



QSG150: C8051Fxxx Development Kit Quick-Start Guide

This guide is an excellent starting point to get familiar with the C8051Fxxx Development Kits and application development in general.

For more specific information on the features available on the kit, see the Development Kit User's Guide available on the Silicon Labs website or in Simplicity Studio. To find this document on the website, go to www.silabs.com, then navigate to **[Community & Support]>[Document Library]**.

KIT CONTENTS

- 1 x Development Board
- 1 x USB Debug Adapter
- 1 x AC to DC Power Adapter
- Additional USB or other cables
- Getting Started card

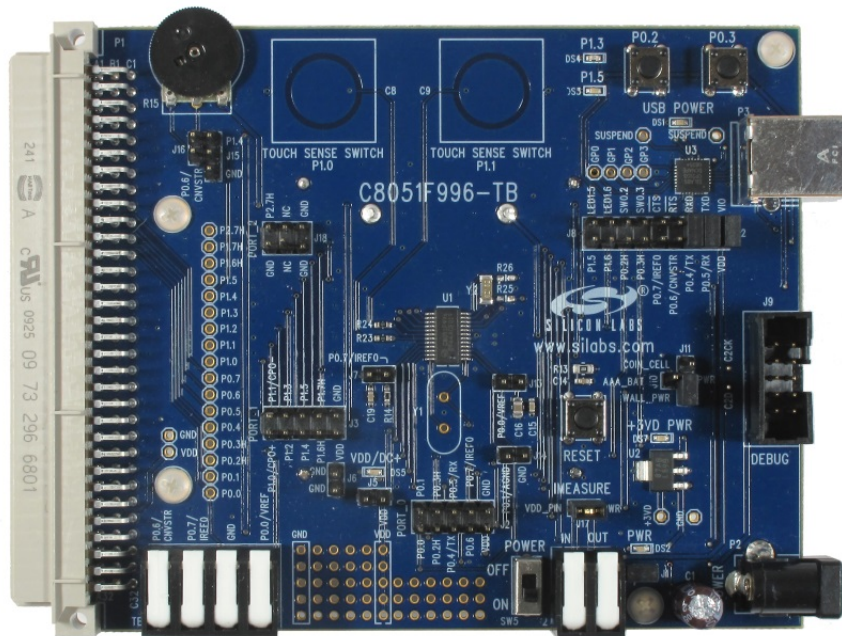


Figure .1. Example C8051Fxxx Development Board

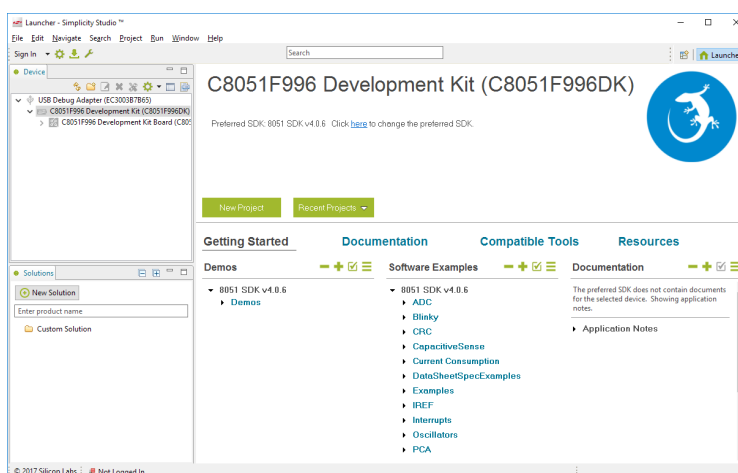
1. Download the Software

Silicon Labs offers two free software suites to develop your application: Simplicity Studio and the 8-bit Microcontroller Studio.

Before downloading and installing Simplicity Studio or 8-bit Microcontroller Studio, consult the 8-bit Microcontroller Studio web page for a list of supported legacy 8-bit MCU products.

The Simplicity Studio software supports both new 8-bit and all 32-bit MCU products and is available here: <http://www.silabs.com/simplicity-studio>.

The 8-bit Microcontroller Studio software supports legacy 8-bit MCU products and is available here: <http://www.silabs.com/8051-software>.

