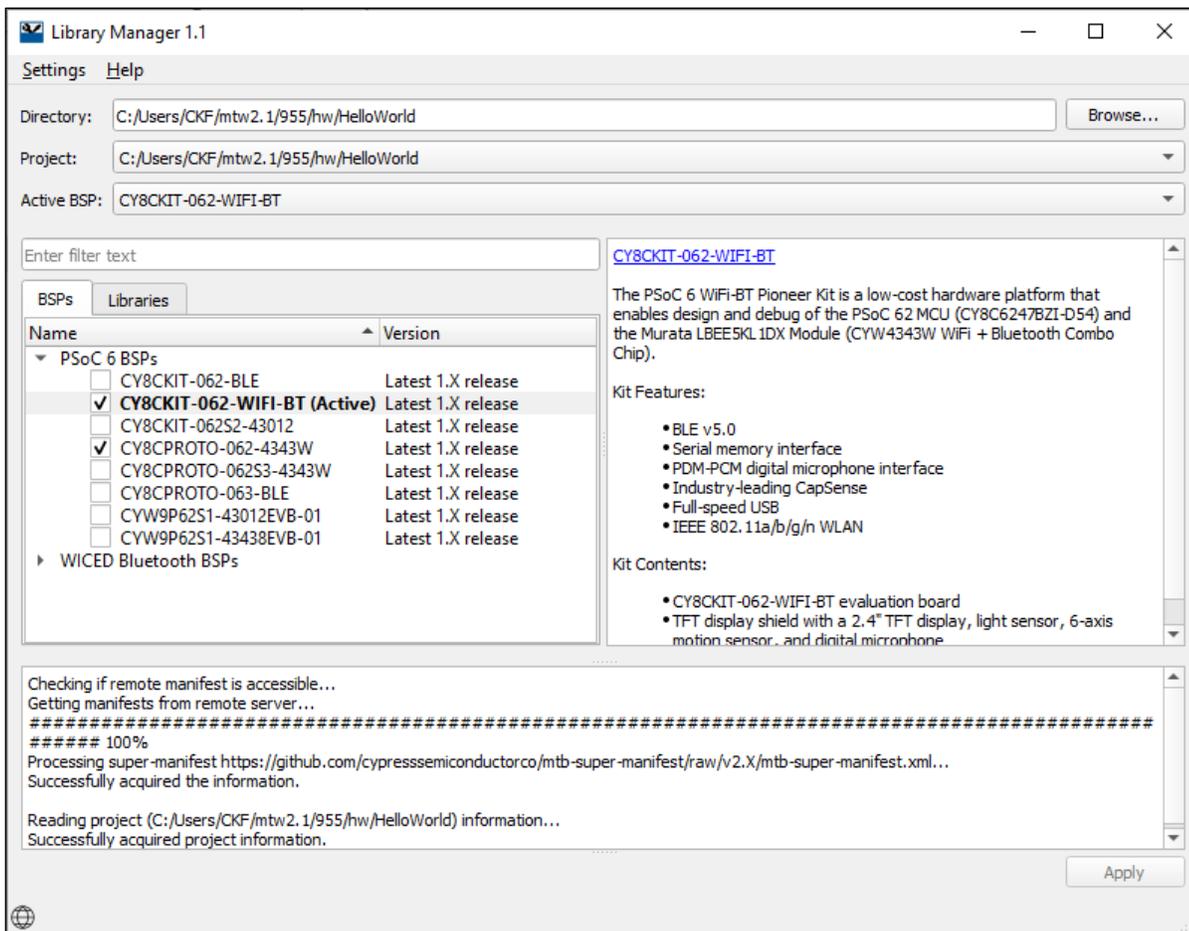**Version 1.1**

Overview

The Library Manager provides a GUI to select which Board Support Package (BSP) and version should be used by default when building a ModusToolbox application. The tool also allows you to add and remove libraries, as well as change their versions.

