

ModusToolbox™ tools package installation guide

ModusToolbox tools package version 3.4.0

About this document

Scope and purpose

This guide provides instructions for installing the ModusToolbox™ tools package. This is a set of tools that enable you to integrate our devices into your existing development methodology. Refer to the [tools package release notes](#) for details about what is included. Refer to earlier revisions of this guide for instructions to install previous versions of ModusToolbox™ tools packages.

[A newer version of this document may be available on the web here.](#)

Reference documents

- Refer to the [tools package quick start guide](#) for brief instructions to start working with the tools.
- You can also refer to the [ModusToolbox™ training available on GitHub](#).
- Refer to the [tools package user guide](#) for detailed descriptions and instructions.
- Refer to the [Dashboard user guide](#) for instructions for using that tool.

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1 General information

1 General information

1.1 System requirements

The ModusToolbox™ tools package consumes approximately 2 GB of disk space. Like most modern software, it requires both free disk space and memory to run effectively. We recommend a system configuration with a PassMark CPU score > 2000 (cpubenchmark.net), at least 25 GB of free disk space, and 8 GB of RAM. The product will operate with fewer resources; however, performance may be degraded.

ModusToolbox™ software is supported on the following 64-bit operating systems:

Host OS	Supported	Recommended
Windows	10 *, 11	11
macOS	Ventura, Sonoma, and Sequoia (Intel processors and Arm® processors via Rosetta)	Sonoma
Linux	Ubuntu 20.04 LTS, 22.04 LTS, and 24.04 LTS	22.04 LTS

Note: *ModusToolbox™ software is not supported on 32-bit operating systems.*

* The following older versions of Windows 10 are **not** supported. If you encounter an issue, contact technical support.

- Windows Server 2016
- Windows 10 Enterprise LTSB 1607
- Windows 10 1607

1.2 Download installers

In order to use the ModusToolbox™ installers, you will need access to the Infineon website to download them. If you do not have access, work with your IT department to download on your machine or have the software placed on a local server or a thumb drive. See also [Installing with firewall or lack of web access](#) later in this document.

1.3 Python

Several types of ModusToolbox™ applications require Python such as those including MCUBoot, CySecureTools, and OPTIGA™ Trust M. Python is not included in the ModusToolbox™ tools package. Refer to [KBA239118](#) for information about downloading and installing Python.

1.4 SEGGER J-Link

If you plan to use the SEGGER J-link debugger, you must download and install the appropriate software pack for your OS. It is not included with the ModusToolbox™ tools package. Use version 6.98 or later. For Linux, if you install this using the tar.gz file, make sure you install J-Link in a common location. Otherwise, you must configure the Eclipse IDE to specify the location, as follows:

Window > Preferences > MCU > Global SEGGER J-Link Path

- **Executable:** *JLinkGDBServerCLExe*
- **Folder:** *<J-Link_extracted_location>*