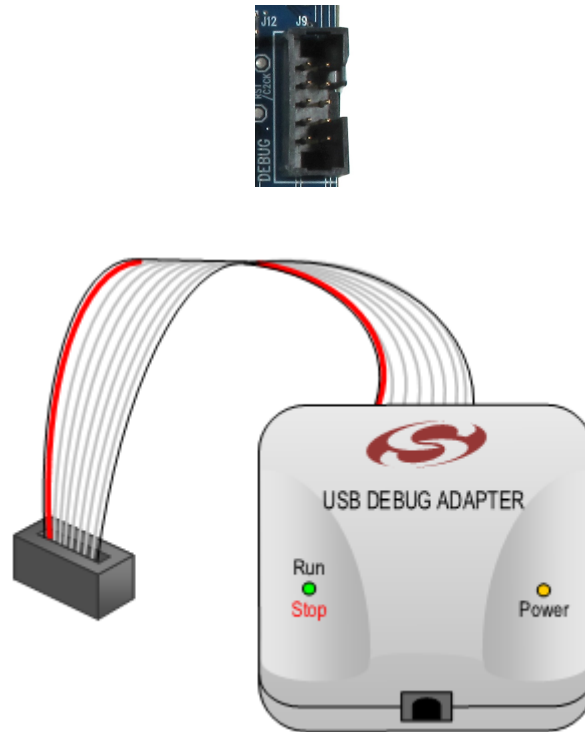


Note: The images in this document display the C8051F996 Development Kit for the purposes of demonstration. The software will display appropriate content for the actual Development Kit in use.

2. Setting Up Your Hardware

To set up your hardware:

1. Connect a USB cable from your PC to the USB Debug Adaptor and then connect the USB Debug Adaptor ribbon cable to the 10-pin connector on the board.



2. Provide power to the board by using the AC to DC power adapter included in the kit.



3. If your device has a switch, ensure that the switch is in the ON or powered position.




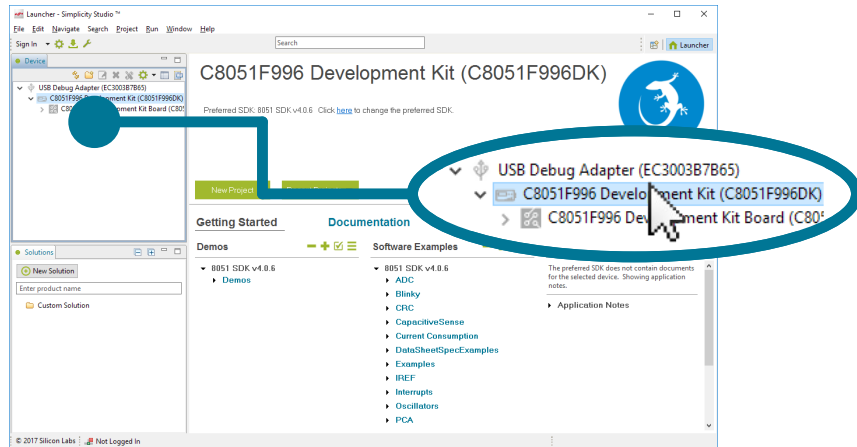
If using Simplicity Studio, proceed to [3. Using Simplicity Studio](#). If using the 8-bit Microcontroller studio, proceed to [4. Using the 8-bit Microcontroller Studio](#).

