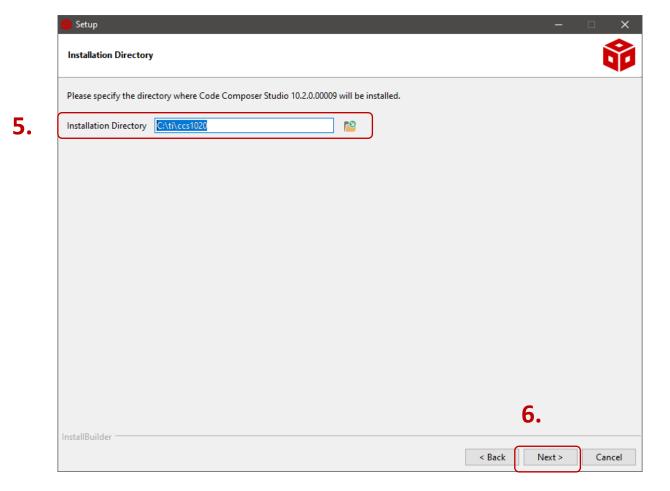
### Se descargará un zip de 1.08GB, al descomprimirlo correr el siguiente archivo

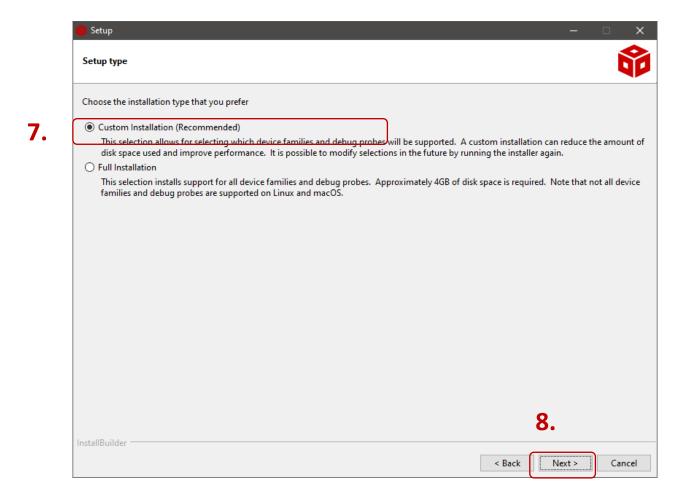


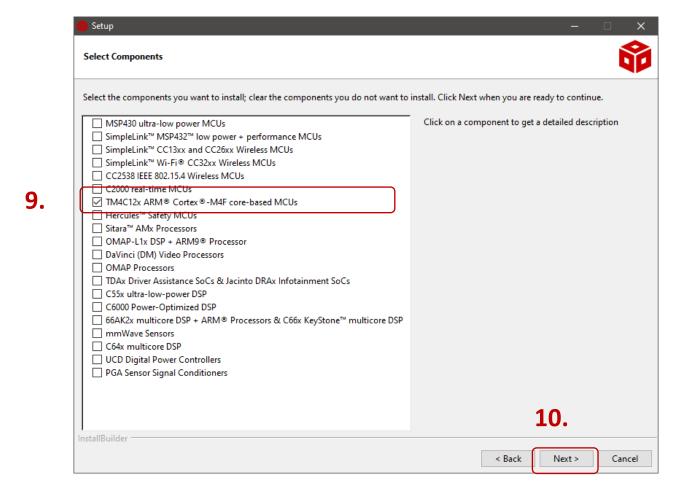


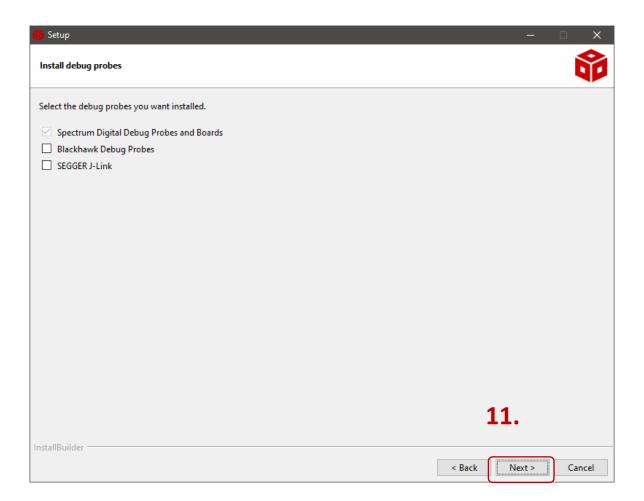


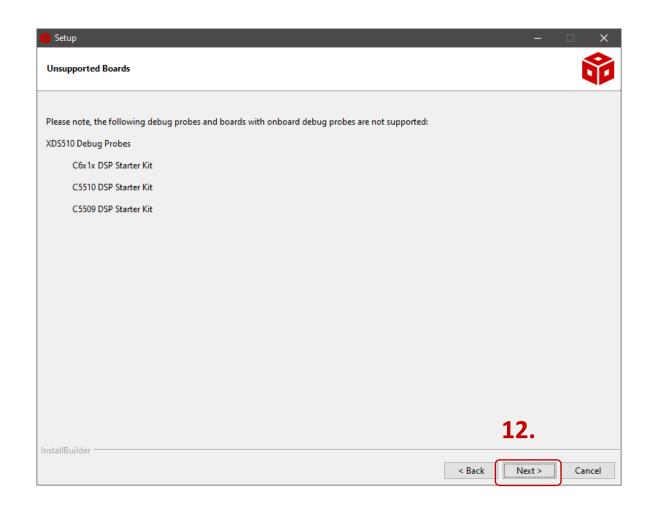


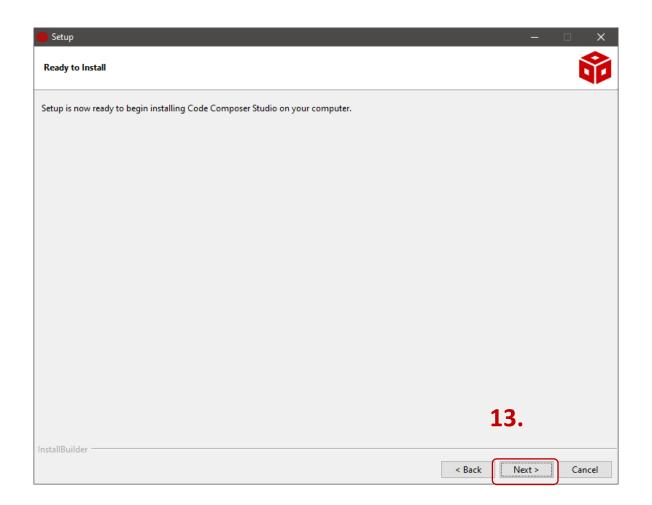


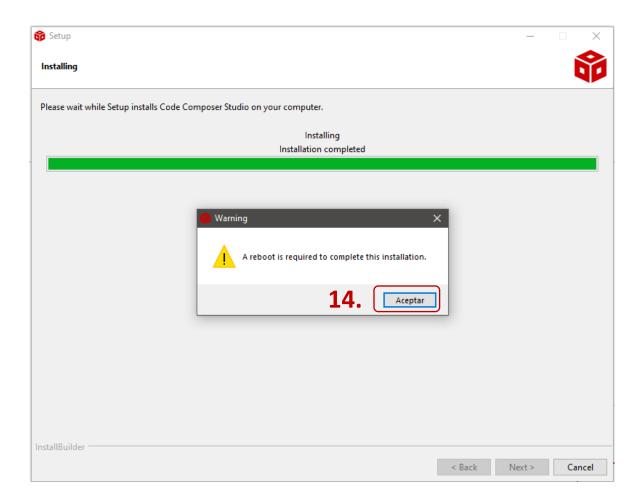


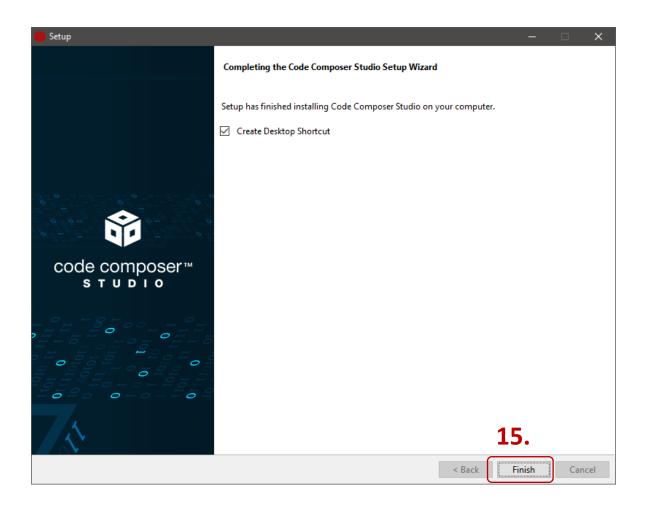










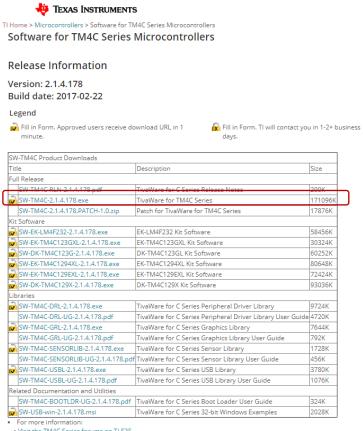


# Instalación de TivaWare



### Ingrese al siguiente enlace:

http://software-dl.ti.com/tiva-c/SW-TM4C/latest/index FDS.html

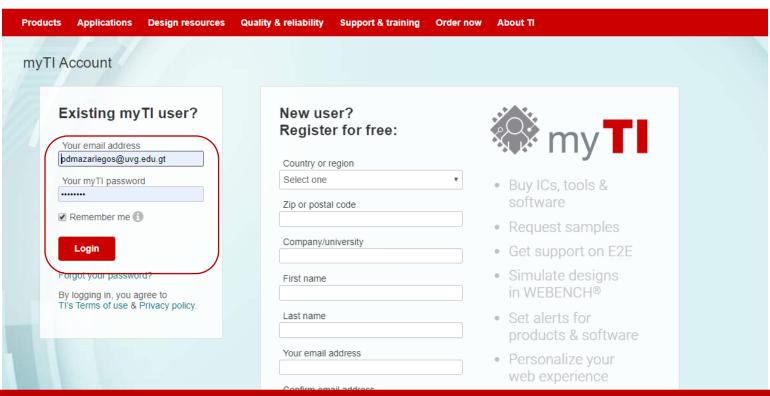


Visit the TM4C Series forums on TI E2E.

