ModusToolbox™ tools package quick start guide

ModusToolbox™ tools package version 3.2.0

[A newer version of this document may be available on the web here.](#)

About this document

Scope and purpose

ModusToolbox™ software is a set of tools that support device configuration and application development. These tools enable you to integrate our devices into your existing development methodology. This guide helps you get started using the various tools included with the ModusToolbox™ tools package by providing a quick introduction to creating and building an application.

Document conventions

Convention	Explanation
Bold	Emphasizes heading levels, column headings, menus and sub-menus
Italics	Denotes file names and paths.
`Courier New`	Denotes APIs, functions, interrupt handlers, events, data types, error handlers, file/folder names, directories, command line inputs, code snippets
File > New	Indicates that a cascading sub-menu opens when you select a menu item

Reference documents

Refer to the following documents for more information as needed:

- [Tools Package installation guide](#) – This provides information and instructions about installing the tools package on Windows, Linux, and macOS.
- [Dashboard user guide](#) – This provides specific information about the Dashboard.
- [Project Creator guide](#) – This provides specific information about the Project Creator tool.
- [Device Configurator guide](#) – This provides specific information about the Device Configurator.

User Guide

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page 1 of 10

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1   Install software and launch Dashboard

Refer to the instructions in the [ModusToolbox™ tools package installation guide](#) for how to download and install ModusToolbox™ software. The Dashboard provides links to various sources of documentation and training materials. It also contains starting points such as: creating a new application, creating/editing a BSP, and installing or launching the ModusToolbox™ Setup program. For more details, refer to the [ModusToolbox™ Dashboard user guide.](#) After installation, you can launch the Dashboard to create a new application for the IDE of your choice, such as VS Code, IAR, Eclipse or µVision. You can also access documentation and training material.

- The **Learn** panel provides several useful links to ModusToolbox™ community support, video tutorials, training materials, and documentation.
- The **Create** panel provides access to the Project Creator and BSP Assistant tools, as well as user guides for each IDE and tool.
- The **Install** panel provides a link to install and use the ModusToolbox™ Setup program.