3. Using Simplicity Studio

3.1 Using the Software

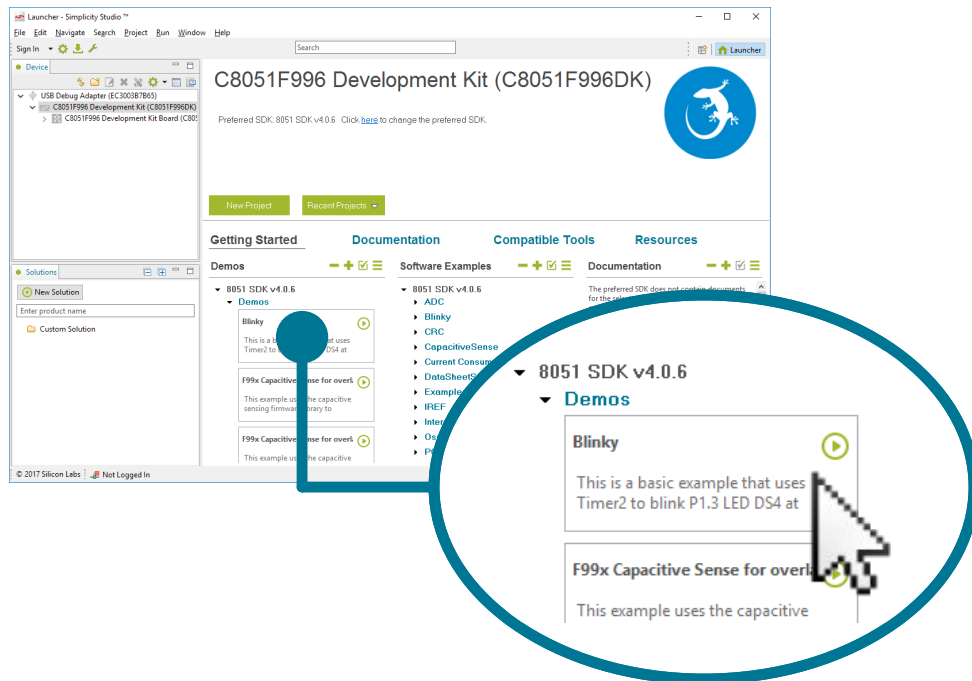
Detect the Device

Open Simplicity Studio and click **[Refresh]** . The board may take some time to appear due to driver installations for the debug adapter. Select your device from the list of detected hardware.



Open and Run [Blinky]

1. Go to the **[Demos]** list under **[Getting Started]** and select the Blinky demo from the list.



2. Click **[Start]** to run **[Blinky]** on your board.

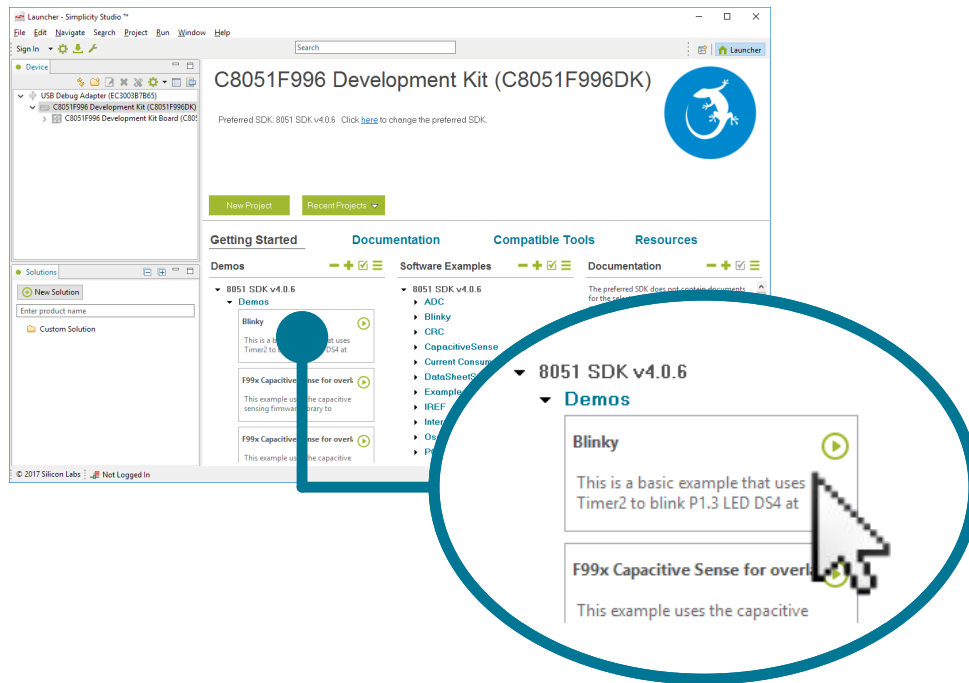
Need More Information?

Is Simplicity Studio your first Eclipse-based IDE? Find more information on all of the features and how to use Simplicity Studio in the Help menus or in *AN0822: Simplicity Studio™ User Guide*. AN0822 can be found using the **[Application Notes]** tile in Simplicity Studio or online at <http://www.silabs.com/8bit-appnotes>.