Visit the TM4C Series web page.

## Tendrá que hacer login de su cuenta en Texas Instruments

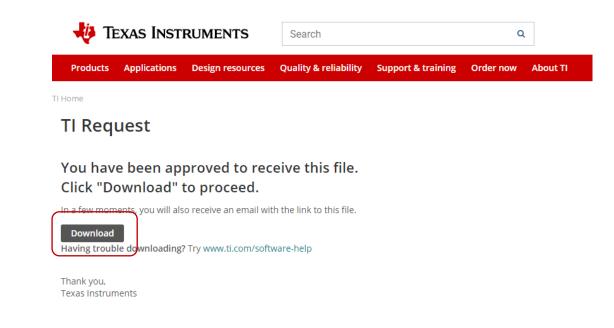




# Tendrá que llenar un formulario y luego podrá descargar el archivo

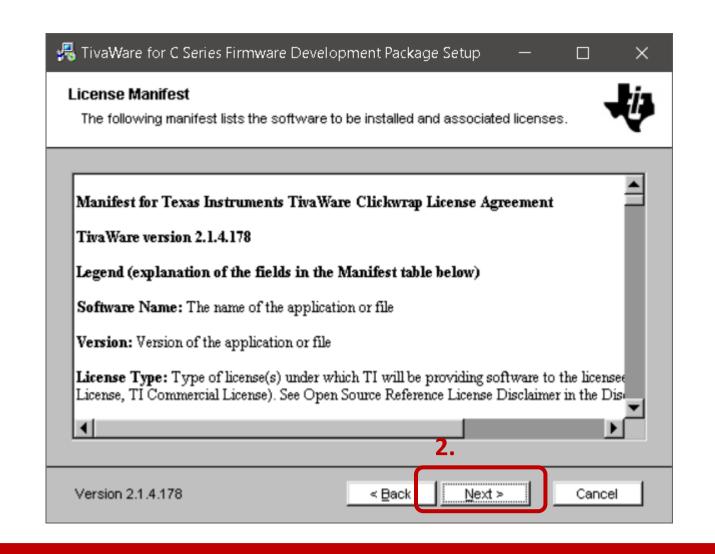
#### To download or access: U.S. Government export approval: · Certain Software/Tools/Documents require export All fields are Required, Incomplete information will be DENIED approval before download or access. • If you are approved, a DOWNLOAD BUTTON will First name: · If you are not immediately approved, a message will Mazariegos appear after this form. . To AVOID delays, please provide complete pdmazariegos@uvg.edu.g Your email address: information Univerisdad del Valle de G Your full company/university name untry this file will be used in: What end-equipment/application will you use this file for: Civil I certify that the following is true: (a) Lunderstand that this Software/Tool/Document is subject to export controls under the U.S. Commerce Department's Export Administration Regulations ("EAR"). (b) I am NOT located in Cuba, Iran, North Korea, Sudan or Syria. I understand these are prohibited destination countries under the EAR or U.S. sanctions regulations. (c) I am NOT listed on the Commerce Department's Denied Persons List, the Commerce Department's Entity List, the Commerce Department's General Order No. 3 (in Supp. 1 t o EAR Part 736), or the Treasury Department's Lists of Specially (d) I WILL NOT EXPORT, re-EXPORT or TRANSFER this Software/Tool/Document to any prohibited destination, entity, or individual without the necessary export license(s) or authorization(s) from the U.S. Government (e) I will NOT USE or TRANSFER this Software/Tool/Document for use in any sensitive NUCLEAR, CHEMICAL or BIOLOGICAL WEAPONS, or MISSILE TECHNOLOGY end-uses unless authorized by the U.S. Government by regulation or (f) I understand that countries other than the United States may restrict the import, use, or export of the Subject Product. I agree that we shall be solely responsible for compliance with any such import, use, or export restrictions · I / We hereby certify that we will adhere to the conditions above. · I / We do not know of any additional facts different from the above. · I / We take responsibility to comply with these terms. • I / We understand we are responsible to abide by the most current. versions of the Export Administration Regulations and other U.S. export and sanctions laws.

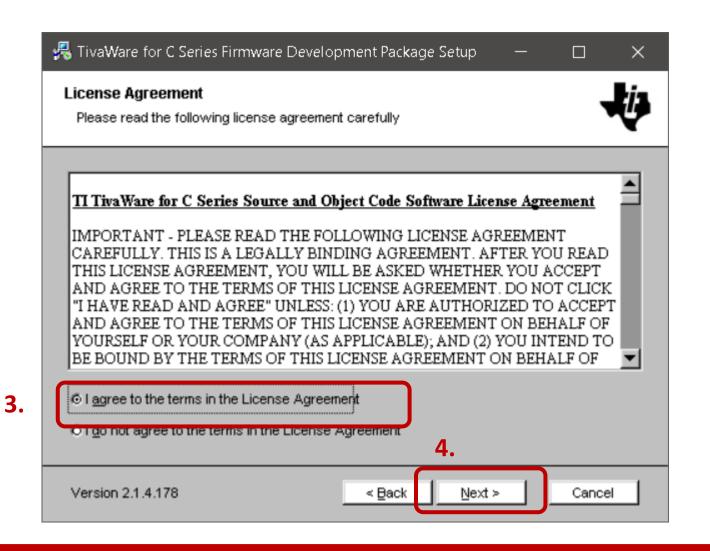
ALL THE ABOVE IS TRUE:

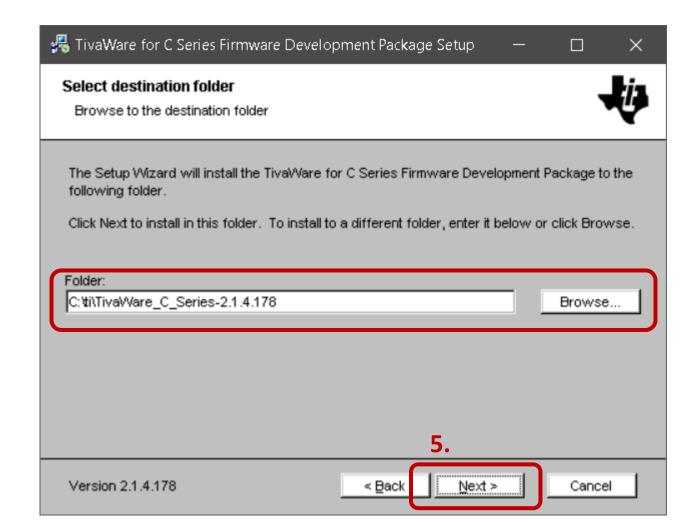


### Una vez descargado, correr el instalador

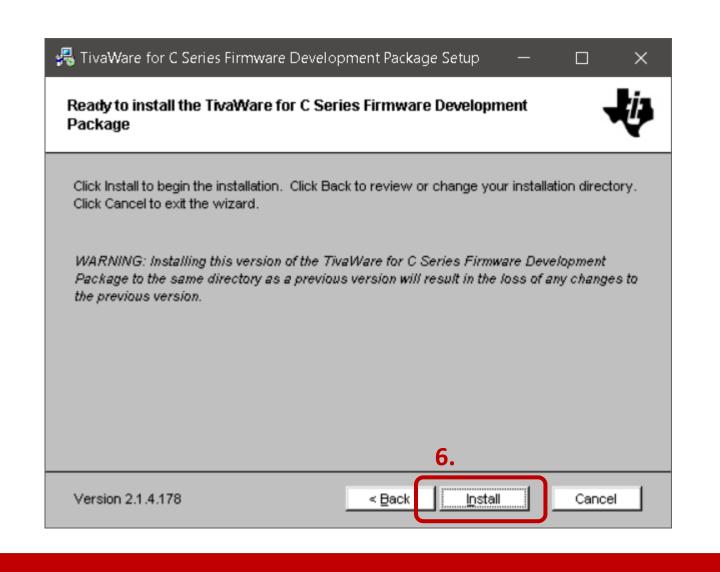




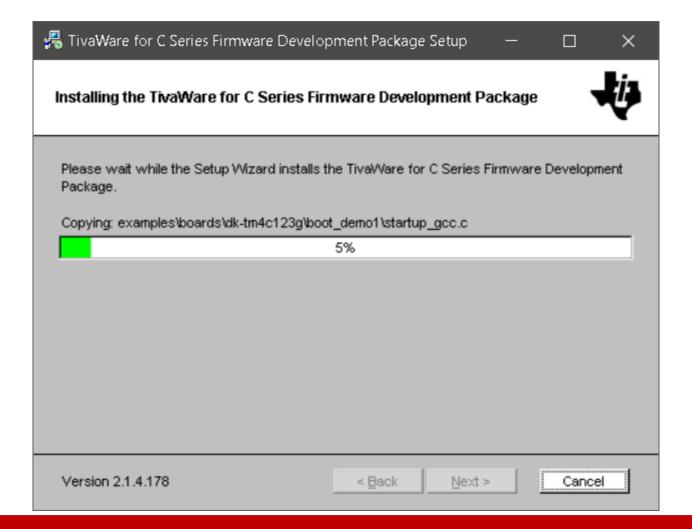




Escogemos el directorio de instalación

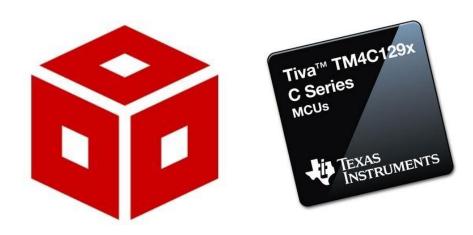


### Esperar a que termine la instalación

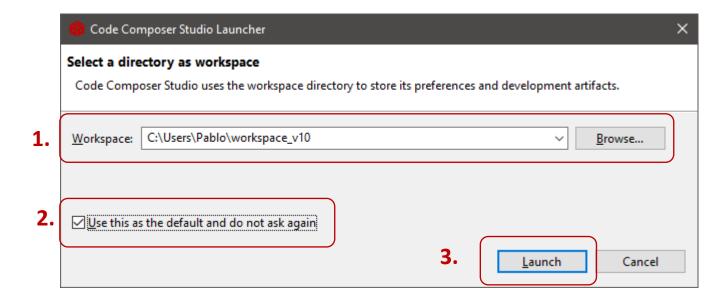




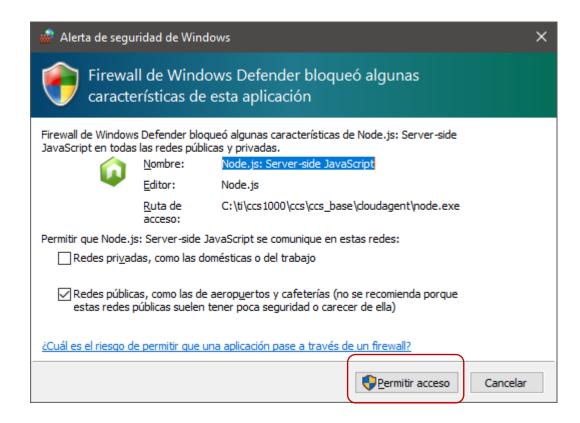
# Cómo crear un nuevo proyecto en Code Composer Studio usando TivaWare



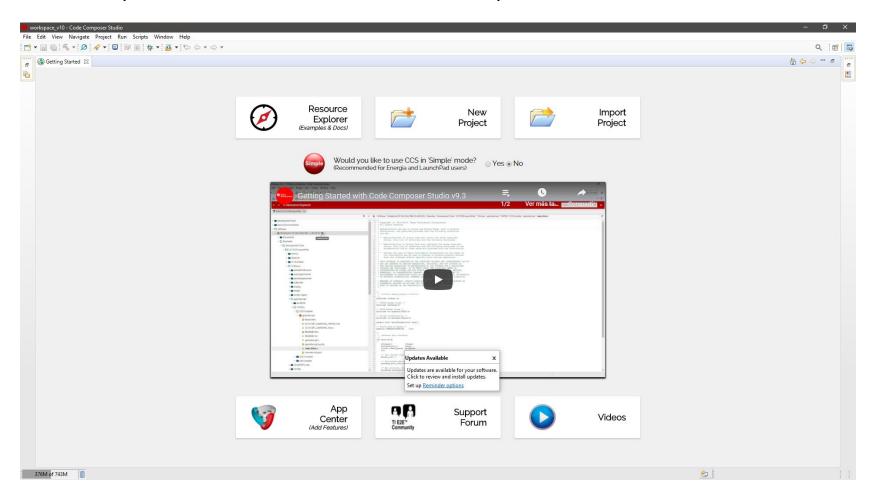
Al iniciar Code Composer Studio nos preguntará cual será la ubicación del área de trabajo, esta área será donde estaremos almacenando todos nuestros proyectos. Una vez seleccionada la ubicación pueden seleccionar que utilice dicha ubicación como default y no vuelva a preguntar, de lo contrario cada vez que se inicie les volverá a preguntar.



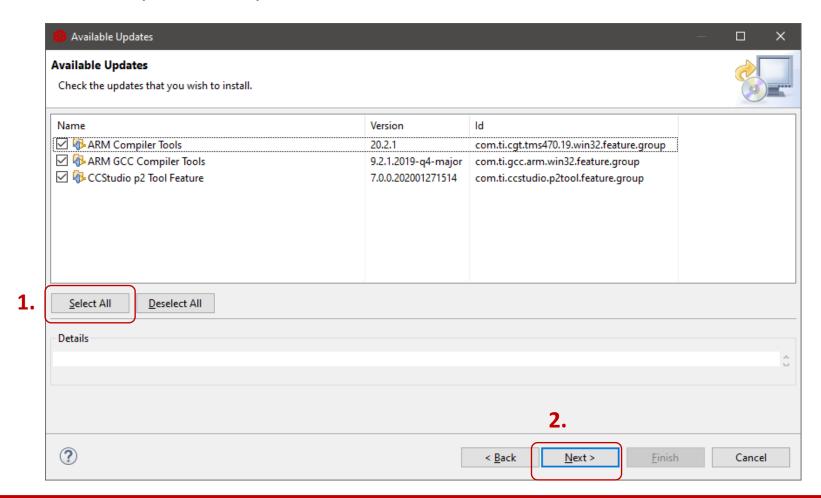
La primera vez que lo iniciemos también nos aparecerá la siguiente ventana, le damos permitir acceso

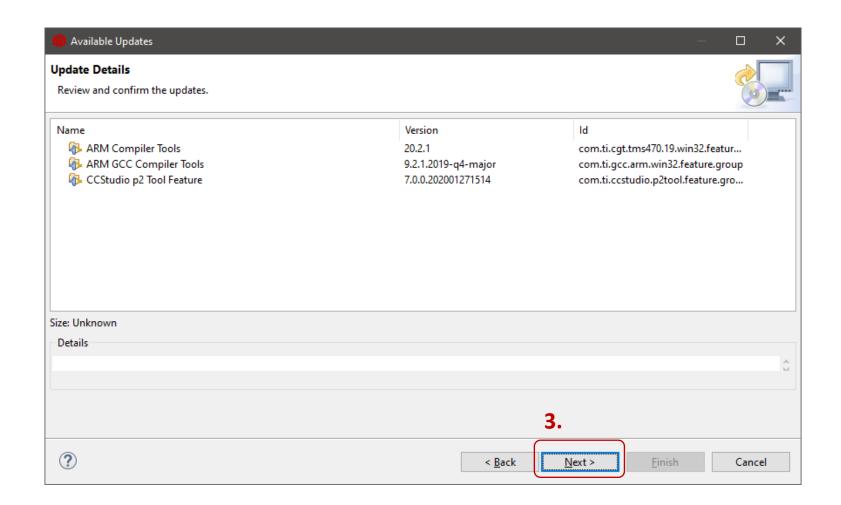


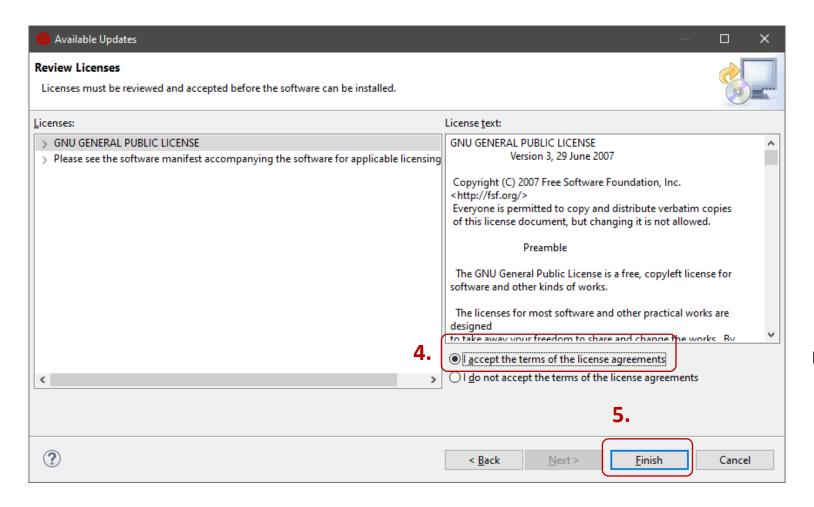
### Code Composer Studio está basado en el IDE Eclipse



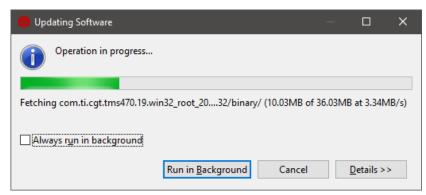
Se recomienda grandemente buscar si hay actualizaciones, para esto se pueden ir al menú *Help > Check Updates* 







#### Esperar a que se termine de actualizar



### Una vez que termine nos pedirá reiniciar CCS

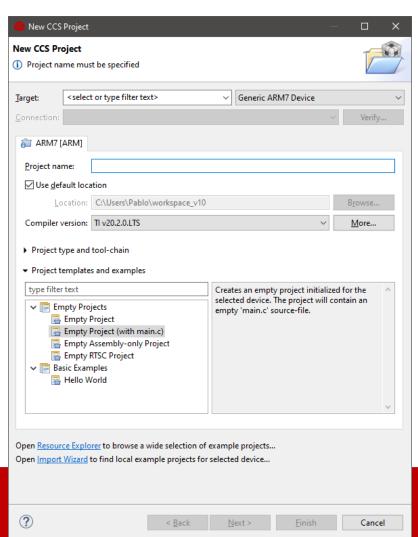


# Creación de nuevo proyecto en CCS

 Para crear un nuevo proyecto:

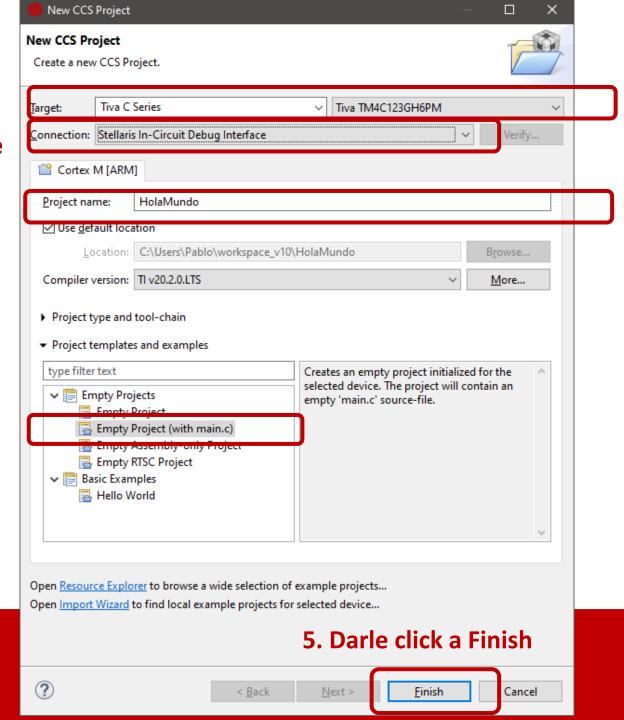
File / New / CCS Project

Aparecerá la siguiente ventana



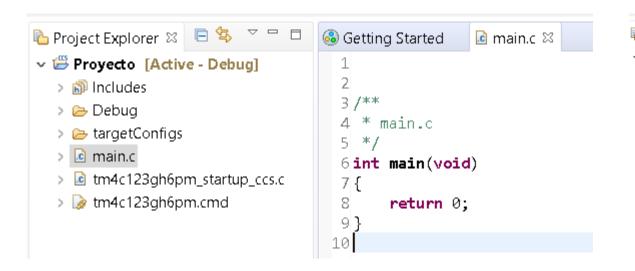
2. Seleccionar el tipo de conexión Stellaris In-Circuit Debug Interface (ICDI)

4. Selectionar Empty Project (with main.c)



- 1. Seleccionar el modelo del microcontrolador
  - TIVA TM4C123GH6PM y luego Tiva C Series
- 3. Colocar el nombre del proyecto

### Una vez creado el Proyecto podemos pegar un código ejemplo o empezar a escribir nuestro código



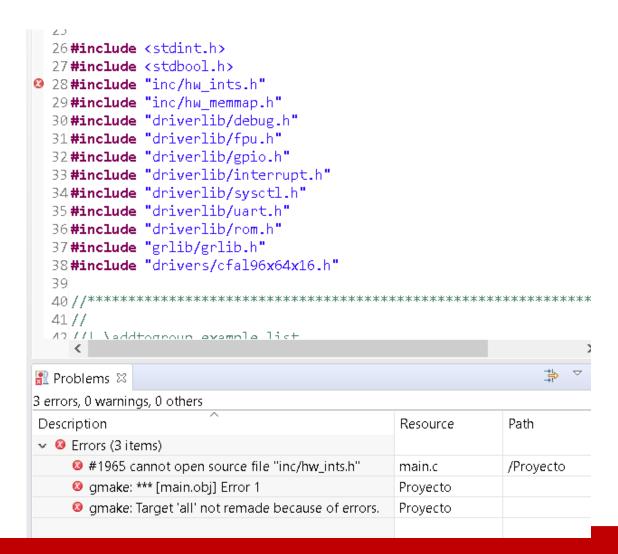
```
🖺 Project Explorer 🛭 🕒 🥞 🔻 🗀 🗖
                                 Getting Started
                                                  🛾 🗟 *main.c 🛭

∨ 

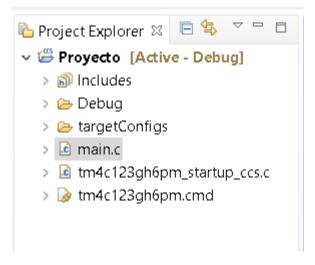
□ Proyecto [Active - Debug]

                                   14//
  > 📦 Includes
                                   15 // THIS SOFTWARE IS PROVIDED "AS IS" AN
                                   16 // NO WARRANTIES, WHETHER EXPRESS, IMPL
  > 🗁 Debug
                                   17// NOT LIMITED TO, IMPLIED WARRANTIES O
  > 🗁 targetConfigs
                                   18 // A PARTICULAR PURPOSE APPLY TO THIS S
  > 📧 main.c
                                   19 // CIRCUMSTANCES, BE LIABLE FOR SPECIAL
  > 🖟 tm4c123gh6pm_startup_ccs.c
                                   20 // DAMAGES, FOR ANY REASON WHATSOEVER.
  > b tm4c123gh6pm.cmd
                                   21//
                                   22 // This is part of revision 2.1.4.178 o
                                   23 //
                                   25
                                   26 #include <stdint.h>
                                   27 #include <stdbool.h>
                                   28 #include "inc/hw ints.h"
                                   29 #include "inc/hw memmap.h"
                                   30 #include "driverlib/debug.h"
                                   31 #include "driverlib/fpu.h"
                                   32 #include "driverlib/gpio.h"
                                   33 #include "driverlib/interrupt.h"
                                   34 #include "driverlib/sysctl.h"
                                   35 #include "driverlib/uart.h"
                                   36 #include "driverlib/rom.h"
                                   37 #include "grlib/grlib.h"
                                   38 #include "drivers/cfal96x64x16.h"
```

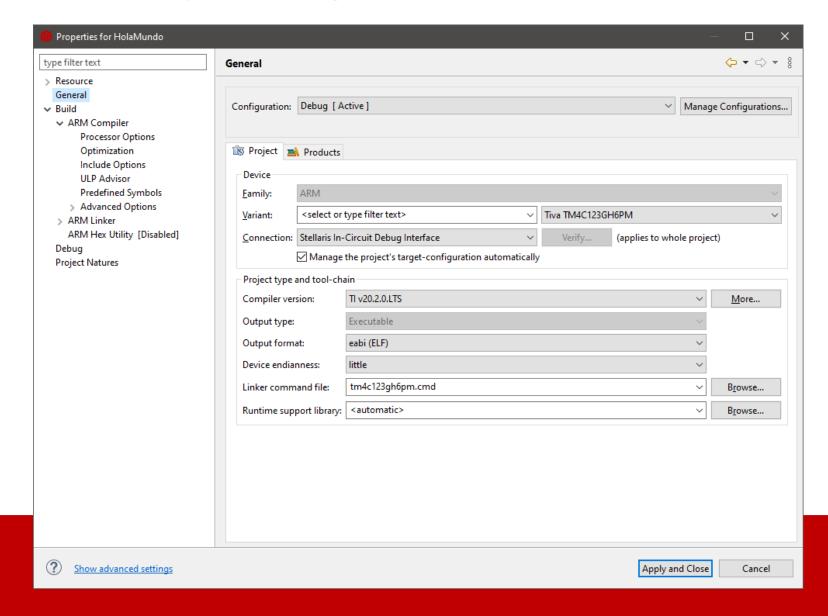
### Si compilamos nos dará errors para eliminarlos, es necesario agregar las librerías a nuestro proyecto



### Click derecho sobre el Proyecto y seleccionar *Properties*

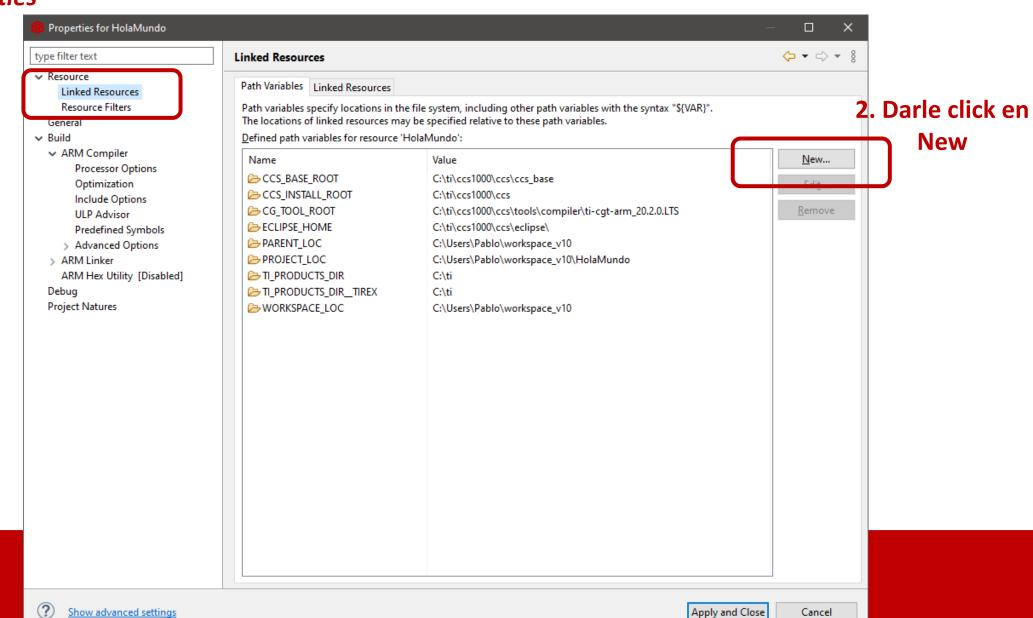


### Nos aparecerá la siguiente ventana



## Click derecho sobre el Proyecto y seleccionar *Properties*

 Buscar dentro de Resource > Linked Resources



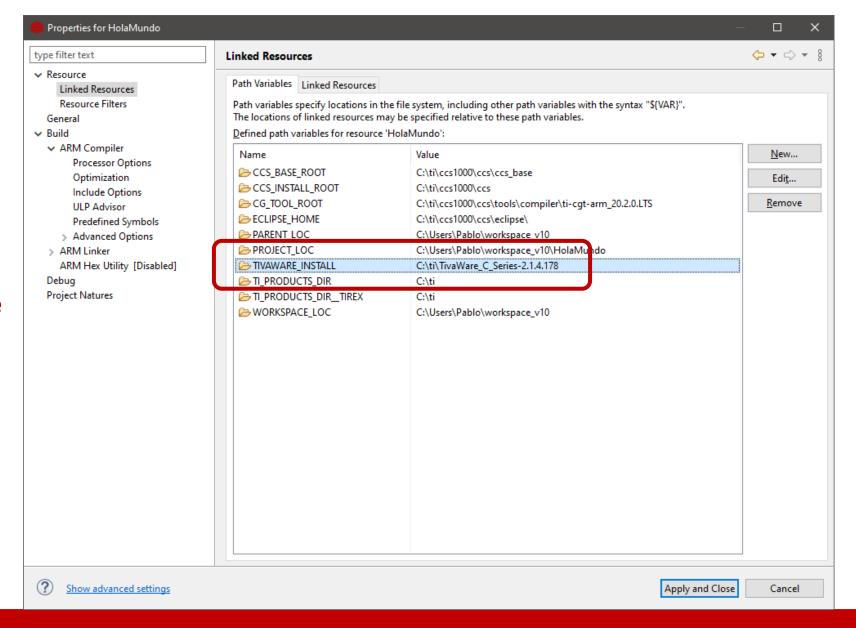
1. Colocar como nombre: TIVAWARE\_INSTALL