1 General information

1.5 Uninstall Beta versions

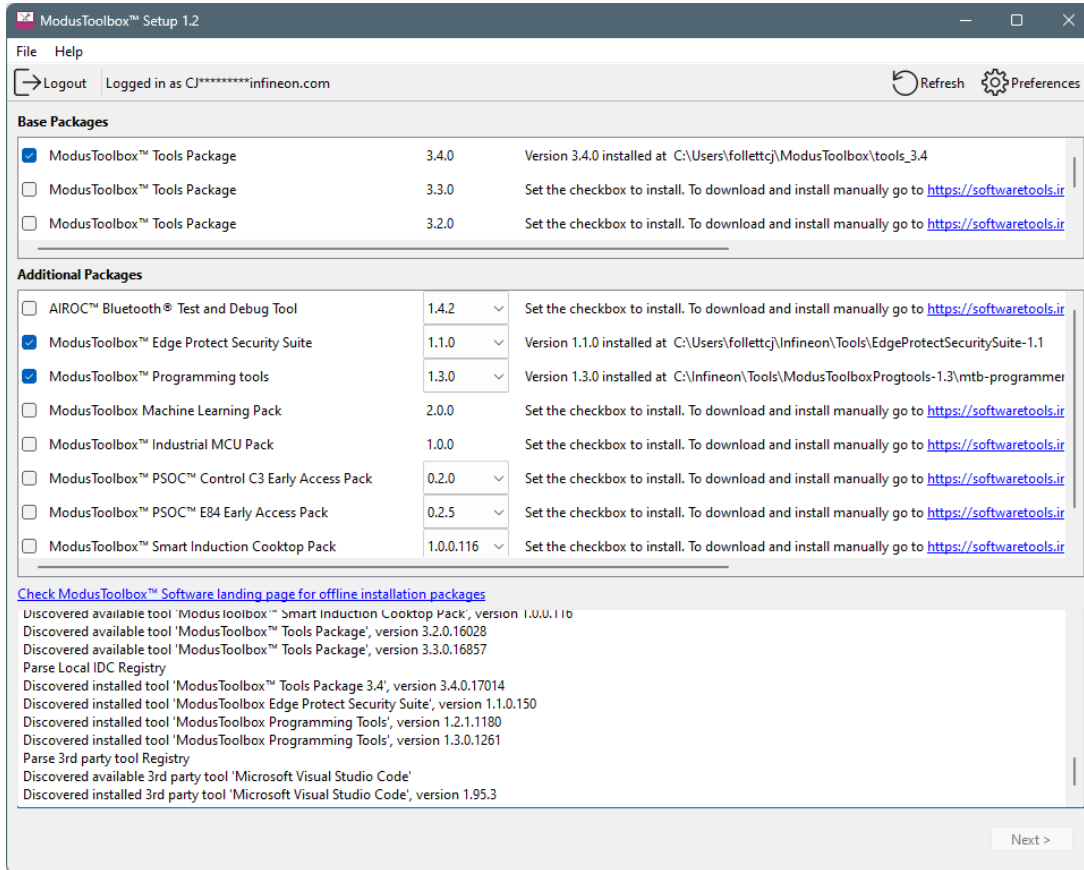
If you installed any Beta release of this version of the ModusToolbox™ tools package, you need to uninstall it before installing this production release. To uninstall a Beta release:

- **Windows:** The current release installer will uninstall a previous version installation. You can also use the Windows Control Panel.
- **macOS/Linux:** Go to the directory where you installed the tools package. Delete the *docs_<version>*, *tools_<version>*, and *ide_<version>*, and *resources_<version>* directories, as well as the EULA <version> text file from the "ModusToolbox" directory.

2 Installing with Setup program

2 Installing with Setup program

Infineon recommends that you download and use the ModusToolbox™ Setup program from <https://softwaretools.infineon.com/tools/com.ifx.tb.tool.modustoolboxsetup> to install the base tools package(s), any dependency packages such as Programming tools and Security Suite, as well as many other additional packages including early access packs (with proper permissions), Machine Learning, etc.



Refer to the [Setup program user guide](#) for more details.

3 Installing the tools package (offline installation)

3 Installing the tools package (offline installation)

In some cases, you may not want to use the Setup program to install the ModusToolbox™ tools package. We refer to this as "offline installation." You can download the tools package for your OS from the Infineon website (<https://softwaretools.infineon.com/tools/com.ifx.tb.tool.modustoolbox>):

- **Windows:** `ModusToolbox_3.4.0.<build>-windows-install.exe`
- **Linux:** `ModusToolbox_3.4.0.<build>-linux-install.deb`
- **macOS:** `ModusToolbox_3.4.0.<build>-macos-install.pkg`

Note: Be aware that the tools package has dependencies on Programming tools (<https://softwaretools.infineon.com/tools/com.ifx.tb.tool.modustoolboxprogttools>) and Security Suite (<https://softwaretools.infineon.com/tools/com.ifx.tb.tool.modustoolboxedgeprotectsecuritysuite>) that must also be installed separately.