3.2 Additional Resources

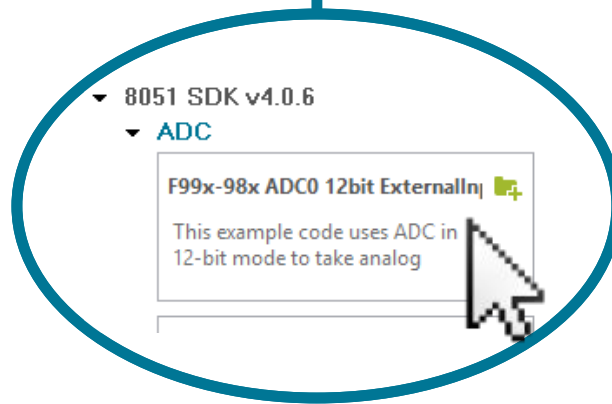
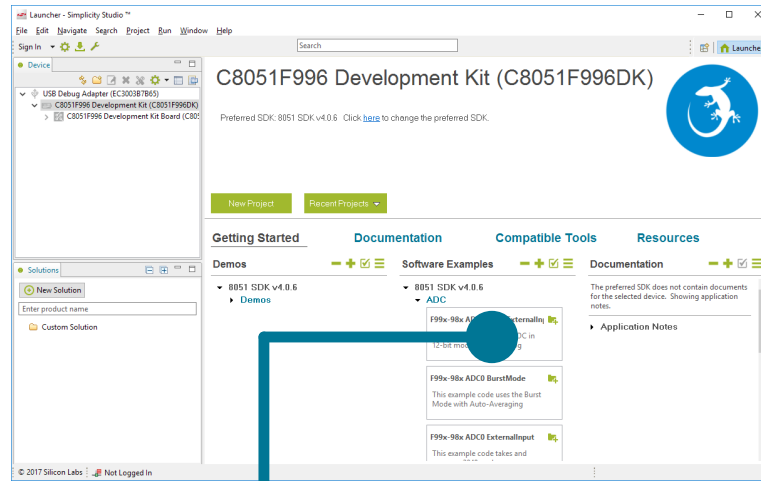
Demos

For Simplicity Studio supported devices, demos are a quick and easy way to evaluate a device without compiling or debugging code. Demos can be accessed using the **[Demos]** list under **[Getting Started]**.