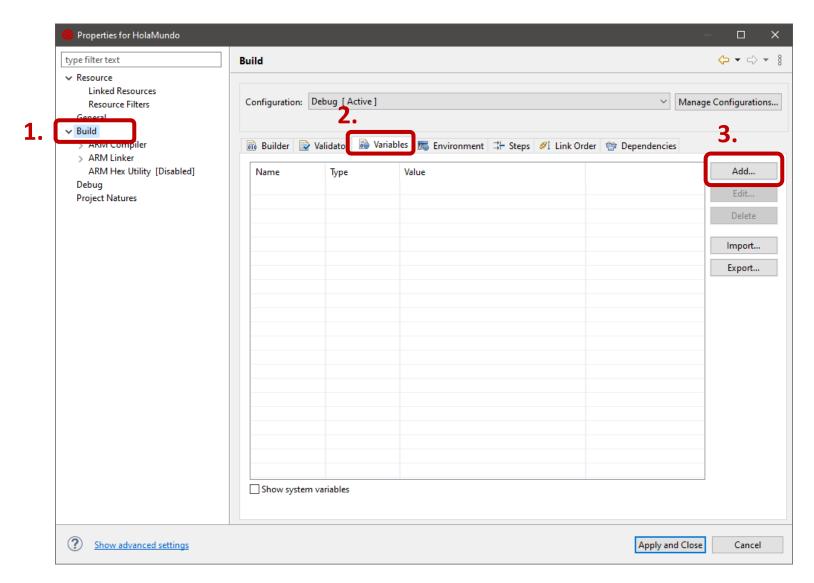
2. Pegar la ruta del directorio donde se instaló las librerías



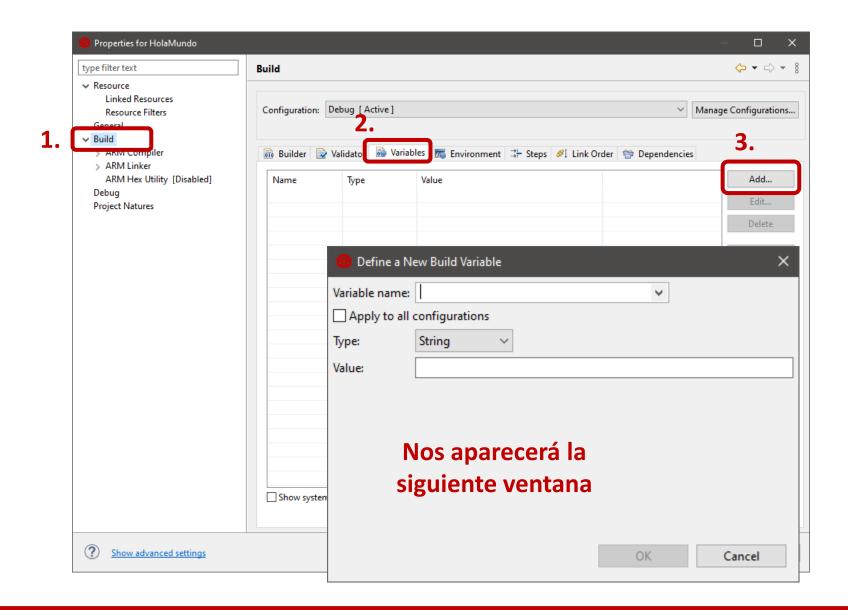
*C:\ti\TivaWare\_C\_Series-2.1.4.178* 

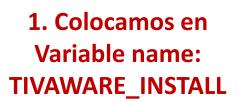
Verificar que aparezca la variable que acabamos de crear



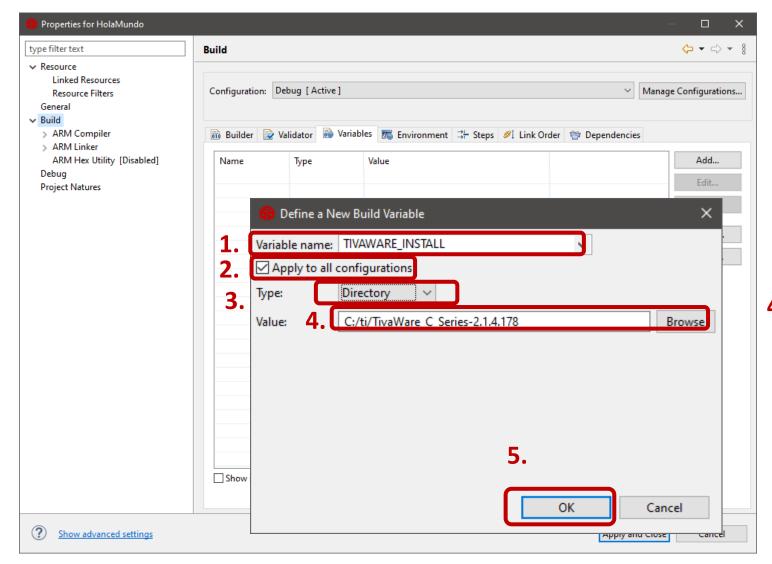


Luego irse a la opción *Build* 



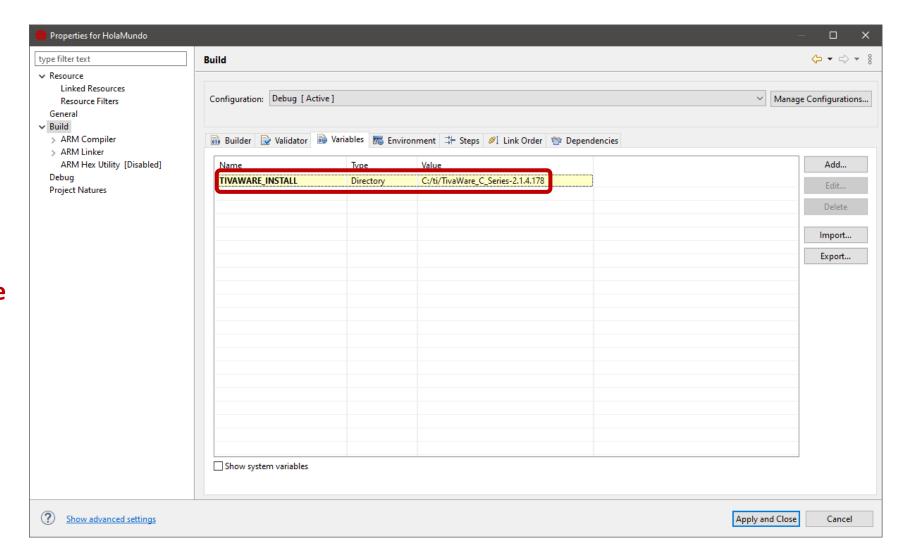


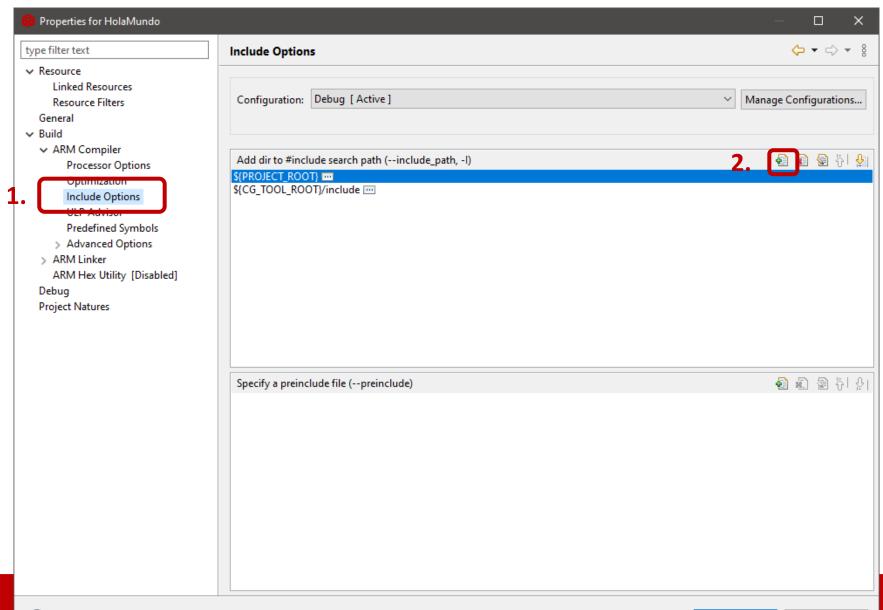
- 2. Habilitamos que se aplique en todas las configuraciones
- 3. Seleccionamos en Type: Directory