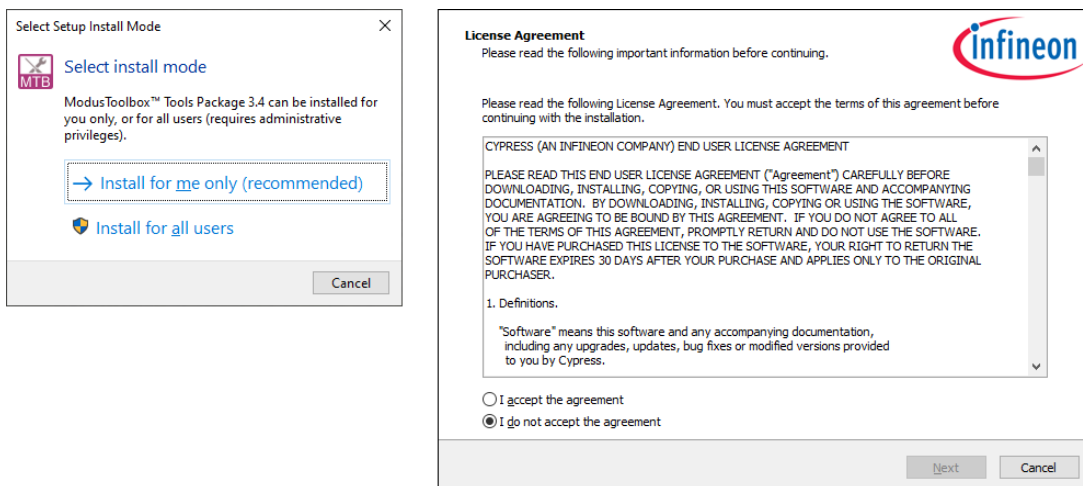
The ModusToolbox™ tools package default installation location for each OS is as follows:

- Windows: `C:\Users\<user-home>\ModusToolbox\`
- macOS: `/Applications/ModusToolbox/`
- Linux: `/opt/tools/ModusToolbox/`

If your default installation directory contains spaces or illegal characters, or if you want to install the ModusToolbox™ tools package in a non-default location, see the [Custom installation](#) section later in this document.

3.1 Windows

Run the `ModusToolbox_3.4.0.<build>-windows-install.exe` installer program and follow the prompts to install for the current user only and then accept the license agreement.



The installer for Windows provides options to install for the current user or for all users of the same computer. Depending on if you have administration privileges or not, you may be asked to enter a password.

Note: If you select "Install for all users" and then later select install for the current user, the Windows "Apps & features" setting will list only one instance of the ModusToolbox™ installation. Use the uninstaller to point to the type of installation (All Users or Current User), depending on the order they were installed. To see all installations, navigate to **Control Panel > Programs and Features**.

On the next screen select **Quick Installation** and click **Install**.

3 Installing the tools package (offline installation)

Note: If you have not installed the ModusToolbox™ tools package previously, you may be prompted to restart your computer due to installation of Microsoft Visual C++ redistributable files.

3.2 Linux

Navigate to the location of the *.deb file and type the following command:

```
$ sudo apt install ./ModusToolbox_3.4.0.<build>-linux-install.deb
```

Note: Use the apt tool instead of dpkg to resolve dependencies and avoid installation errors of installing the IDC Launcher Service as a nested package.

Then, run the following to initialize the CY_TOOLS_PATHS environment variable defined in the /etc/profile.d/modustoolbox_3.4.sh file:

```
$ bash --login
```

Finally, log out and then log back in to ensure the variable is acknowledged by the system.

Note: To install ModusToolbox software to run on WSL, refer to [Application Note AN238846: Running ModusToolbox™ using Windows Subsystem for Linux \(WSL\)](#).

3.3 macOS

Double-click the downloaded ModusToolbox_3.4.0.<build>-osx-install.pkg file and follow the wizard. The installer only allows installation for all users.

The ModusToolbox™ tools package will be installed under the **Applications** folder in the volume you select in the wizard.

Note: The ModusToolbox™ tools package installer also installs a custom USB driver for use with ModusToolbox™ software on macOS versions prior to Catalina. It may pop up a "System Extension Blocked" dialog. In this case, go to **Security Preference** and click **Allow** for the driver to be installed.

