# 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**].
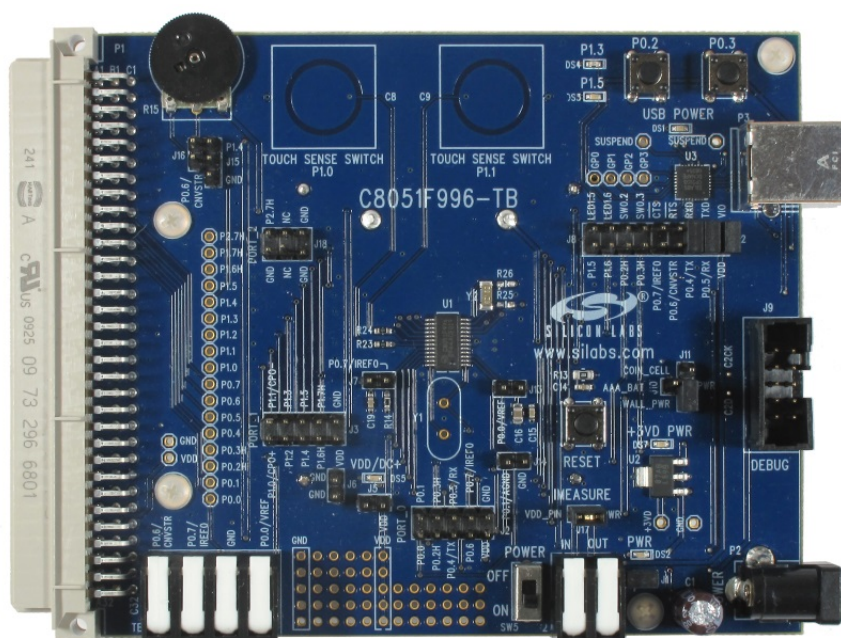
**Figure .1. Example C8051Fxxx Development Board**

# 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.
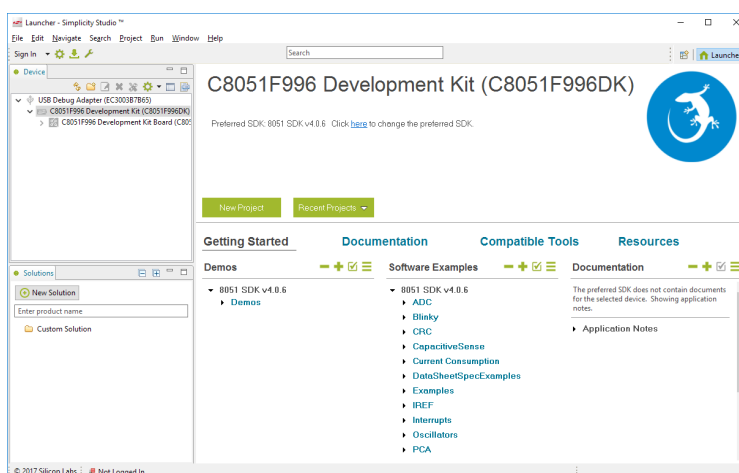


**Note:** The images in this document display the C8051F996 Development Kit for the purposes of demonstration. The software will display appropriate content for the actual Development Kit in use.
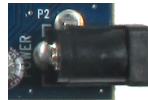
## 2. Setting Up Your Hardware