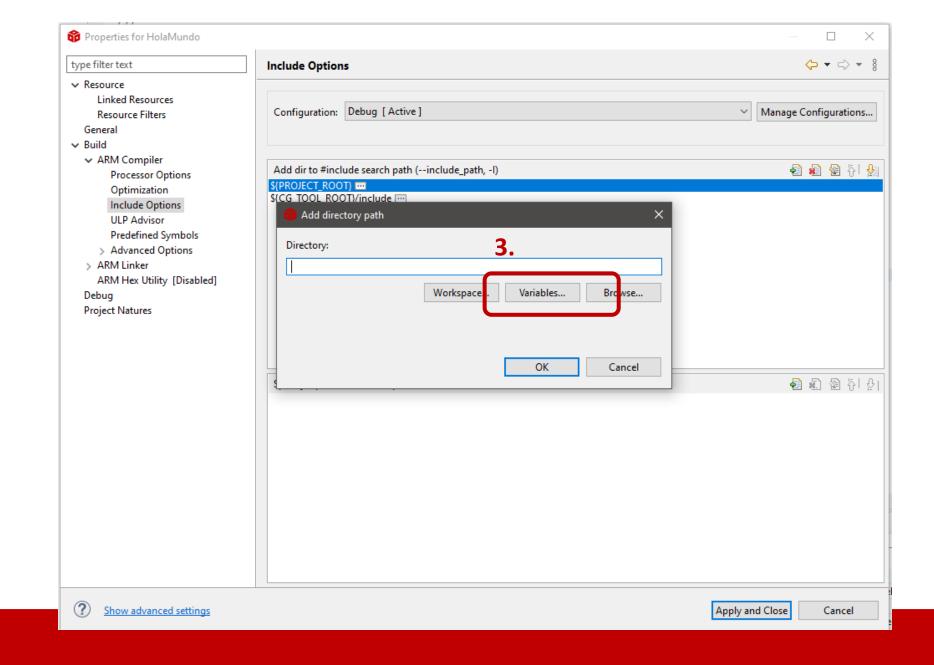


4. Seleccionamos la ubicación

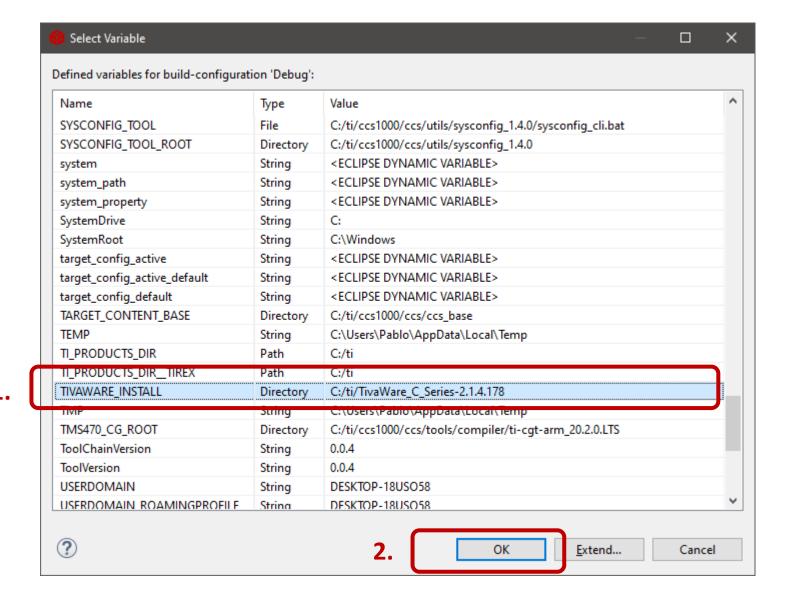
Verificar que aparezca la variable que acabamos de crear

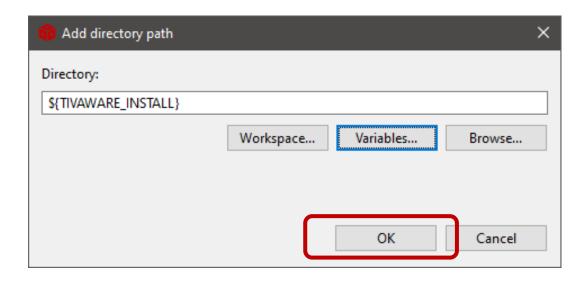


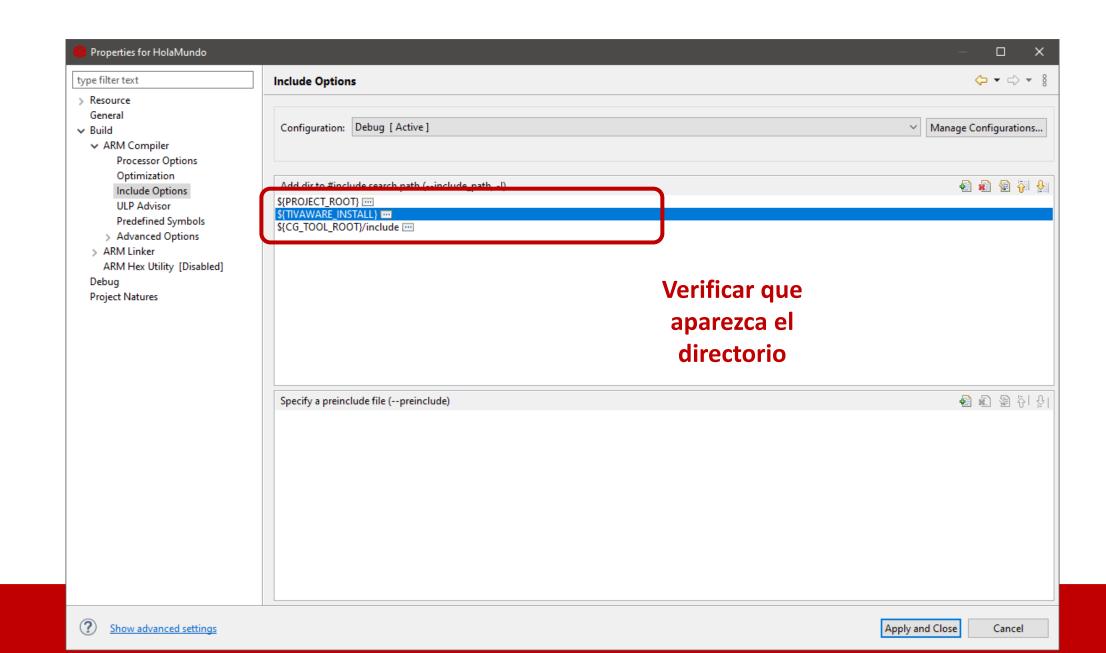


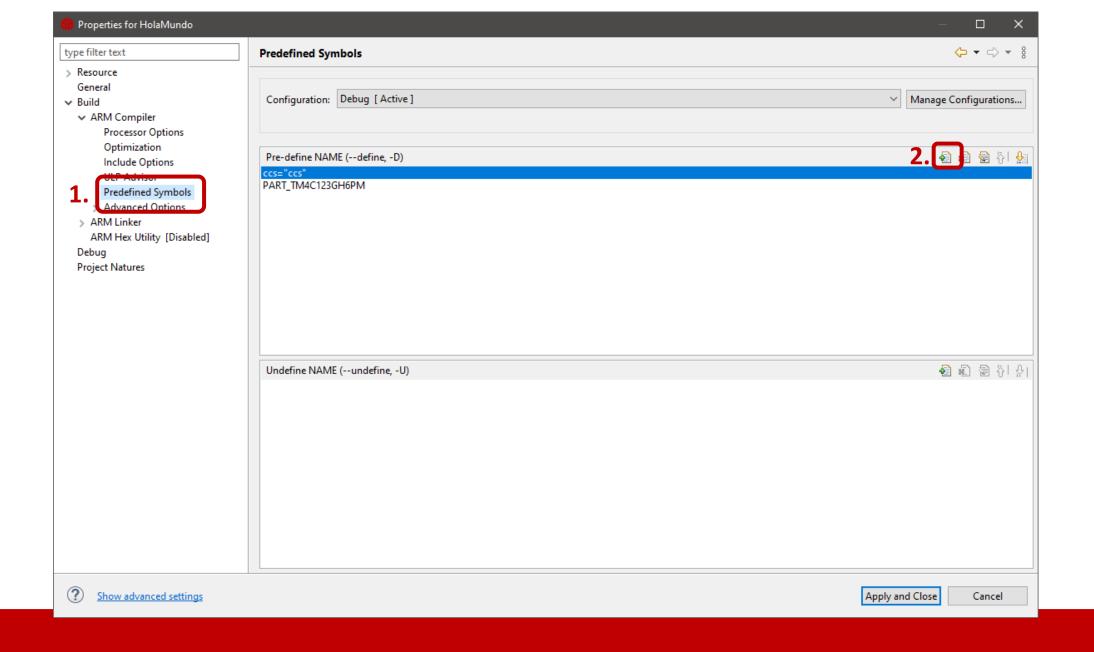


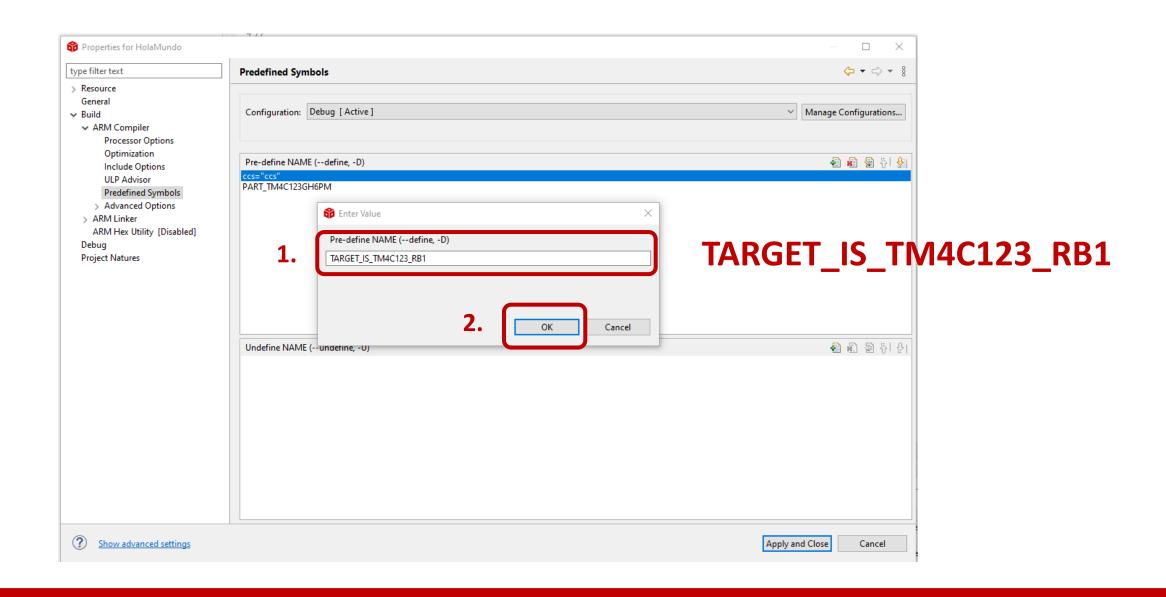
Nos aparecerá la siguiente ventana, en donde tendremos que buscar la variable TIVAWARE\_INSTALL

