

IDE CCS Keil IAR introduction

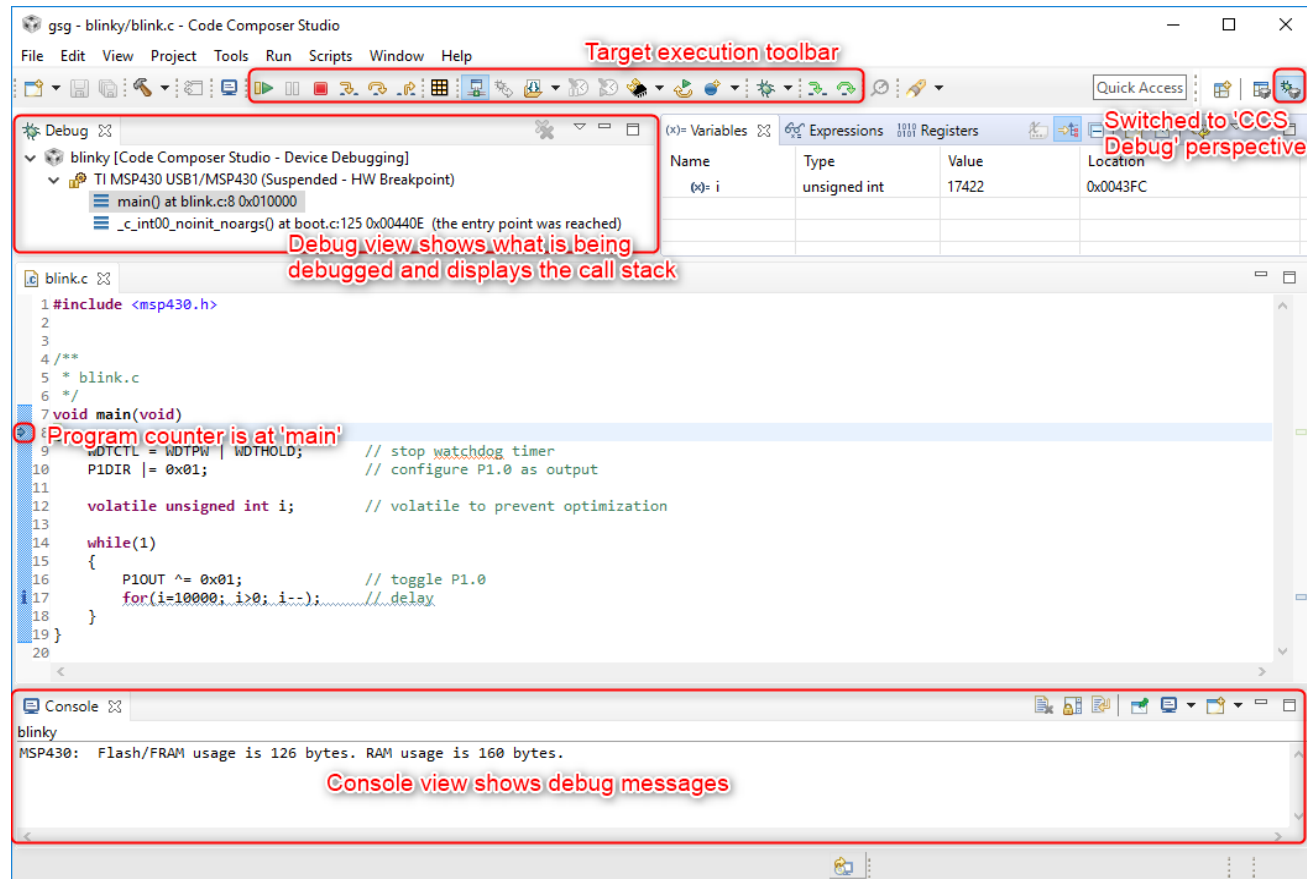
— MSPM0 ecosystem training series

Presented by Gary Gao

Integrated Development Environments (IDE)

What is IDE?

- An integrated development environment (IDE) is a software application that helps programmers develop software code efficiently. It normally include editor, compiler, debugger and so on.