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.
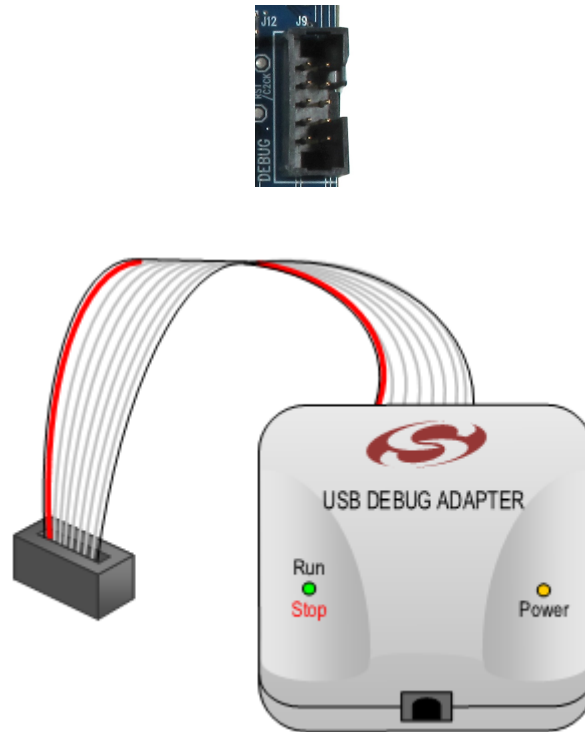


2. Provide power to the board by using the AC to DC power adapter included in the kit.



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 Micrcontroller Studio.