To create a new application, select the IDE of your choosing from the drop-down menu under the **Create** tab. Then, click the icon or link to begin the process.
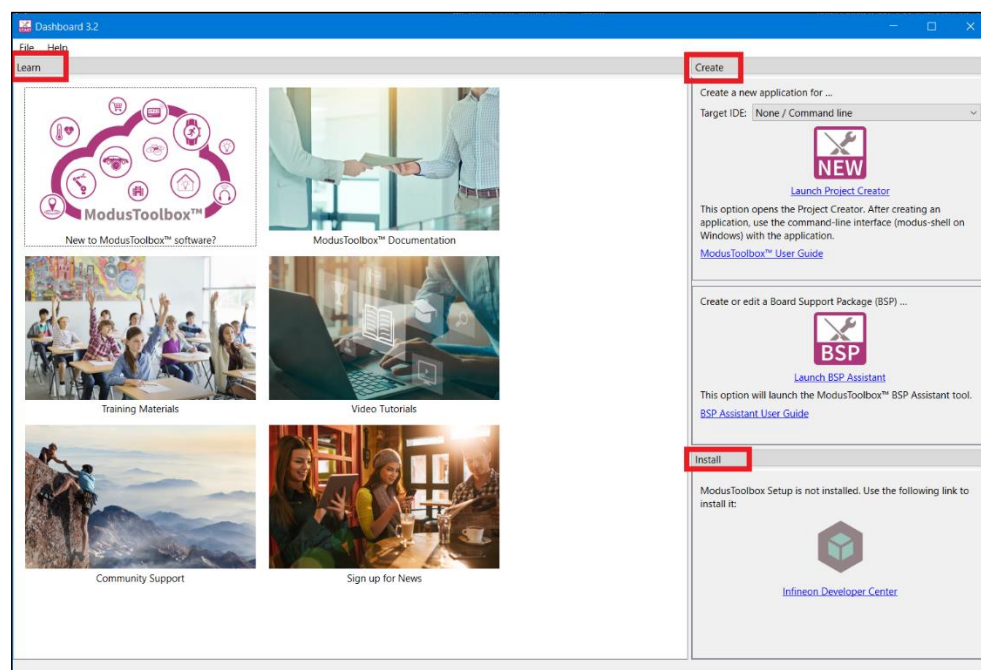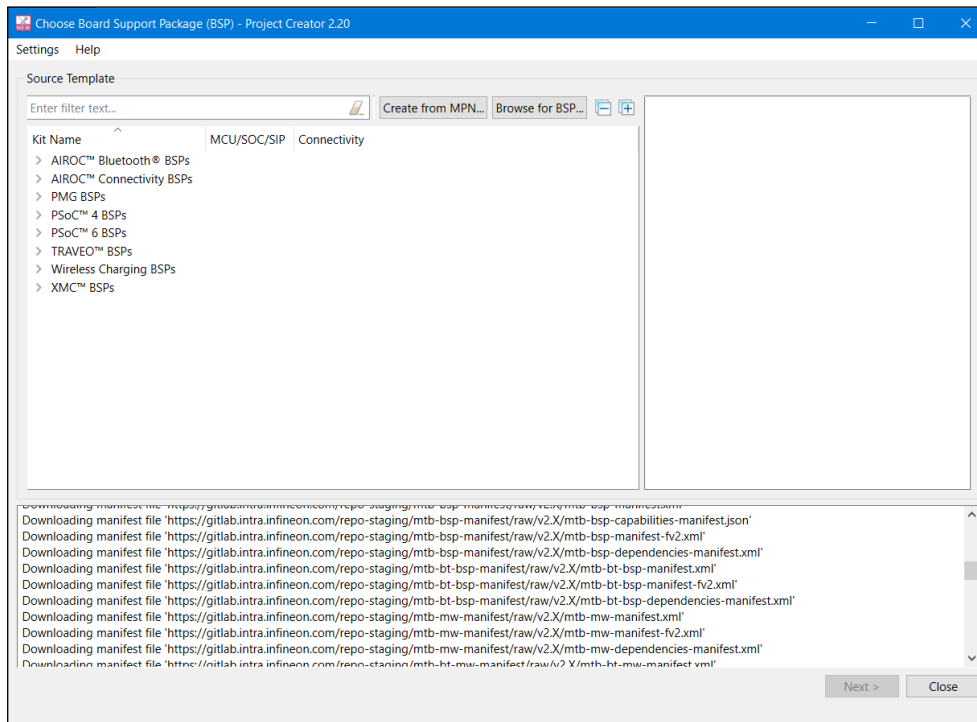
2 Create new application

No matter which IDE you intend to use, you start by creating a ModusToolbox™ application with the Project Creator tool. Creating an application includes several steps, as follows:

2.1 Step 1: Open Project Creator

You can open Project Creator using the Dashboard as shown in the previous section. However, you can also open the Project Creator using the tool's executable as applicable for your operating system.


Refer to the [Project Creator user guide](#) for more information.

2.2 Step 2: Choose Board Support Package (BSP)

When the Project Creator tool opens, expand one of the BSP categories under **Kit Name** and select an appropriate kit; see the description for it on the right. For this example, select the **CY8CKIT-062-WIFI-BT** kit. The following image is an example; the precise list of boards available in this version will reflect the platforms available for development.
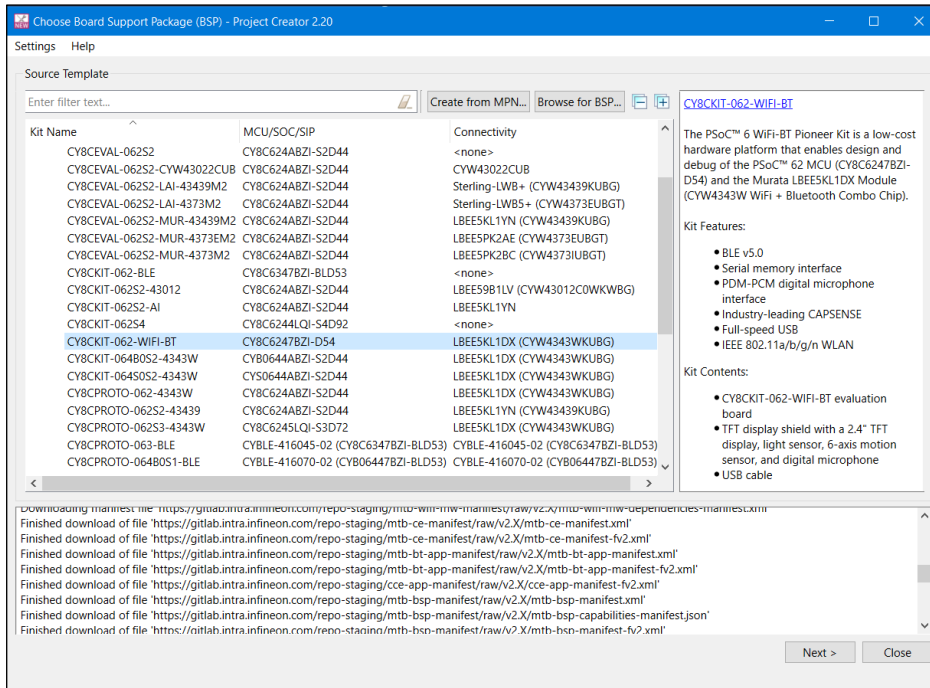
Note: You can create your own BSP using the **Create from MPN** feature, or add a BSP using the **Browse for BSP** feature.