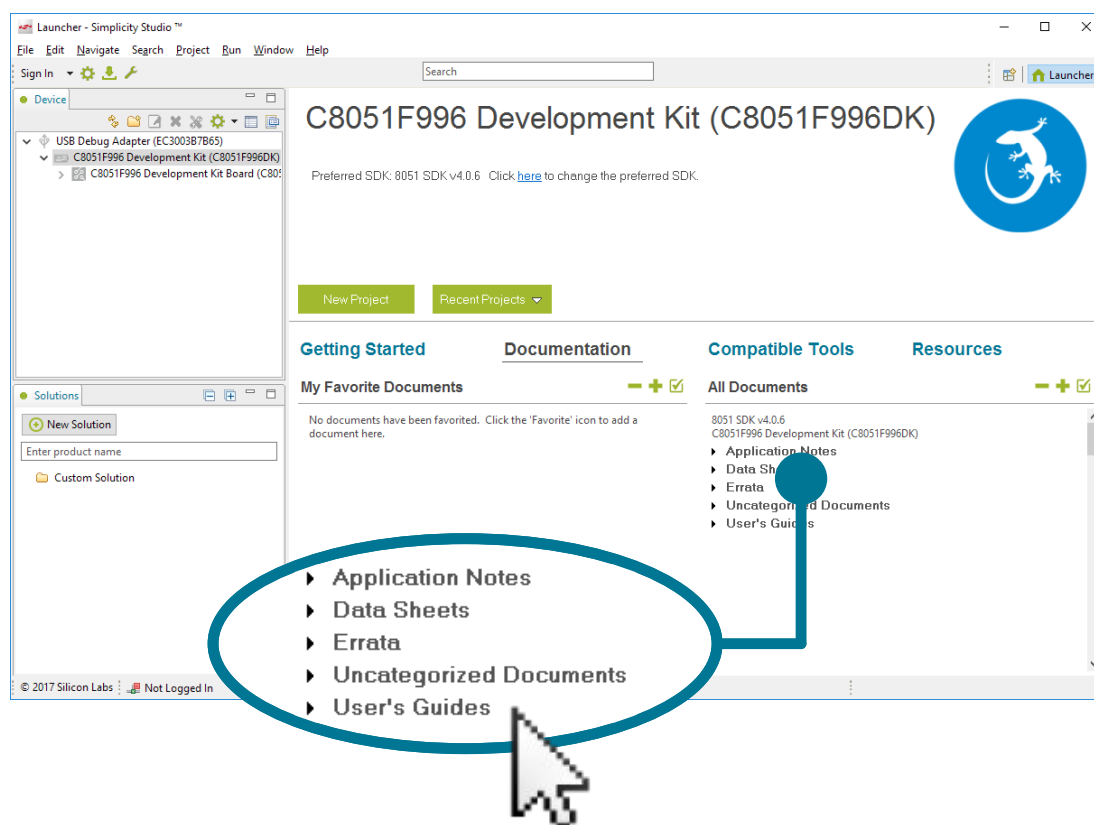
Software Examples

Software examples can be imported, compiled, and downloaded using the **[Software Examples]** list under **[Getting Started]** in Simplicity Studio.



Documentation

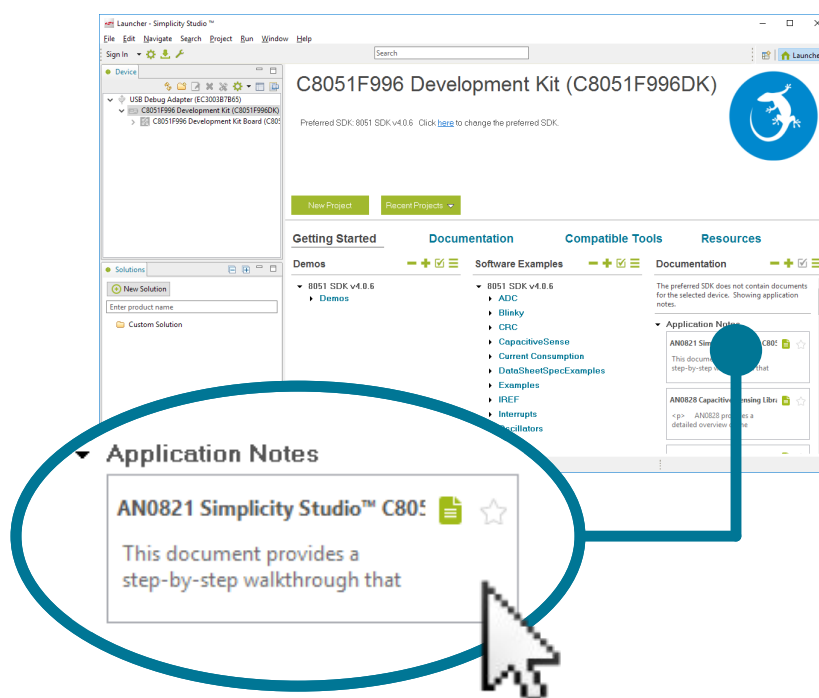
Kit documentation like the schematic and detailed board description can be found using the **[Documentation]** tab in Simplicity Studio. Part documentation can also be found using the related lists.



All documentation can also be found online at [\[www.silabs.com\]](http://www.silabs.com)>[\[Community & Support\]](#)>[\[Document Library\]](#).