# 3. Using Simplicity Studio
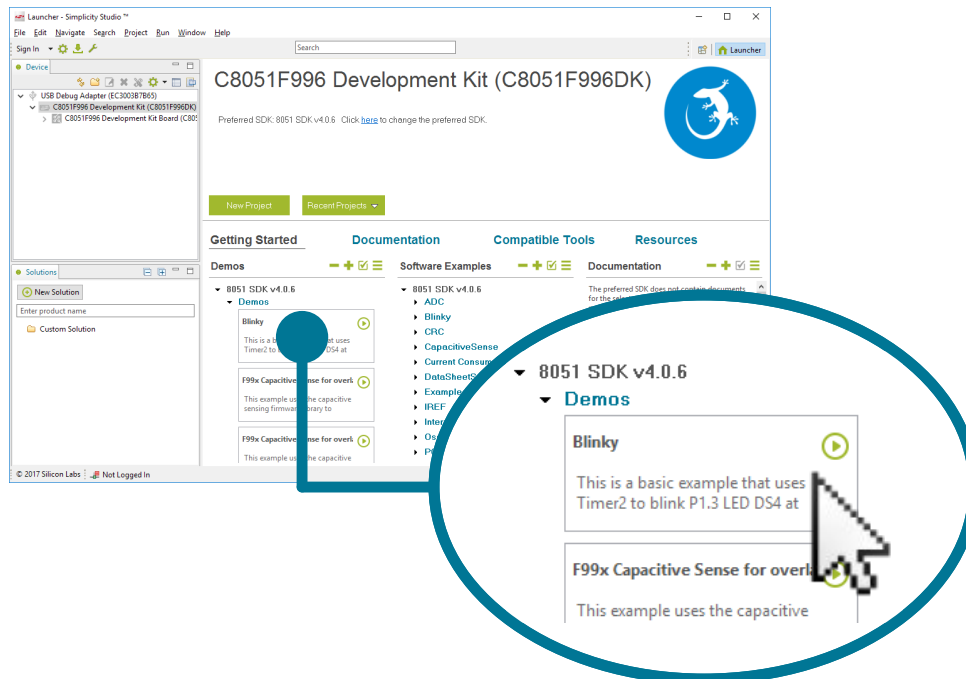
## 3.1 Using the Software

### 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.
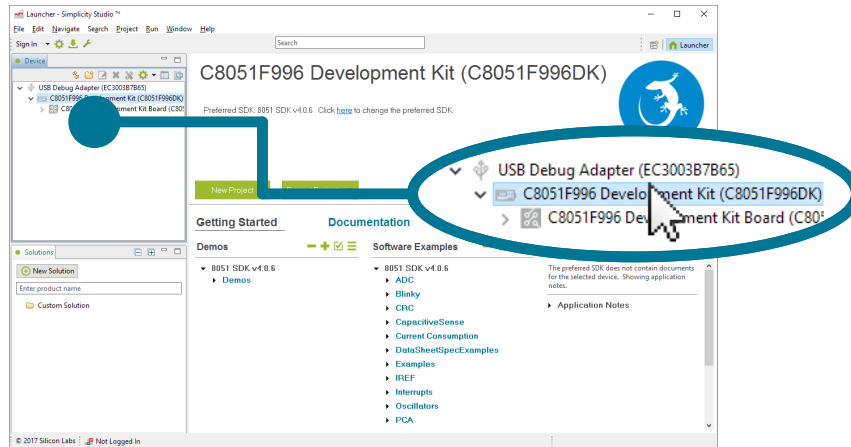


### Open and Run [Blinky]

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**].
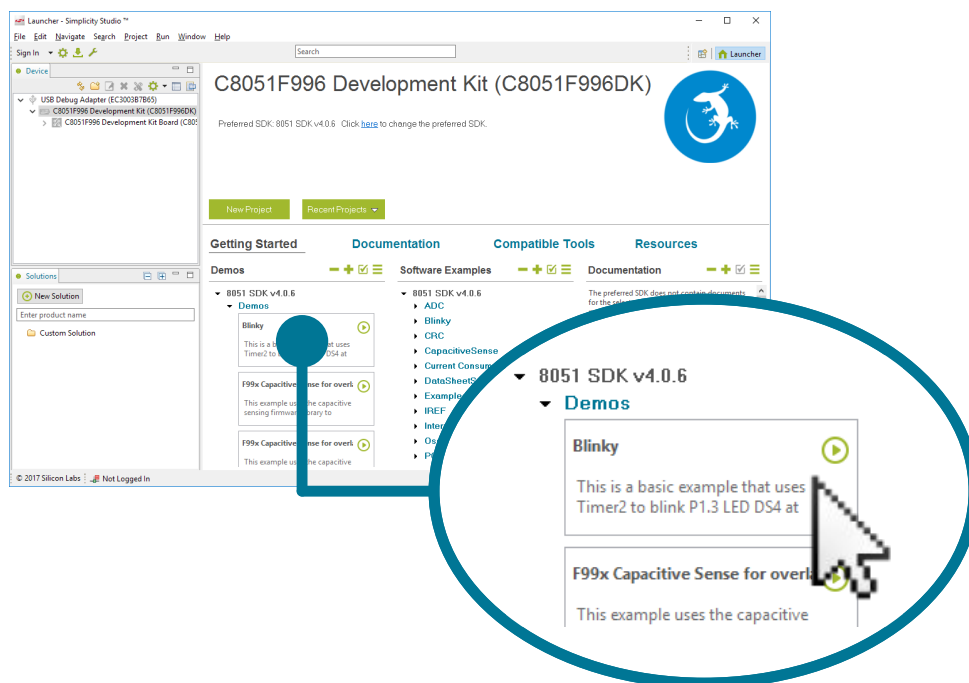
**Software Examples**

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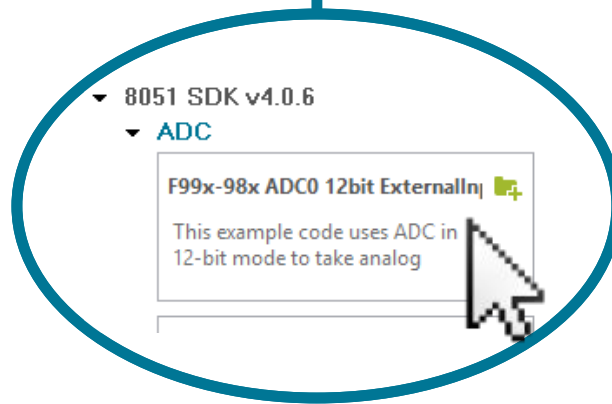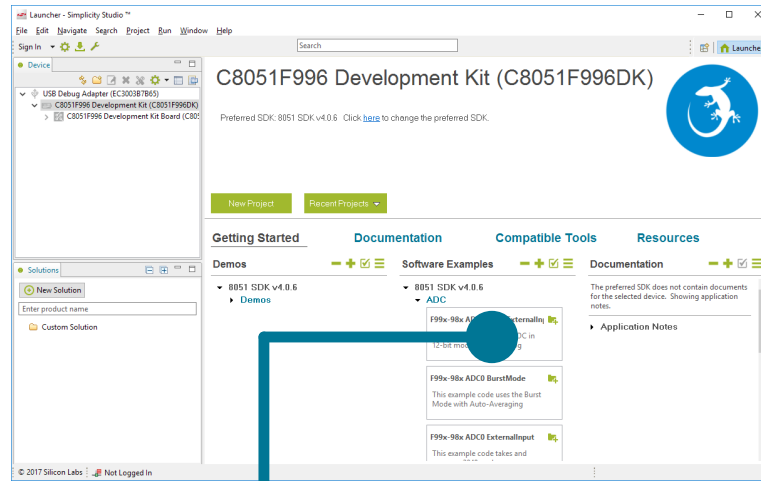
**Documentation**