3.3.1 Xcode for macOS

In order for ModusToolbox™ software to work correctly on macOS, you must also install an additional Xcode package if you don't already have it installed. We recommend you install Xcode using the following command in a terminal window:

```
xcode-select --install
```

Note: You may install Xcode from the App Store, but it will likely consume much more disk space than using the above command.

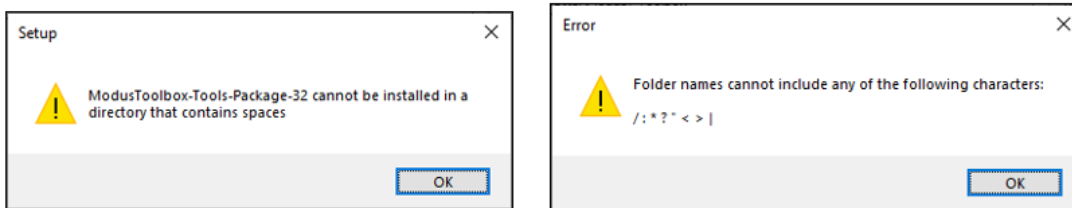
4 Custom installation

4 Custom installation

The Custom Installation setup provides several options to control your installation, including specifying the location, creating a shortcut, and whether to install dependencies. These instructions apply mostly to Windows, but the same concepts could also apply to macOS and Linux.

4.1 Installing in non-default user home directory

If your default user home directory contains spaces or illegal characters, the ModusToolbox™ installer prevents you from installing into that directory. For example:

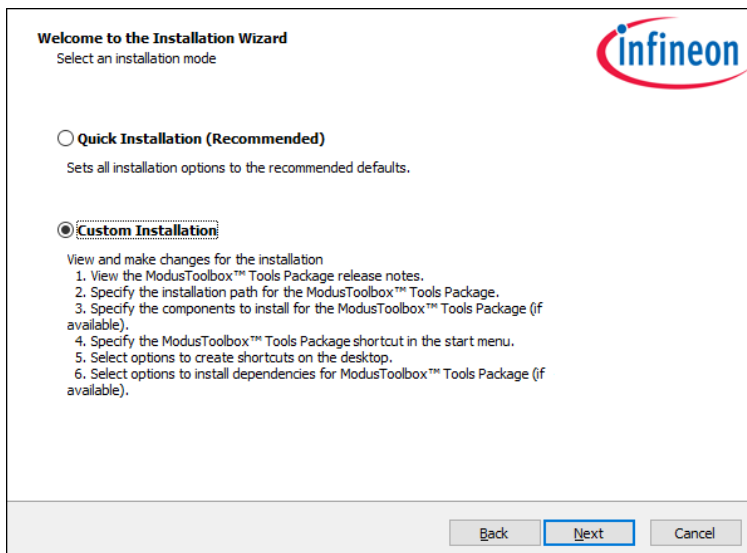


If possible, create a new user account and user home directory that doesn't contain spaces or illegal characters. Then, you can just use the default process for that account.

If you cannot create a new user home directory, then you must perform some extra manual installation steps.