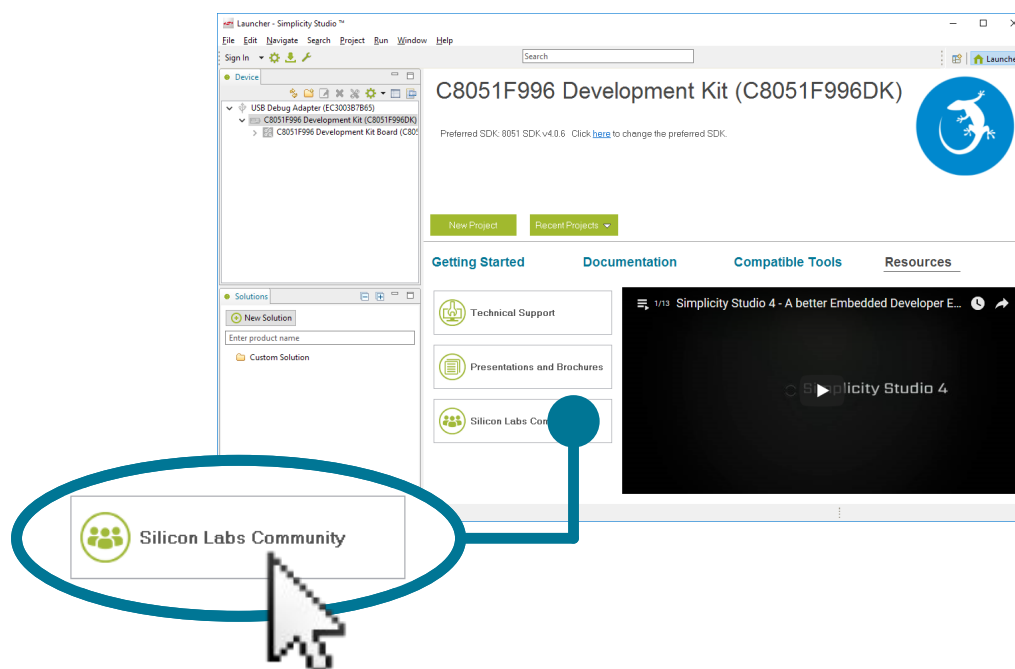
Application Notes

Application Notes on peripherals and other various topics can be accessed using the [Application Notes] list under [Getting Started] in Simplicity Studio or online at <http://www.silabs.com/8bit-appnotes>.



Community and Support

Have a question? Visit the community by clicking the [Silicon Labs Community] tile under [Resources] in Simplicity Studio.



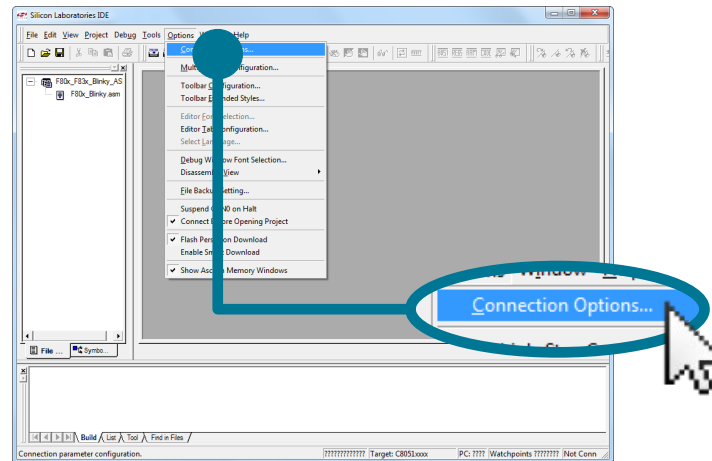
The Community can also be accessed online at <https://www.silabs.com/community>.

4. Using the 8-bit Microcontroller Studio

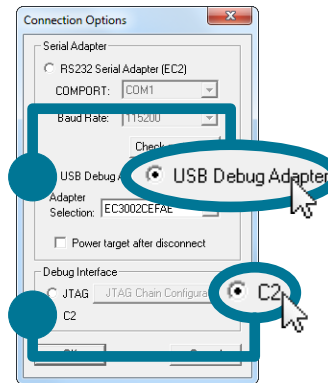
4.1 Using the Software

Detect the Device

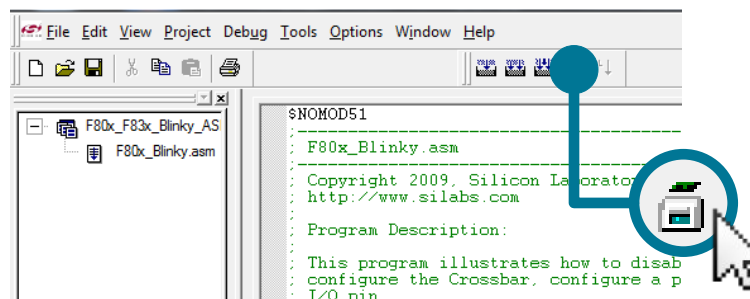
1. Open the 8-bit Integrated Development Environment (IDE) using the Windows Start menu. From the menu bar in the IDE, click [Options] and then click [Connection Options...].



2. Select [USB Debug Adaptor] and the appropriate debug interface for the device. Devices with numbers below C8051F300 will use the [JTAG] interface, and C8051F300 devices and above will use the [C2] interface. Click [OK] to apply the settings.