2.3 Step 3: Select application

Click **Next >** to display the "Select Application" page. This page displays the Template Applications available for the selected BSP, organized by categories.
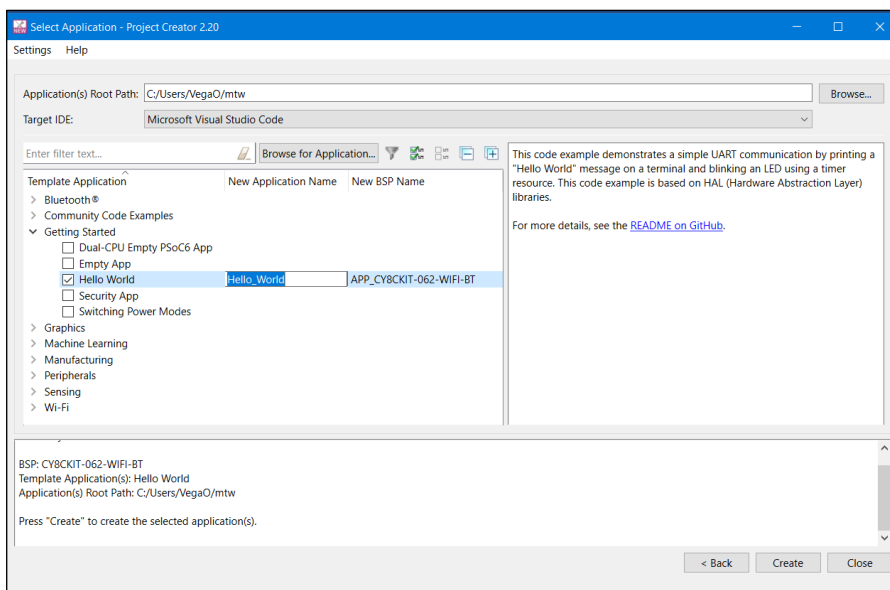
Create new application

Use the **Application Root Path** field to select the location for your application.

Use the **Target IDE** drop-down to select your chosen IDE from the drop-down menu, in this case the example IDE selected is VS Code.

*Note: If you used the Dashboard to open the Project Creator tool, **Target IDE** will already be selected.*

For this example, expand **Getting Started** and select **Hello World** from the list. This example uses the PSoC™ 6 MCU to blink an LED.

Note: The actual application names available might vary.

Type a name for your application and/or BSP or leave the default names. Do not use spaces. Also, do not use common illegal characters, such as:

```
* . " ` / \ [ ] : ; | = ,
```

2.4   Step 4: Create application

Click **Create** to start the process of creating a ModusToolbox™ application, and the GUI will display various messages showing the progress. When the process completes, the tool will display a message stating that the application was created.

To close the tool, click the **Close** button or the **X** button at the top-right of the GUI and confirm.

3   Add/modify application code

After creating the application, open it in your desired IDE or command line. For more details about each option, refer to the following user guides:

- Eclipse user guide
- VS Code user guide
- IAR user guide
- uVision user guide
- ModusToolbox™ tools package user guide (for details on command line)

Code example applications work as they are, and there is no need to add or modify code in order to build or program them. However, if you want to update and change the application to do something else, open the appropriate file in your preferred code editor.