4.2 Choosing the custom option

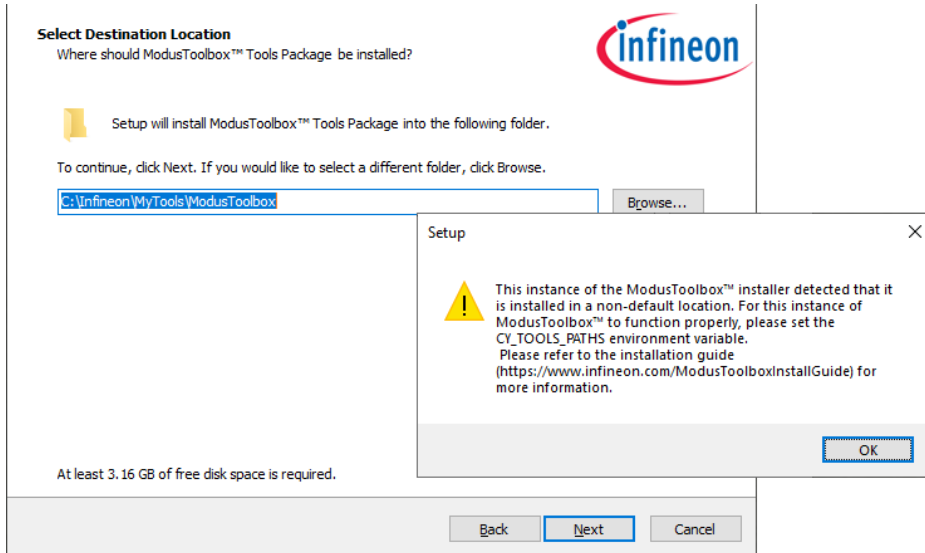
If your default installation directory contains spaces or illegal characters, or if you want to install the ModusToolbox™ tools package in a non-default location, select the **Custom Installation** option on the installer:



4 Custom installation

4.3 Install at a custom path

If you specify a **non-default location**, a message displays as a reminder to set the `CY_TOOLS_PATHS` environment variable. You will also have to specify a few other variable when the installer completes.



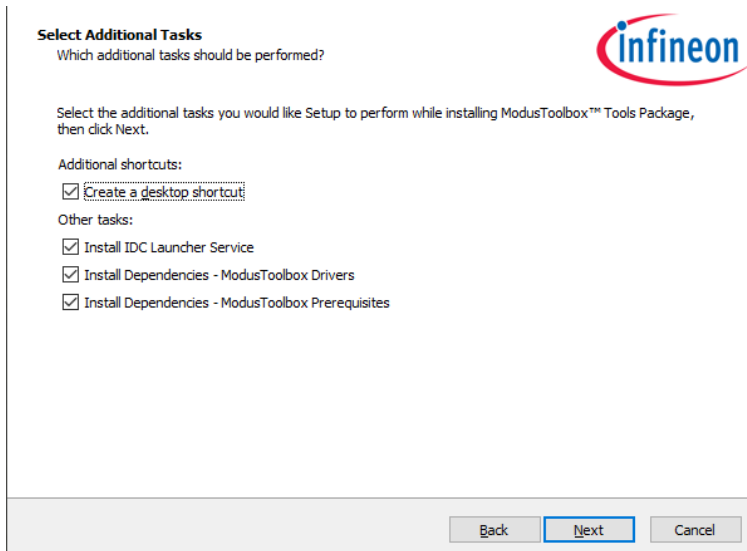
Specify an alternate installation path that does not include spaces. For example:

`C:\MyPath\ModusToolbox`

Any path without spaces or illegal characters will work.

4.4 Select additional tasks

On the next step, you can choose to create a desktop shortcut and install dependencies.



Click **Next** and then **Finish** to install the software.

4 Custom installation

4.5 Create directories

1. After installation is complete, create a hidden "dot" directory named ".modustoolbox" for content described later in this section. For example:
`C:\MyPath\.modustoolbox`
2. Also, create a directory to store your workspaces. You can choose any path as long as it doesn't contain spaces. For example:
`C:\MyPath\mtb-projects`

4.6 Create variable to specify the path to Tools

Because you are installing ModusToolbox™ into a non-default location, you need to specify the path to your "tools" directory using an Environment Variable. Open the Environment Variables dialog, and create a new System or User Variable, depending on your installation type (current user or all users). For example:

```
CY_TOOLS_PATHS = C:/MyPath/ModusToolbox/tools_3.4
```

Note: Use a Windows-style path (not Cygwin-style, like /cygdrive/c/). Also, use forward slashes.

4.7 Create variable to specify the global path

You also need to specify the global path using an Environment Variable. Open the Environment Variables dialog, and create a new System or User Variable, depending on your installation type (current user or all users). For example:

```
CY_GETLIBS_GLOBAL_PATH = C:/MyPath/.modustoolbox/global
```

Note: Use a Windows-style path (not Cygwin-style, like /cygdrive/c/). Also, use forward slashes.