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.
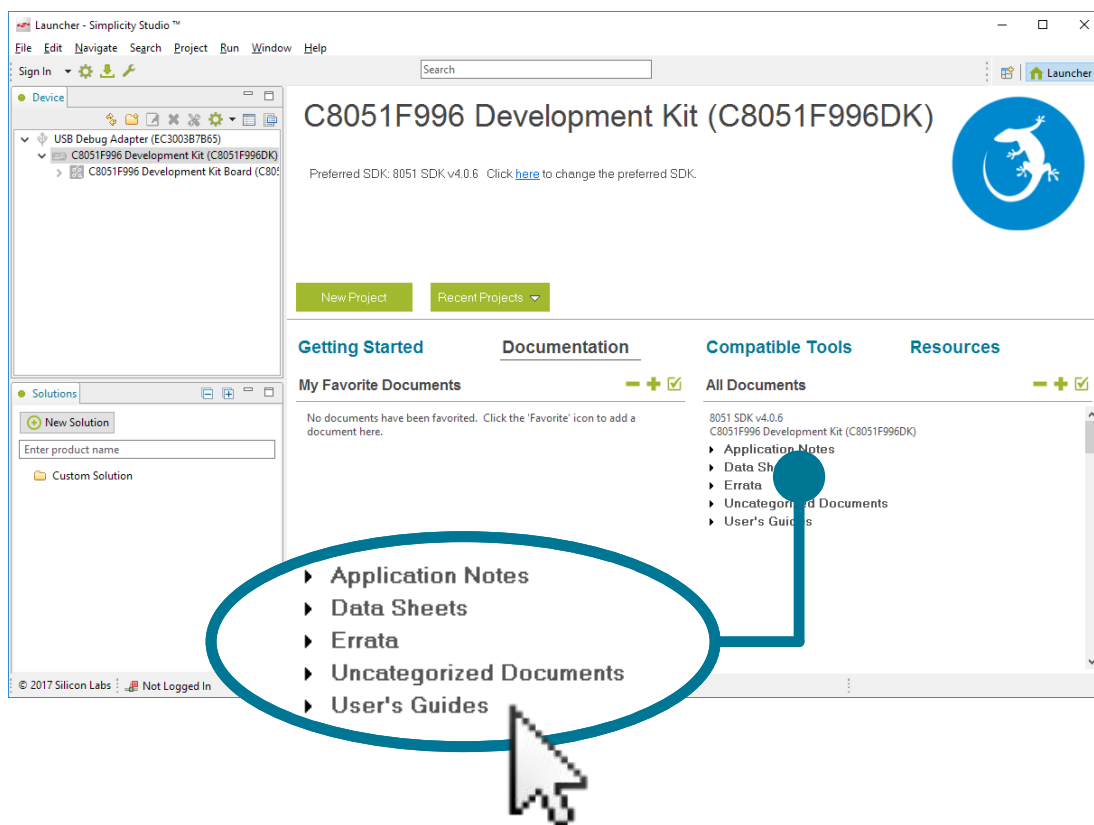