Definitions

The following are the terms used in this guide that you may not be familiar with:

- Local lib file – a .lib file present directly in the project whose library is being edited.

- Shared lib file – a .lib file that is used indirectly via the shared library mechanism.

- Target project – the project directory whose library is being directly edited.

- Fully editable mode – user is able to add, remove, and change the version of library.

- Restricted edit mode – user can manage version of selected library but cannot add or remove library.

Launch the Library Manager

You can launch the Library Manager from, and use it with, the Eclipse IDE for ModusToolbox. You can also run it independently of the Eclipse IDE.

From Eclipse IDE

To run the Library Manager from an application within the Eclipse IDE, right-click on the project and select **ModusToolbox > Library Manager**.
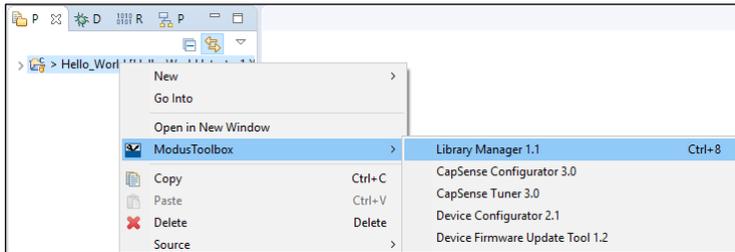
You can also open the Library Manager by clicking the link in the IDE Quick Panel.

When the Library Manager opens, it collects a list of available BSPs and libraries for the selected project, and all the necessary metadata from a webservice. The tool also checks the current project directory for all *.lib files to find the currently selected libraries.

Note The ModusToolbox Project Creator tool runs the `make getlibs` command in addition to cloning the repo itself. So, projects are prepared for the Library Manager to parse. If you manually create a project using `git clone`, then you will also need to run `make getlibs`.

Without the Eclipse IDE

To run the Library Manager independently, navigate to the install location and run the executable. On Windows, the default install location for the Library Manager is:

> *<install_dir>\tools_<version>\library-manager*

For other operating systems, the installation directory will vary, based on how the software was installed.

When run independently, the Library Manager opens with the target directory set as <user-home> or the directory used from the previous session. If you are using the Library Manager in stand-alone mode, you must have first created and deployed a project. That is, the `make getlibs` command must have been run to download all the default project dependencies and .lib files.

From the Command Line

You can run the tool from the command line. However, there are only a few reasons to do this in practice. The primary use case would be part of an overall build script for the entire application.

For information about command line options, run the tool using the `-h` option.

GUI Description

Menus

The Library Manager has two menus, as follows:

- Settings
    - □ Offline – Check box to switch to offline mode and read the local copy of the manifest file installed from the offline content bundle. Refer to the *ModusToolbox User Guide* for more details.
    - □ Proxy Settings – Opens a dialog to specify direct or manual proxy settings.
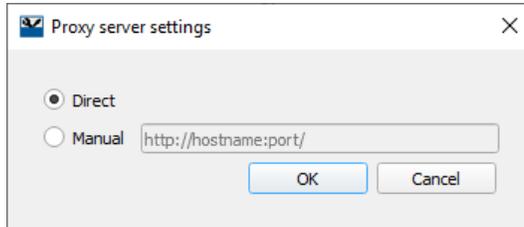
- Help
    - □ View Help – Opens this document.
    - □ About – Displays tool version information.

Fields

The Library Manager contains the following fields at the top of the GUI:

- **Directory:** Location of the application's top-level directory, which contains one or more ModusToolbox makefile projects. Use the **Browse…** button to select a different directory.
- **Project** Location of the application's selected makefile. Use the pull-down menu to select another file, if applicable.
- **Active BSP:** The name of the currently active target board. Use the pull-down menu to choose any of the boards with a selected check box in the **Boards** tab. You can have multiple sets of BSP code in a project; however, the make project is built only for the selected **Active Board**.
- **Filter:** Text field used to limit the number of boards or libraries shown on the selected tab.