For VS Code as an example, double-click the *main.c* file to open it.
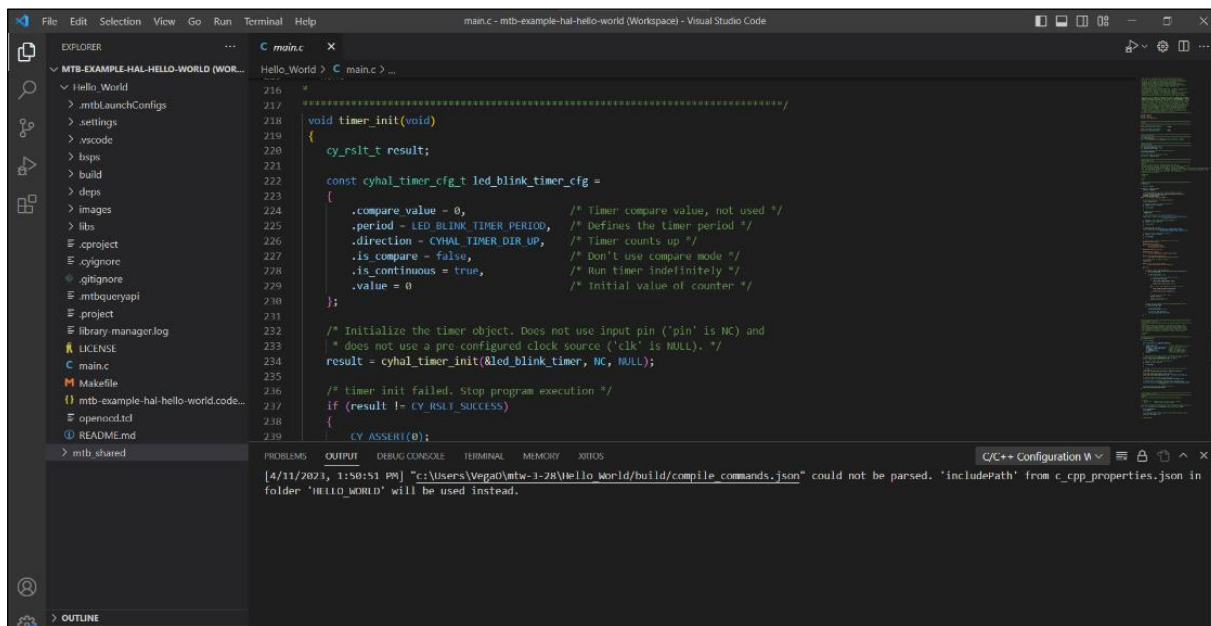
Note: *As you type into the file, changes will be shown. The file icon will also indicate that there are unsaved changes.*

4 Using the Device Configurator

The Device Configurator provides access to the BSP resources and settings. Each enabled resource contains one or more links to the related API documentation. There are also buttons to open other BSP configurators for CAPSENSE™, QSPI, Smart I/O, etc. For more information, refer to the [Device Configurator guide](#), which is also available by selecting **View Help** from the tool's **Help** menu.