All documentation can also be found online at [**www.silabs.com**]>[**Community & Support**]>[**Document Library**].
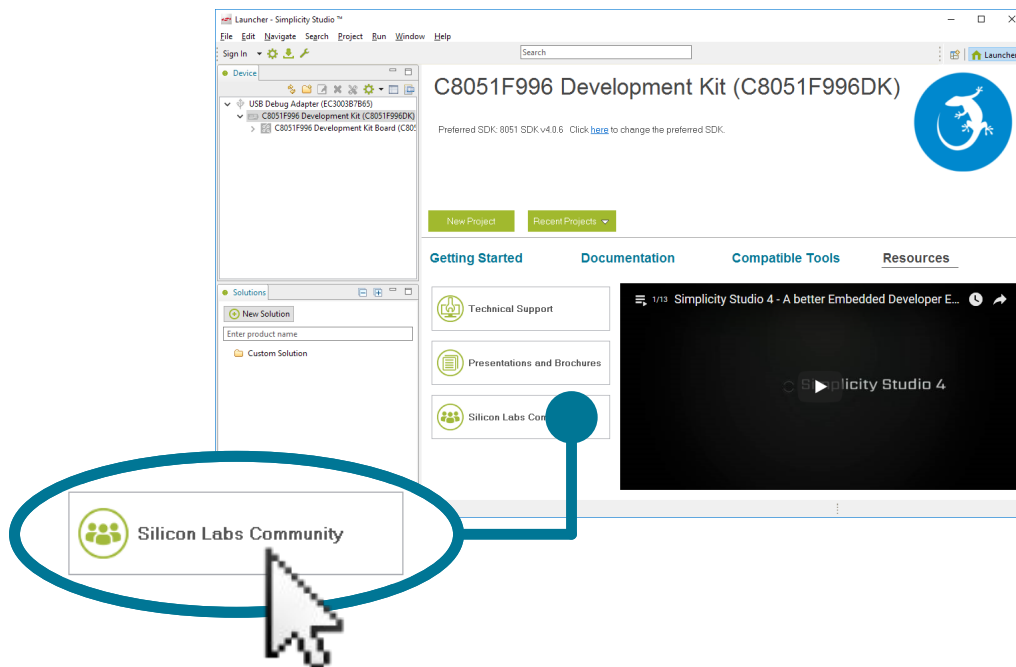
## Application Notes

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.
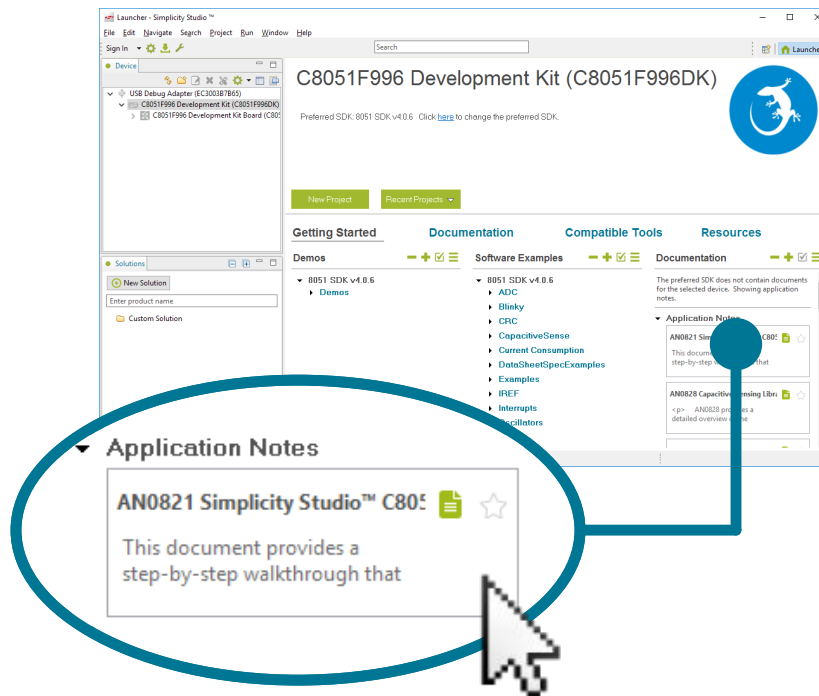