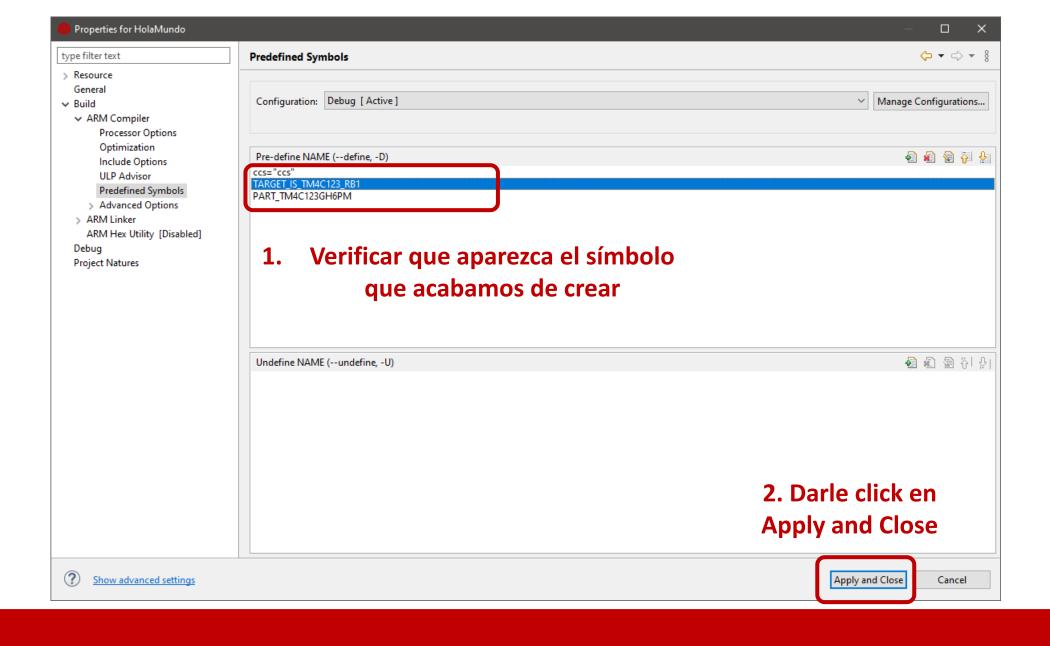




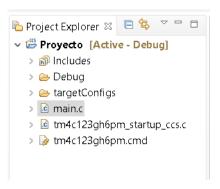




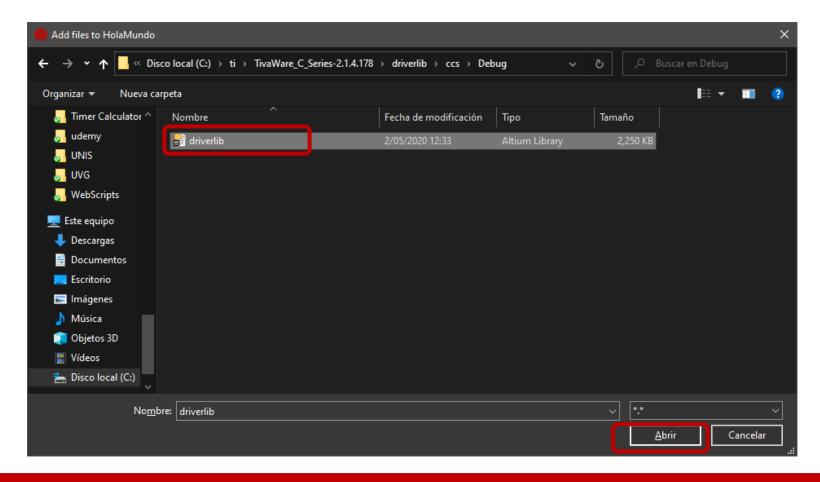




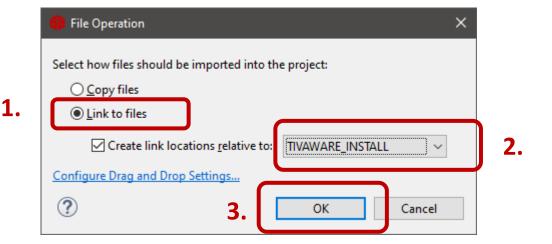
Click derecho sobre el Proyecto y seleccionar *Add Files...* 



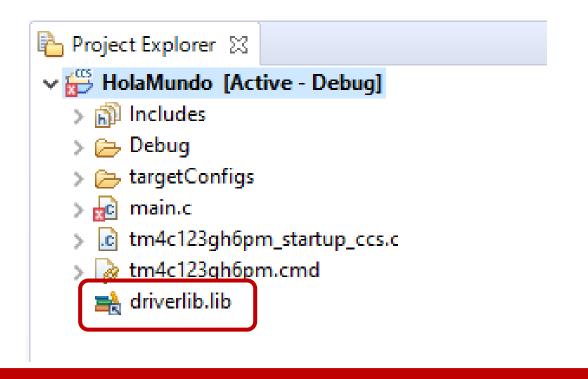
Buscamos en el siguiente directorio el archivo "driver.lib" C:\ti\TivaWare\_C\_Series-2.1.4.178\driverlib\ccs\Debug



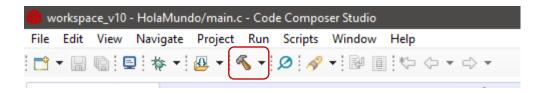
### Nos aparecerá la ventana siguiente



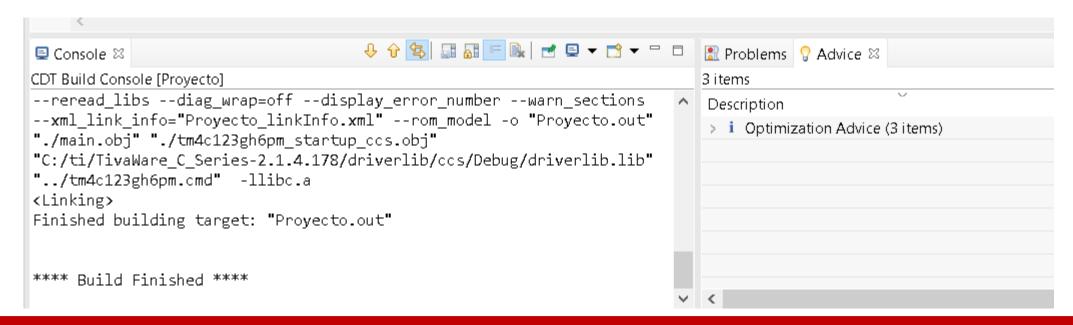
Nos fijamos que tengamos la librería en nuestro proyecto



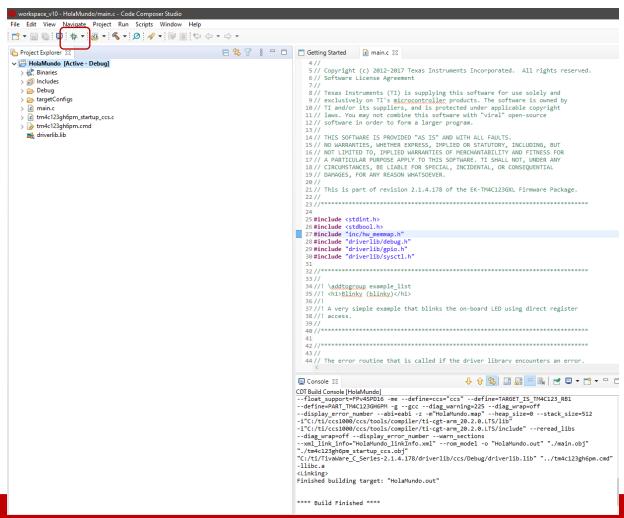
## Listo para compilar



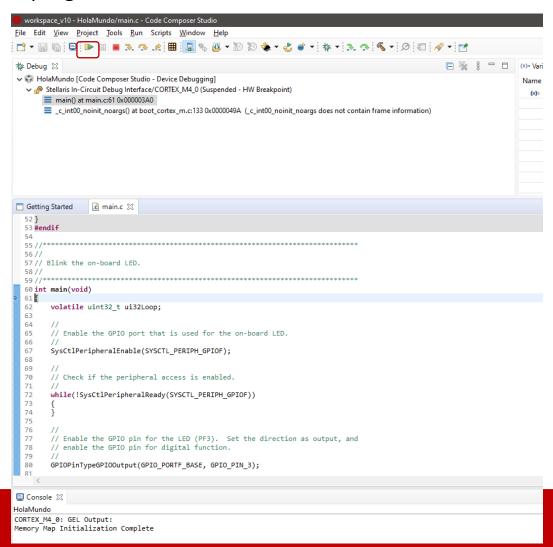
### **Cero Errores**

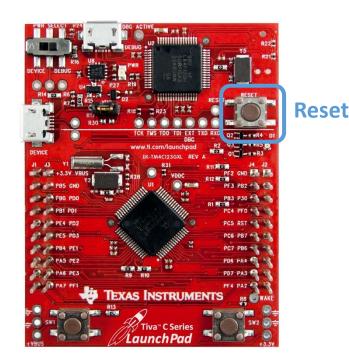


# Para cargar el programa



Ya que está subido nuestro programa, podremos correrlo de dos formas, la primera es con el botón de play en las herramientas de Debug, la siguiente forma es solo presionar el botón de Reset, y automáticamente empezará a correr el programa.