4.8 Specify the custom path to use for Local Content Storage

If you use Local Content Storage (LCS) to enable work without access to the Internet, set this variable to specify where the content will be stored. For example:

```
MTB_LOCAL_CONTENT_PATH = C:/MyPath/.modustoolbox/lcs
```

5 Advanced installation instructions

5 Advanced installation instructions

These sections contain additional instructions for various cases.

5.1 Specify the custom path to use for manifest.loc

Although you may not use this feature, dependencies may require that you create an Environment Variable to specify the non-default location of the *manifest.loc* file. For example:

```
CyManifestLocOverride = C:/MyPath/.modustoolbox/manifest.loc
```

5.2 Installing with previous versions

The ModusToolbox™ tools package installs alongside previous versions of the software (version 3.2, 3.0, 2.4, 2.3, etc.); therefore, all versions can be used independently. However, be aware that various programs including the Eclipse IDE and the build system will detect and use the most current version of the "tools" directory by default. For example, if you have both versions 3.4 and 3.3 installed, and if you launch the Project Creator from the Eclipse IDE for version 3.3, it will open the version from the "tools_3.4" directory instead of the "tools_3.3" directory.

To control this behavior, use the environment variable `CY_TOOLS_PATHS` as described in the "Product Versioning" section in the [tools package user guide](#). This variable applies to all versions of the ModusToolbox™ tools package, so you will have to update it as you work with different versions. You can add this variable as an environment variable for all applications, or add it to a specific application only in the *Makefile*.

5.3 Installing with firewall or lack of web access

After the ModusToolbox™ tools package is installed, you will need access to the web to create applications, which download libraries from GitHub.com. If your site is behind a firewall, you can set up proxy information using the Project Creator tool. Refer to the [Project Creator user guide](#) for more information.

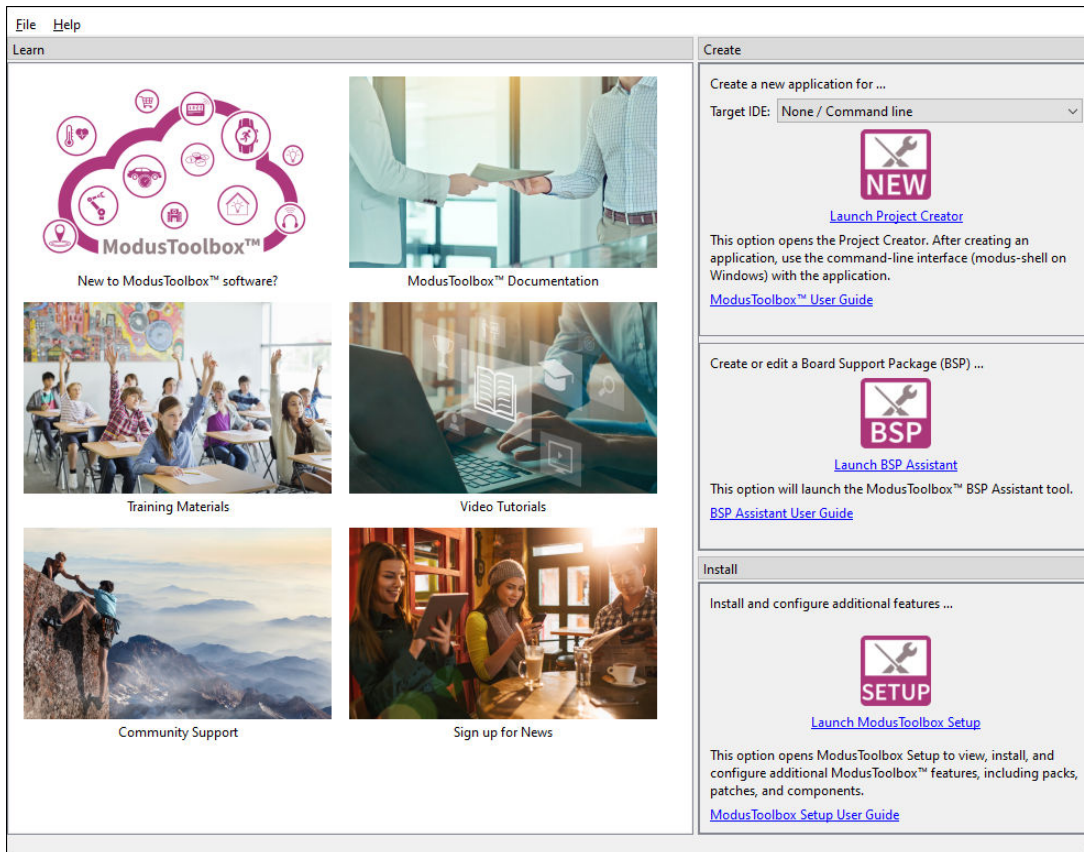
If you have no access to the web at all, you can use the Local Content Storage (LCS) Manager feature to create a copy of the database on your system. You will need one-time web access to set it up. Refer to the [LCS Manager CLI user guide](#) for more information.