Tabs

The Library Manager may display one or more of the following tabs, depending several variables:

- **BSP tab:** Shows available BSPs and versions. This tab is hidden if there are no BSPs in the project and the project type is a library project or if the project uses shared BSPs.
- **Libraries tab:** Shows libraries supported by the Active BSP. This tab is hidden if the project type is a library project and if the project contains zero local libraries.
- **Shared BSPs tab:** Shows a read-only view of BSPs that are available via the shared library mechanism. This tab is hidden if the project is not using any shared BSPs or if the project type is a library project.
- **Shared Libraries tab:** Shows a read-only view of code libraries that will be used by the project. This tab is hidden if the project is not using any shared libraries or if the project type is a library project.

BSP and Library Versions

The Library Manager contains a **Version** column for each BSP and library shown in the tool. You can select "Latest X.Y release" or "X.Y.Z release." These represent tags for versions of BSPs/libraries in Cypress GitHub repos:

- The "latest-vX.Y" tag is updated on an ongoing basis to point to a newer, backward-compatible version of the library when Cypress releases it.

- The "release-vX.Y.Z" tag always points to a specific, official release, and it does not change.

When you create a new project, Cypress instantiates it with .lib files that point to the "latest-vX.Y" tag on the GitHub repo. When Cypress releases a new version of a BSP/library, the "latest-vX.Y" tag on GitHub moves to point to that newer version.

The next time you open the Library Manager for that project and select or deselect an item or select different version of an item, the change summary displays in the console. If a remote tag has a newer version, the console displays a warning about the "latest-vX.Y" tag. It includes a hyperlink to open a dialog that explains how the "latest-vX.Y" tag auto-update works.

If you click **Apply**, your item(s) will be moved to the newer version.

Adding/Removing Non-Shared BSPs/Libraries

The **BSP** and **Libraries** tabs (not **Shared** tabs) show selection check boxes next to each of the listed BSPs and libraries supported in the application. Selected check boxes represent BSPs/libraries already included in the application, while those without selected check boxes are not included. The Active BSP for the application is shown in bold text with "(Active)" next to it.
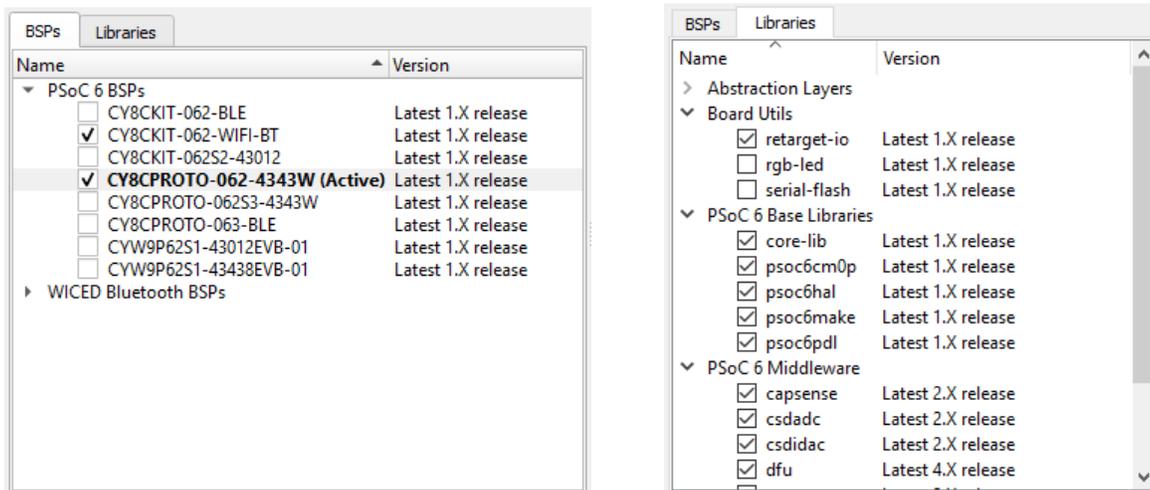
Adding BSPs/Libraries