## Community and Support

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



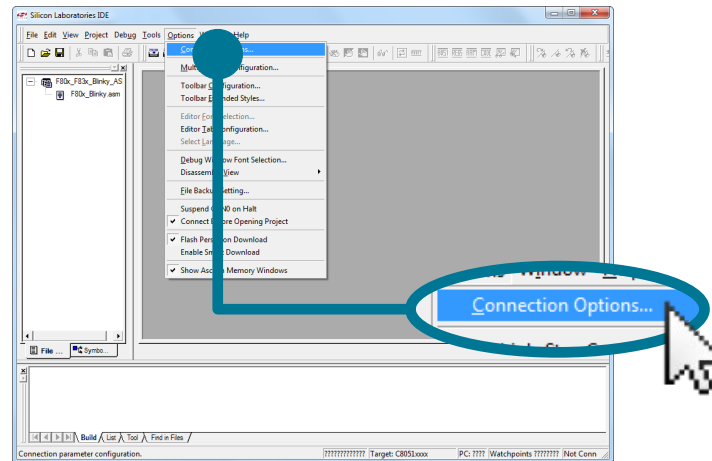The Community can also be accessed online at https://www.silabs.com/community.

# 4. Using the 8-bit Micrcontroller 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.
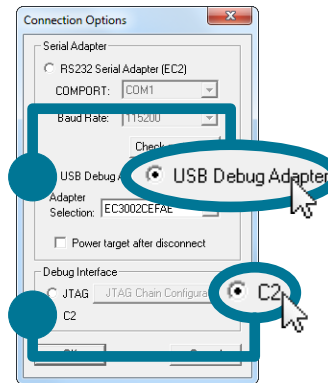
3. Click the [**Connect**] button at the top of the screen to connect your device.
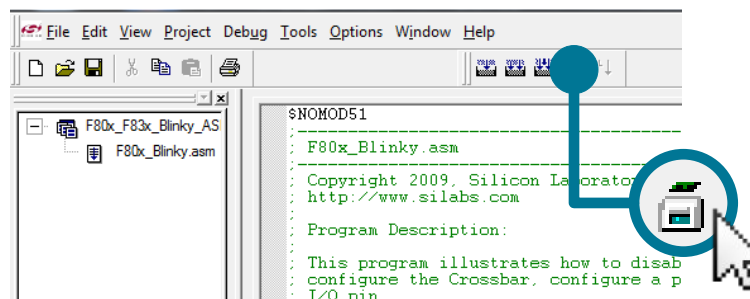
**Open and Run [Blinky]**

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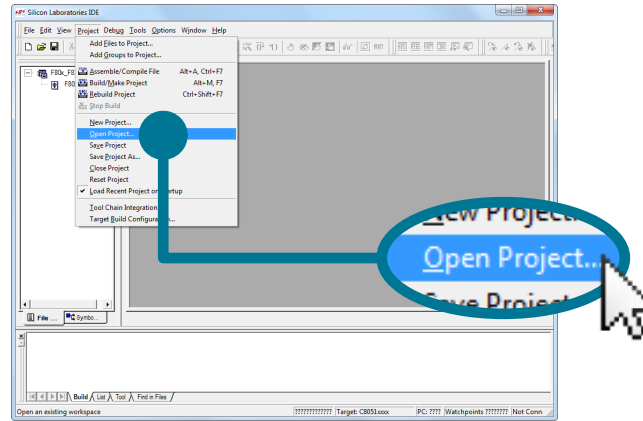


2. Find the [**Blinky**] project for your device located in `C:\Silabs\MCU\Examples\<device_family>\Blinky`. Click [**Open**].