6 Run the Dashboard (optional)

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The ModusToolbox™ tools package includes an optional Dashboard tool. To run the Dashboard:

- **Windows:** The tools package installer provides an option to run the Dashboard on the final step. You can also select the "dashboard" item from the Windows **Start** menu.
- **Linux:** Navigate to `/<install-path>/ModusToolbox/tools_<version>/dashboard` and run the executable.
- **macOS:** Run the "dashboard" app.



The Dashboard provides links to various sources of documentation and training materials. It also contains starting points: create a new application, create/edit a BSP, install or launch the ModusToolbox™ Setup program. For more details, refer to the [Dashboard user guide](#).

Revision history

Revision history

Revision	Date	Description
**	2017-12-29	New document.
*A	2018-09-18	Complete update for production release.
*B	2018-11-21	Updated the system requirements section. Added information about uninstalling issues. Updated to clarify macOS instructions.
*C	2019-02-27	Updated for version 1.1. Added custom drivers information. Updated linux instructions.
*D	2019-09-26	Added information to clarify usage with multiple versions and workspaces.
*E	2019-10-17	Updated for version 2.0. Added a note for macOS Catalina.
*F	2019-10-21	Added git as a prerequisite.
*G	2020-10-14	Added a link to KBA229345.
*H	2020-02-13	Added a comment about using forward slashes for the CY_TOOLS_PATHS variable.
*I	2020-03-26	Updated for version 2.1.
*J	2020-02-04	Corrected macOS executable name.
*K	2020-04-14	Corrected "optional" step for installing with spaces in user home directory.
*L	2020-09-01	Updated for version 2.2. Updated to include Python 3.7 requirement. Removed macOS Catalina notarization warning.
*M	2021-03-25	Updated for version 2.3. Added installer instructions for Windows and multiple users. Added Linux instruction for libncurses5. Updated for macOS Big Sur.
*N	2021-09-10	Updated for version 2.4.
*O	2022-09-22	Updated for version 3.0. Added instructions for CY_GETLIBS_GLOBAL_PATH. Updated formatting for version 3.0.
*P	2022-10-20	Updated the name of the Eclipse executable.
*Q	2023-01-17	Updated link for cysecuretools.
*R	2023-05-18	Updated for version 3.1. Updated Linux installation instructions. Added Dashboard instructions and removed Eclipse instructions. Removed caching variable and offline content. Added local content instructions.
*S	2023-07-12	Added note about final release to support Windows 7, macOS Big Sur, and Ubuntu 18.04.

Revision history

Revision	Date	Description
*T	2024-01-29	Updated for version 3.2. Updated Linux instructions for .deb file. Added mention of the Setup program. Added instructions for firewall or no web access.
*U	2024-04-10	Clarified installing using custom options. Added note about older versions of Windows 10 not supported.
*V	2024-07-10	Clarified instructions for macOS and Linux.
*W	2024-09-15	Updated for version 3.3.
*X	2024-12-06	Updated for version 3.4.

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