To add a BSP/library to your application, enable (select) the check box for one or more item on each tab, and click **Apply** and the tool starts updating the project and displaying progress in the status box.
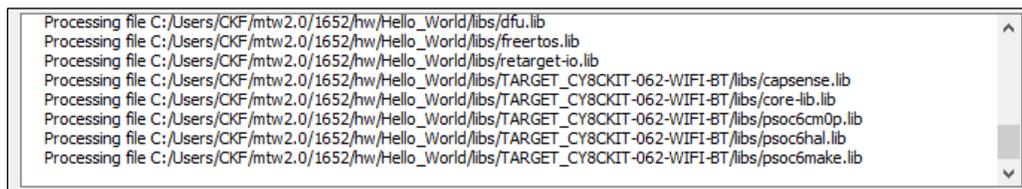
When complete, the additional items will display with selected check boxes.

Removing BSPs/Libraries

To remove a BSP/library to your application, disable (unselect) the check box for one or more item on each tab, and click **Apply**.

IMPORTANT NOTE: Use caution when removing all Cypress BSPs from your application. BSPs are responsible for ensuring key libraries are present, including "psoc6make" for PSoC 6 projects and "baselib" for Bluetooth projects. Before you remove all Cypress BSPs, make sure a custom BSP is present in your application. For information on creating and customizing BSPs, refer to the following:

- **PSoC 6:** In the *BSP User Guide*, which you can find in a link in the Quick Panel, under Documentation, for the BSP you are using.
- **Bluetooth:** In the *readme.md* file for the selected application.

Click **Apply** and the tool starts updating the project and displaying progress in the status box.

```
Processing file C:/Users/CKF/mtw2.0/1652/hw/Hello_World/libs/dfu.lib
Processing file C:/Users/CKF/mtw2.0/1652/hw/Hello_World/libs/freertos.lib
Processing file C:/Users/CKF/mtw2.0/1652/hw/Hello_World/libs/retarget-io.lib
Processing file C:/Users/CKF/mtw2.0/1652/hw/Hello_World/libs/TARGET_CY8CKIT-062-WIFI-BT/libs/capsense.lib
Processing file C:/Users/CKF/mtw2.0/1652/hw/Hello_World/libs/TARGET_CY8CKIT-062-WIFI-BT/libs/core-lib.lib
Processing file C:/Users/CKF/mtw2.0/1652/hw/Hello_World/libs/TARGET_CY8CKIT-062-WIFI-BT/libs/psoc6cm0p.lib
Processing file C:/Users/CKF/mtw2.0/1652/hw/Hello_World/libs/TARGET_CY8CKIT-062-WIFI-BT/libs/psoc6hal.lib
Processing file C:/Users/CKF/mtw2.0/1652/hw/Hello_World/libs/TARGET_CY8CKIT-062-WIFI-BT/libs/psoc6make.lib
```

When complete, the removed items will display in the Library Manager without selected check boxes. On disk, the libraries are removed by creating a special .lib file with a commit set to a sentinel value that indicates the library is removed.

Updating Shared BSPs/Libraries

For certain projects, BSPs and Libraries are shared. In these cases, you may see additional tabs: **Shared BSPs** and **Shared Libraries**.

You cannot update items on these shared tabs directly. Instead, you must click the **Edit** icon. This opens another instance of the Library Manager where the BSP and Libraries are not shared. Edit the BSP/Library as described previously, and then close the second instance of the Library Manager.

Note Even though the BSP/Library was updated in the 2nd instance of the Library Manager, the changes will not be displayed in the shared tabs.

Tool Change Description

This section lists and describes the changes for each version of this tool.

Version	Change Descriptions
1.0	New tool.
1.1	Added Settings and Help menus. Moved link about version changes to the message console, when it is applicable. Added icon to indicate online/offline status. Removed Summary dialog; summary is shown in the console.