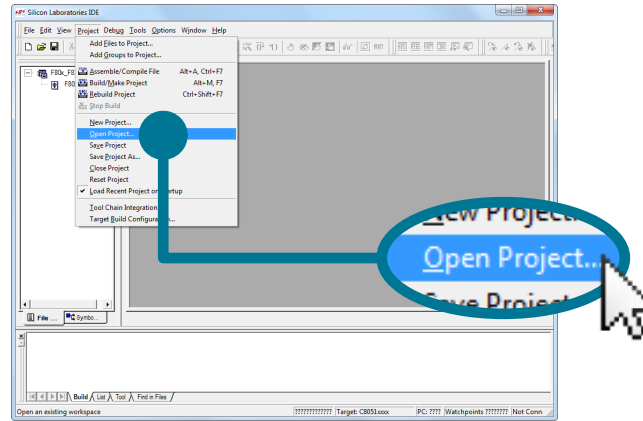


3. Click the [Connect] button at the top of the screen to connect your device.

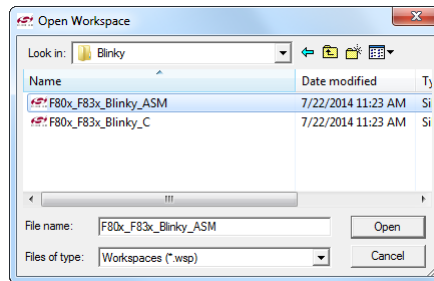


Open and Run [Blinky]

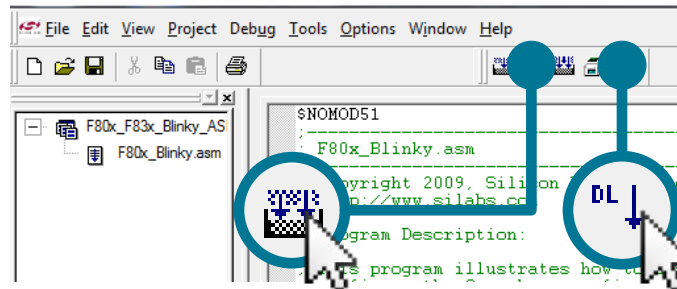
1. Select [**Project**] from the IDE menu at the top of the screen then click on [**Open Project...**].



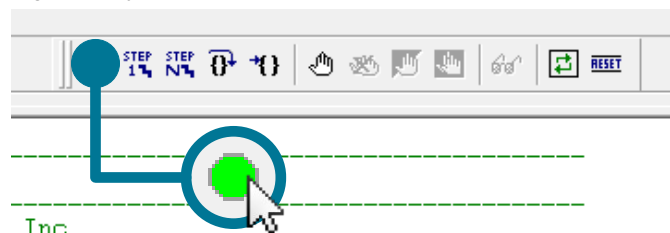
2. Find the [**Blinky**] project for your device located in C:\Silabs\MCU\Examples\<device_family>\Blinky. Click [**Open**].



3. Click the [**Build**] button and then click the [**Download**] button.



4. Press the [**Go**] button to run the program on your board.



4.2 Additional Resources

Software Examples

Software examples can be imported, compiled, and downloaded using the 8-bit IDE. Examples can be found in `C:\Silabs\MCU\Examples` after installing the software.

Documentation

Kit documentation like the schematic can be found in the User Guide related to the kit. Part documentation like the data sheet is also available.

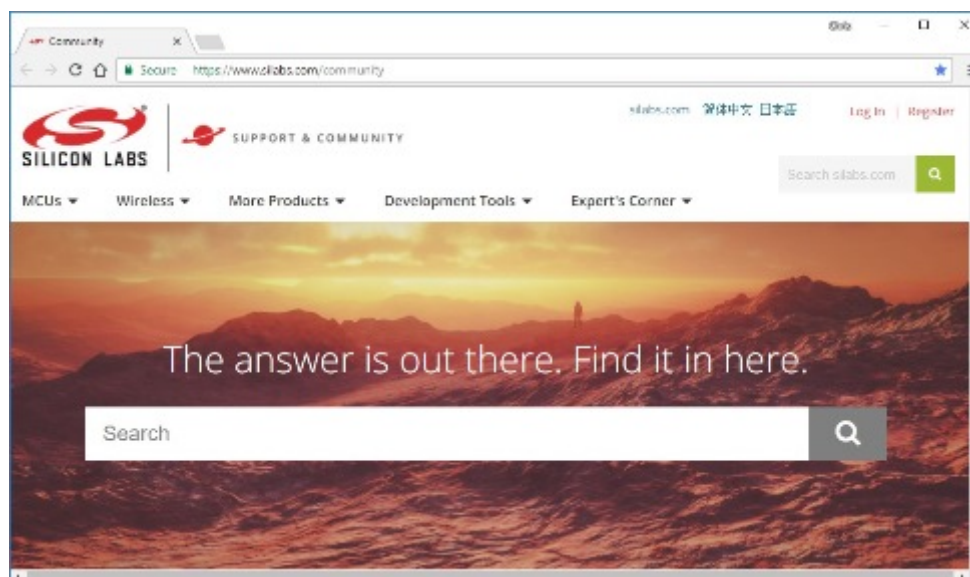
All documentation can also be found online at www.silabs.com>[\[Community & Support\]](#)>[\[Document Library\]](#).