MSPM0 supported IDEs Overview

IDEs	CCS(Eclipse)	IAR	Keil
License	Free	Charged	Charged
Compiler	TI Arm Clang / GCC	IAR C/C++ Compiler™ for Arm	Arm Compiler Version 6
Disk Size	3.44G (ccs1220)	6.33G (Arm 8.50.4)	2.5G (µVision V5.37.0)
XDS110	Supported	Supported	Supported
J-Link	Supported	Supported	Supported
EnergyTrace	Supported	No	No
MISRA-C	No	Supported	No
Security	No	Supported	No
ULINKplus	No	No	Supported
function safety	No	Supported	Supported

Code Composer Studio(CCS) Introduction – Free License

CCS Versions	Based Core	Description	Size on Disk
CCSTUDIO	Eclipse	Traditional offline IDE that include full functions to develop software for M0+ devices	3.44G (ccs1220)
CCSTUDIO-THEIA	Theia	New released version at 2023 that is a simple, easy-to-use, light size and offline IDE	1.81G (ccstheia100)
CCS Cloud	Theia	Web-based IDE can support edit ,build and debug.	0

Compiler: TI Arm Clang /GCC

- The [TI Arm Clang Compiler](#) is derived from the open source clang compiler and its supporting LLVM infrastructure.

Key Features

- Support EnergyTrace
- Support all TI's microcontroller and embedded processors
- Free License

Any question go to <https://e2e.ti.com/>

Linker Command File: .cmd file

- To handle the memory layout and allows assigning modules to specific memory areas, more information please go to this [link](#)

Learn to start

- [CCS quick start guide](#)
- [CCS Training videos](#)
- [CCS user's guide](#)

IAR Introduction

IAR Version	Description	Size on Disk
Embedded Workbench for Arm	Complete development environment for Arm, generating fast, compact code and enabling you to take full control of your code.	6.33G (Arm 8.50.4)

Compiler: IAR C/C++ Compiler™ for Arm

- [IAR C/C++ Development Guide](#) for Arm is to provide you with detailed reference information that can help you to use the build tools to best suit your application requirements.

Linker Configuration File: .icf file

- To handle the memory layout and allows assigning modules to specific memory areas, more information please go to this [link](#)

Key Features

- supports more than 14,000 different processors from more than 70 different processor vendors
- C-STAT checks like MISRA-C
- Software level function safety support
- Security support

Learn to start

- [IAR quick start guide](#)
- [IAR training videos](#)
- [IAR user's guide](#)

Any question go to <https://e2e.ti.com/> OR <https://www.iar.com/knowledge/support/>

Keil Introduction

Keil Version	Description	Size on Disk
MDK-ARM μVersion 5	Keil® MDK is the most comprehensive software development solution for Arm®-based microcontrollers and includes all components that you need to create, build, and debug embedded applications.	2.5G (μ Vision V5.37.0)

Compiler: Arm Compiler Version 6

- [Arm Compiler 6](#) is the compilation toolchain for the Arm architecture, available in all editions of MDK. It brings together the modern LLVM compiler infrastructure and the highly optimized Arm C libraries to produce performance and power optimized embedded software for the Arm architecture.

Key Features

- Owned by ARM
- Software level function safety support
- ULINKplus: Power Measuring and fast SWV support

Linker Scatter File: .sct file

- To handle the memory layout and allows assigning modules to specific memory areas, more information please go to this [link](#)

Learn to start

- [Keil quick start guide](#)
- [Keil training videos](#)
- [Keil getting started](#)