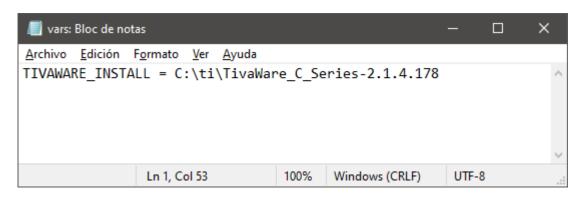




Ahora bien, este proceso lo tendríamos que repetir cada vez que realicemos un nuevo proyecto, por lo que se les sugiere realizar lo siguiente para que las variables de la ruta donde se ubica las librerías de TivaWare este configurado para todo el workspace.

Abra el bloc de notas y guarde el documento como **vars.ini** y pegue lo siguiente:

TIVAWARE\_INSTALL = C:\ti\TivaWare\_C\_Series-2.1.4.178



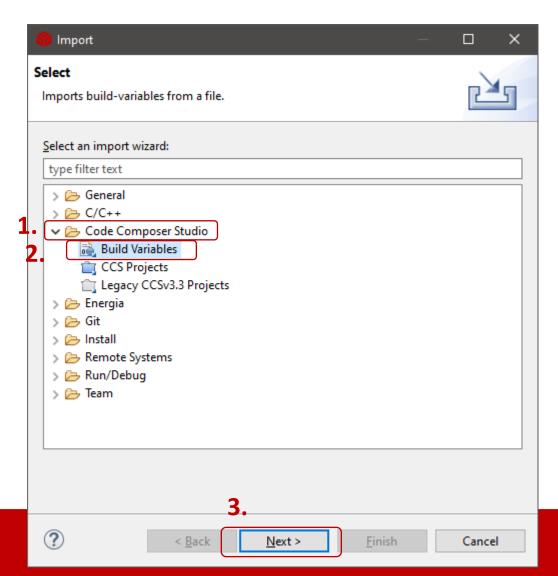
Luego copiar este documento en el directorio del workspace

C:\Users\Pablo\workspace\_v10

Importaremos el archivo creado, para esto nos vamos al menú File > import

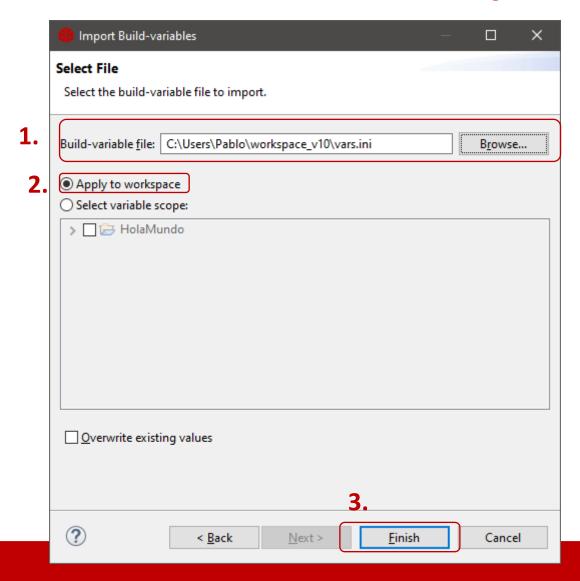
Nos aparecerá la siguiente ventana

**Expandimos** *Code Composer Studio* 

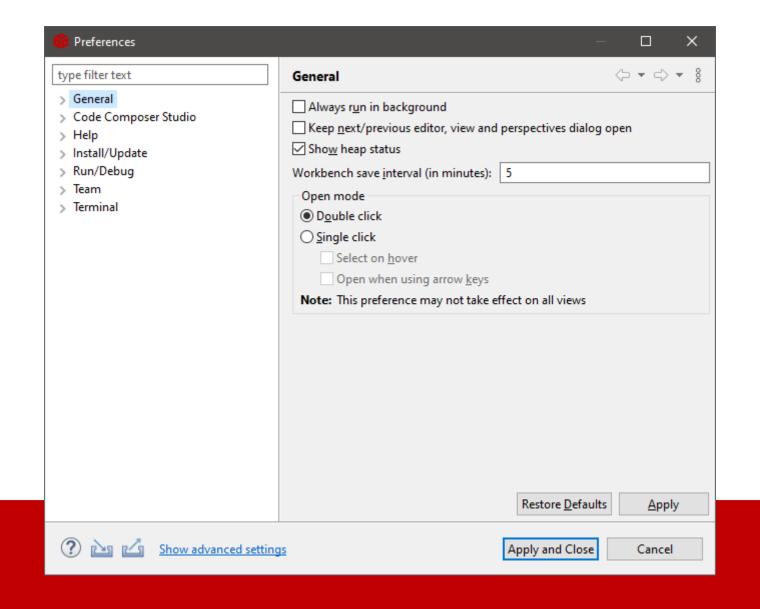


**Seleccionamos** *Build Variables* 

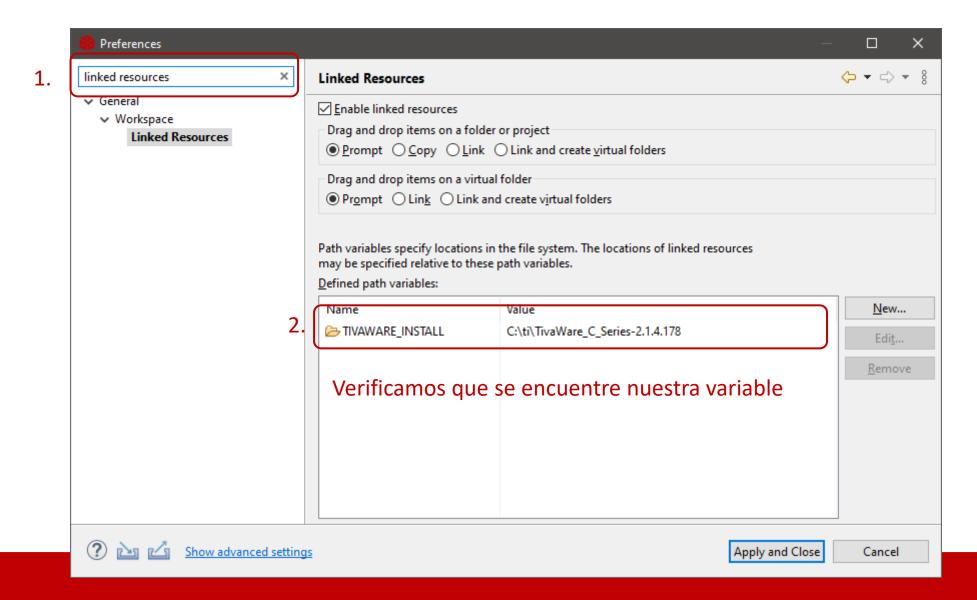
### Buscar el archivo *vars.ini* en el directorio donde lo guardamos



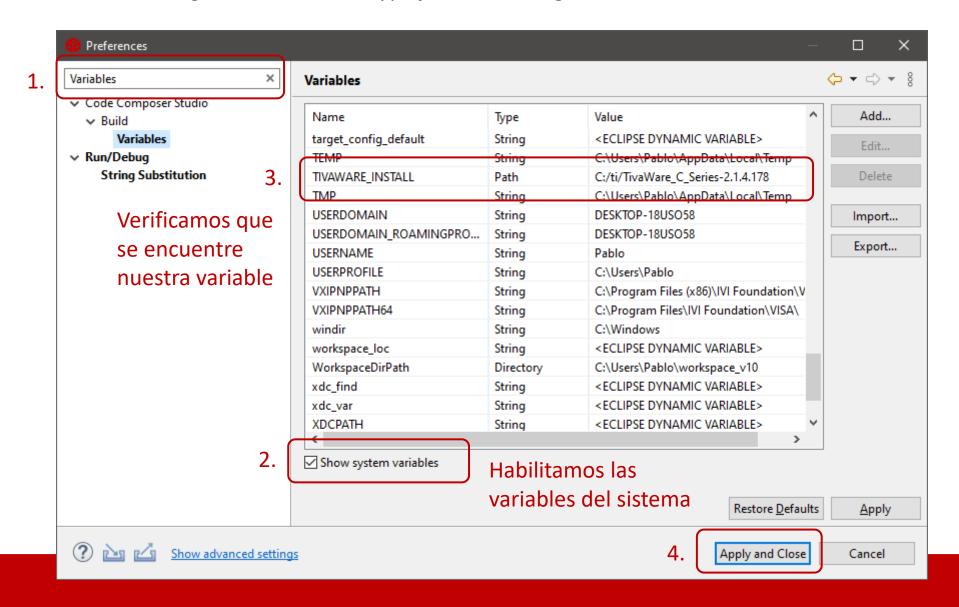
Comprobaremos que se hayan cargado ahora en las variables del sistema Nos iremos a *Windows > Preferences* 



#### Escribimos en el type filter text lo siguiente: linked resources



#### Luego ecribimos en el type filter text lo siguiente: Variables



Ahora ya está listo nuestro workspace, para crear cualquier proyecto, lo único que deberíamos hacer para que todo funcione es importar el driverlib a nuestro proyecto y listo funcionará correctamente.

**Atención:** Si cambiamos la ubicación del workspace, habrá que volver a importar el archivo vars.ini al nuevo workspace.