Application Notes

Application Notes on peripherals and other various topics can be accessed online at <http://www.silabs.com/8bit-appnotes>.

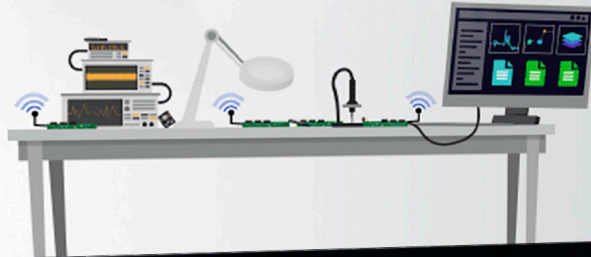
Community and Support

Have a question? Visit the community online at <http://community.silabs.com>.



Silicon Labs

Simplicity Studio™4



Simplicity Studio

One-click access to MCU and wireless tools, documentation, software, source code libraries & more. Available for Windows, Mac and Linux!



IoT Portfolio
www.silabs.com/IoT



SW/HW
www.silabs.com/simplicity



Quality
www.silabs.com/quality



Support and Community
community.silabs.com

Disclaimer

Silicon Labs intends to provide customers with the latest, accurate, and in-depth documentation of all peripherals and modules available for system and software implementers using or intending to use the Silicon Labs products. Characterization data, available modules and peripherals, memory sizes and memory addresses refer to each specific device, and "Typical" parameters provided can and do vary in different applications. Application examples described herein are for illustrative purposes only. Silicon Labs reserves the right to make changes without further notice and limitation to product information, specifications, and descriptions herein, and does not give warranties as to the accuracy or completeness of the included information. Silicon Labs shall have no liability for the consequences of use of the information supplied herein. This document does not imply or express copyright licenses granted hereunder to design or fabricate any integrated circuits. The products are not designed or authorized to be used within any Life Support System without the specific written consent of Silicon Labs. A "Life Support System" is any product or system intended to support or sustain life and/or health, which, if it fails, can be reasonably expected to result in significant personal injury or death. Silicon Labs products are not designed or authorized for military applications. Silicon Labs products shall under no circumstances be used in weapons of mass destruction including (but not limited to) nuclear, biological or chemical weapons, or missiles capable of delivering such weapons.

Trademark Information

Silicon Laboratories Inc.®, Silicon Laboratories®, Silicon Labs®, SiLabs® and the Silicon Labs logo®, Bluegiga®, Bluegiga Logo®, Clockbuilder®, CMEMS®, DSPLL®, EFM®, EFM32®, EFR®, Ember®, Energy Micro, Energy Micro logo and combinations thereof, "the world's most energy friendly microcontrollers", Ember®, EZLink®, EZRadio®, EZRadioPRO®, Gecko®, ISOModem®, Micrium, Precision32®, ProSLIC®, Simplicity Studio®, SiPHY®, Telegesis, the Telegesis Logo®, USBXpress®, Zentri, Z-Wave, and others are trademarks or registered trademarks of Silicon Labs. ARM, CORTEX, Cortex-M3 and THUMB are trademarks or registered trademarks of ARM Holdings. Keil is a registered trademark of ARM Limited. All other products or brand names mentioned herein are trademarks of their respective holders.



SILICON LABS

Silicon Laboratories Inc.
400 West Cesar Chavez
Austin, TX 78701
USA

<http://www.silabs.com>