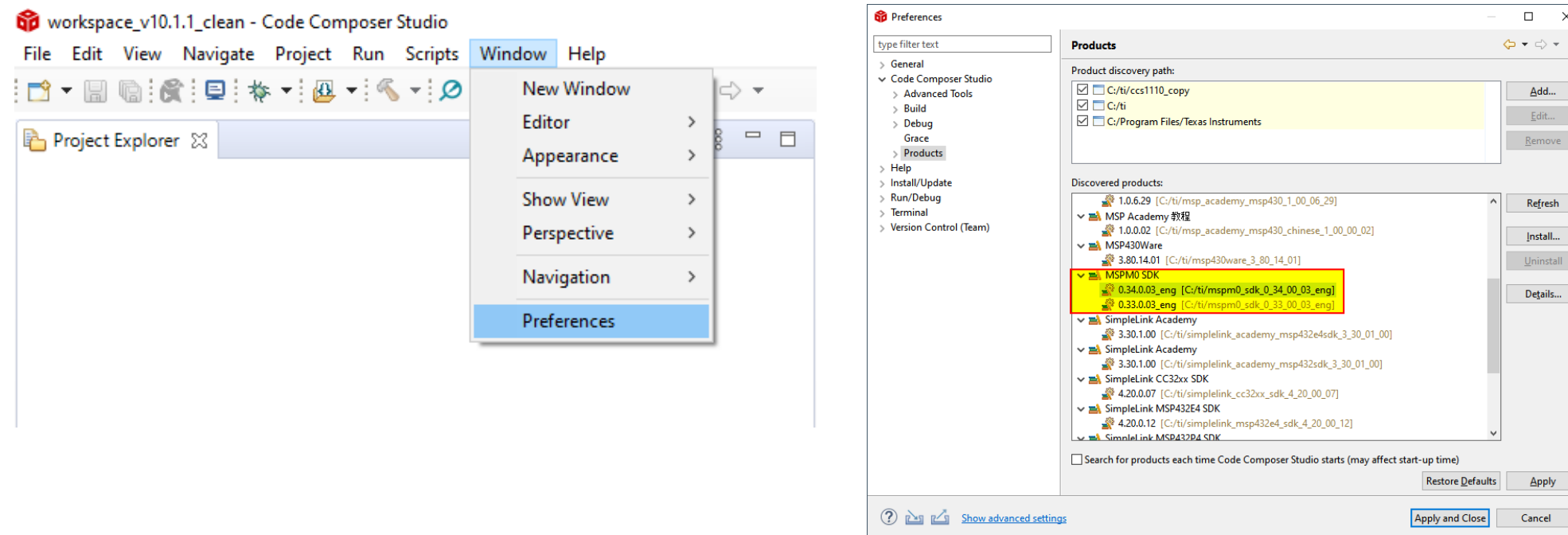
Any question go to <https://e2e.ti.com/> OR <https://www.keil.com/support/>

Example to Start MSPM0 with CCS

Step 1

Software environment setup ----- More details refer to [quick start guide](#) in SDK

- Install [CCS](#)- Recommend to install version v12.3 and up
- Install [MSPM0 SDK](#)
- Install [SysConfig](#)
- Add SDK and SysConfig into CCS
 - Clicking Window→Preferences
 - Choose Code Composer Studio→Products
 - Refresh after the install and the product should be found under discovered products.
 - Hit apply and close to make the change take effect.