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**

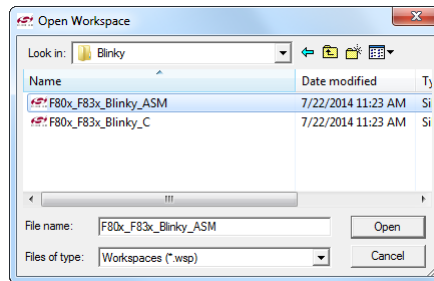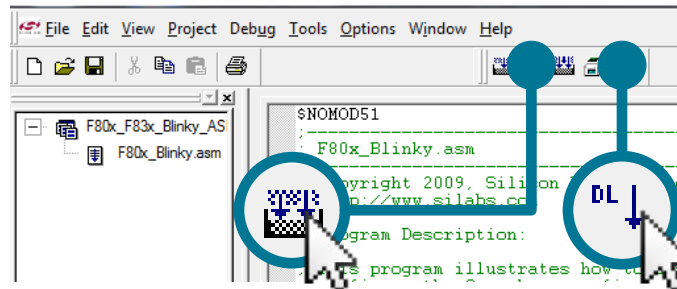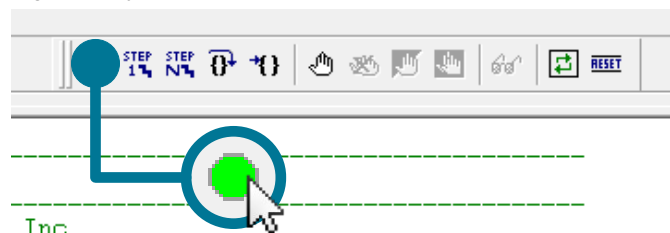**Software Examples**

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

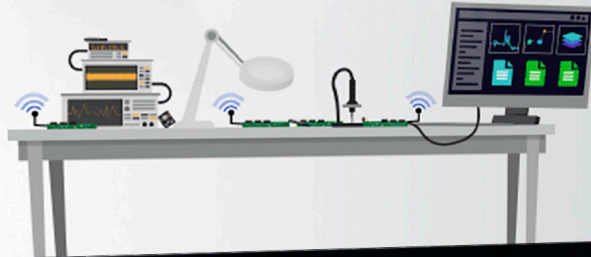Application Notes on peripherals and other various topics can be accessed online at http://www.silabs.com/8bit-appnotes.

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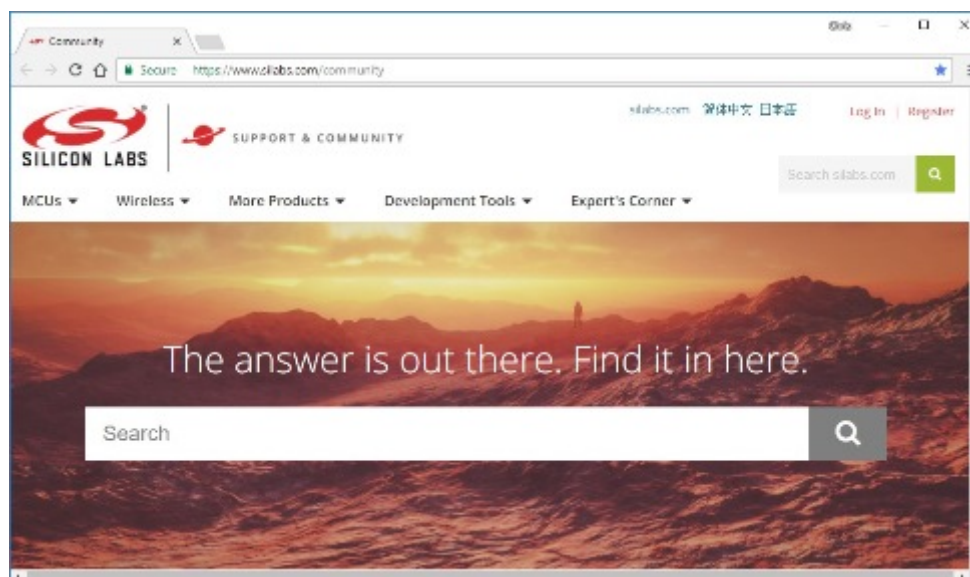
## Simplicity Studio

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*

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