To view peripherals, pins, clocks, etc., open the Device Configurator from the command line using the following command:

```
make device-configurator
```
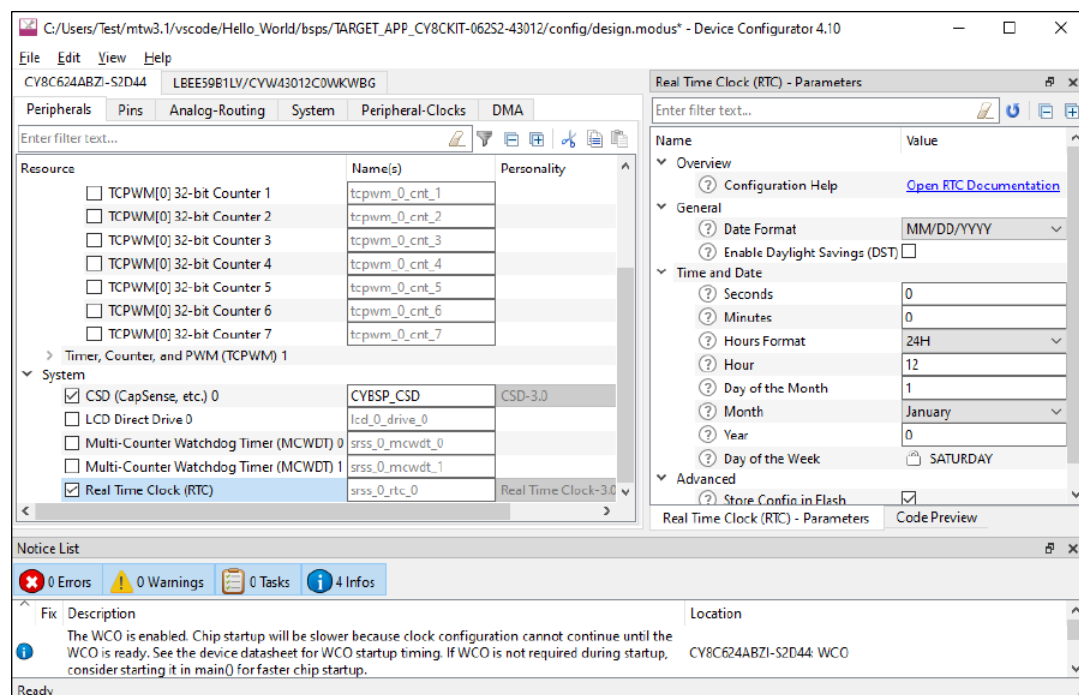

Note: *The Device Configurator cannot be used to open Library Configurators, such as Bluetooth®.*
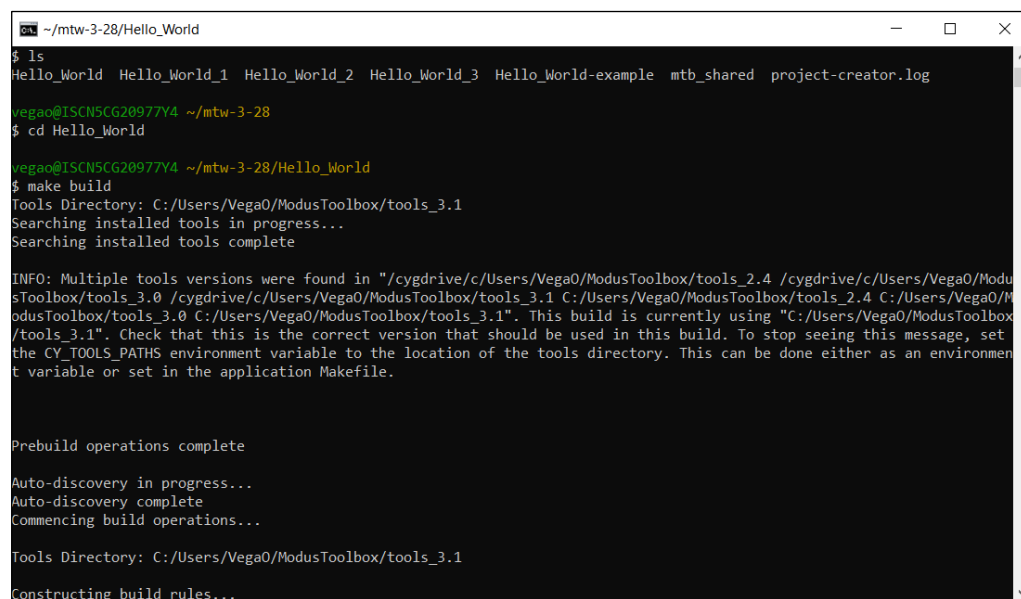
5 Build, program, and debug

Building the application is not specifically required, because building is generally performed as part of the programming and debugging processes. However, if you are running your chosen IDE without any hardware attached, you may wish to build your application to ensure all the code is correct. Each IDE has different ways to do this, but using the command line as an example, enter the following:

```
make build
```

Build information will display in the Terminal.

For programming and debugging, each IDE has specific steps for the various development kits and starter applications. Refer to the applicable user guide shown in the [Add/modify application code](#) section of this document.

Revision history

Revision	Date	Description
**	2023-05-05	New document.
*A	2024-01-15	Updated for ModusToolbox™ version 3.2.

Trademarks
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