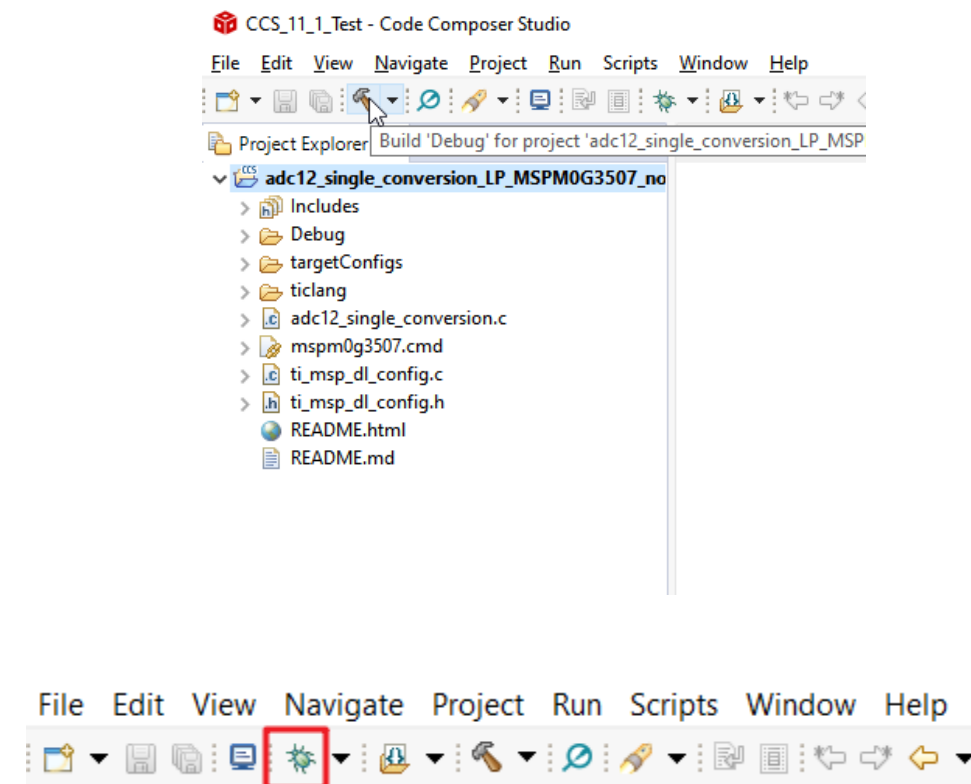
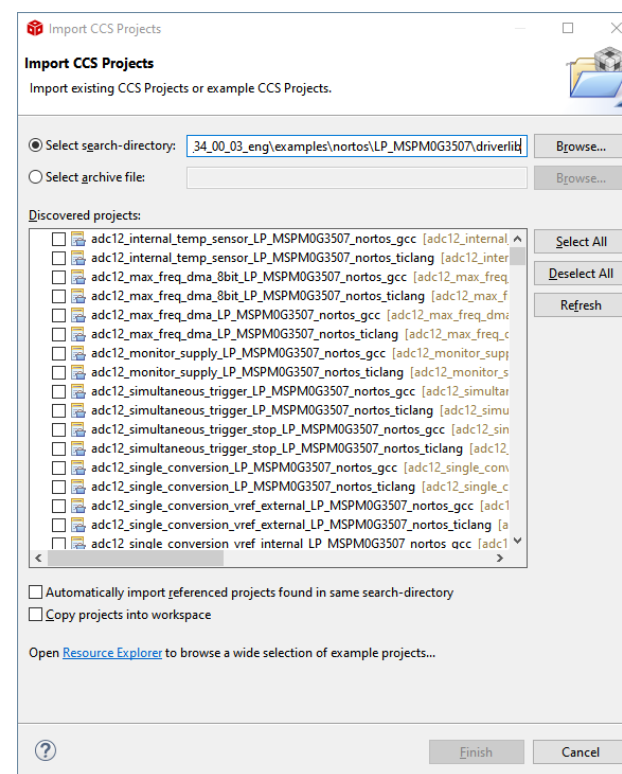
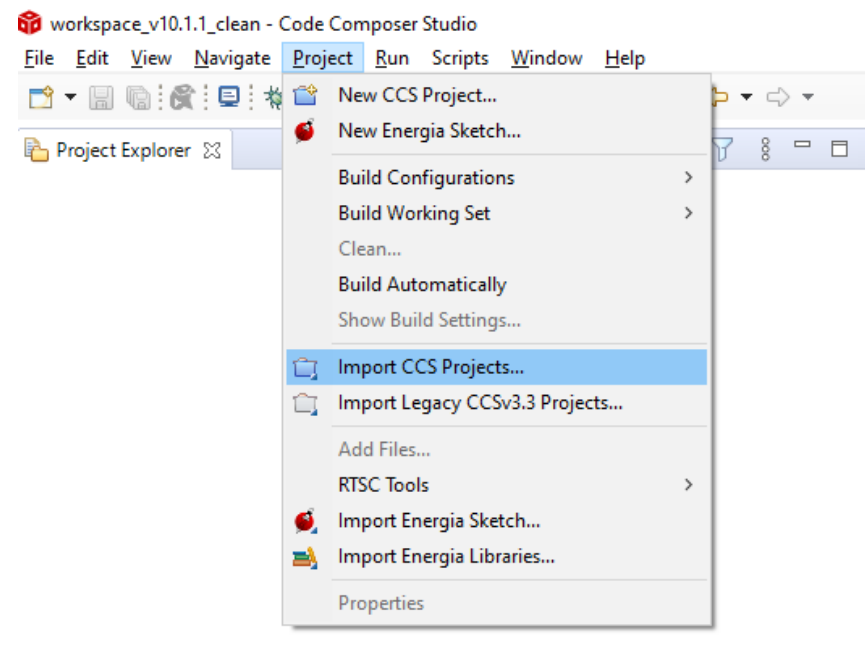


Example to Start MSPM0 with CCS

Step 2

Import and Build Example ----- More details refer to [quick start guide](#) in SDK

- Select Project → Import CCS Projects from the menu
- Select the Browse button and select the directory <MSPM0_SDK_INSTALL_DIR>/examples/nortos/<device>/driverlib
- Select an code example, and then click Finish to import the project
- To build the example, click on your example in the Project Explorer tab, and then select the Build icon at the top
- Click debug button to download the code into MCU and enter debug mode



To find more MSPM0 training series, please visit:

- [Ti.com.cn](http://ti.com.cn)
- [WeChat \(德州仪器公众号\)](#)
- [Bilibili](#)
- [21IC](#)