

The "EcDebugPlugin" plugin for MPLAB X

- User Guide -

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This plugin is used for exchanging debug information between MPLAB X and EasyCODE.

Installation

The plugin file *com-easycode-ecdebugplugin_<VERSION>.nbm* is located in the *Plugins* subdirectory of the EasyCODE installation directory. *<VERSION>* is a placeholder for the required version of MPLAB X.

For example, for MPLAB X 1.51 you require the file *com-easycode-ecdebugplugin_1_51.nbm*.

For MPLAB X Version 1.85 and higher there is a version-independent plugin available, named *com-easycode-ecdebugplugin_from_1_85.nbm*.

EasyCODE:

EasyCODE version 9.1 or later has to be installed.

Make sure that the EasyCODE debug interface is activated:

Options > Structure diagram settings > Interfaces.

(The EasyCODE debug interface should be activated by default.

Note that EasyCODE has to be restarted after changing this setting.)

MPLAB X:

Start MPLAB X.

Select the menu option *Tools > Plugins* and then click the property tab *Downloaded*.

Now click the button *Add Plugins...* and select the file

com-easycode-ecdebugplugin_<VERSION>.nbm which you will find in the *Plugins* subdirectory of the EasyCODE program directory.

(*<VERSION>* is a placeholder for the required version of MPLAB X).

Click the *Install* button and follow the installation instructions.

Restart MPLAB X when you have finished.

Once the plugin has been successfully installed, you should find the menu option *Tools > EasyCODE > Try to connect to EasyCODE* in MPLAB X.

EcDebugPlugin should also be displayed in the list of installed plugins;

this can be found under the menu option *Tools > Plugins* in the *Installed* property tab.

Setting up a connection between MPLAB X and EasyCODE

1. method:

Start MPLAB X and open a project.

In MPLAB, select the menu option *Tools > EasyCODE > Try to connect to EasyCODE*.

Then start EasyCODE.

The connection to MPLAB X is established automatically a few seconds after EasyCODE has been fully initialized. This is indicated by the message *Debug modus activated...* in the EasyCODE output window (*Debug* property tab). The debug toolbar also appears in EasyCODE and several options in the *Debug* menu in EasyCODE are now activated.

2. method:

Start EasyCODE.

Start MPLAB X and open a project.

In MPLAB, select the menu option *Tools > EasyCODE > Try to connect to EasyCODE*.

The connection to EasyCODE is now established. This is indicated by the message *Debug modus activated...* in the EasyCODE output window (*Debug* property tab). The debug toolbar also appears in EasyCODE and several options in the *Debug* menu in EasyCODE are now activated.

First steps (testing the communication)

In the MPLAB editor, set some breakpoints in the function *main()*.

Now start a debug session for the open MPLAB X project:

- In MPLAB X, select either the menu option or toolbar button *Debug > Debug Project*
or:
- In EasyCODE, select either the menu option or toolbar button *Debug > Execute*.

As soon as the program stops at the first breakpoint, EasyCODE shows the source code file as a structure diagram; the actual debugging line is marked in the diagram with a yellow arrow; the breakpoints are indicated by red dots.

Run a step over in EasyCODE by selecting either the menu option or toolbar button *Debug > Call as one step* (F10).

This shifts the yellow line marking to the next line.

(If F10 does not have any effect, check whether EasyCODE has keyboard focus.)

Closing the connection

To close the connection between MPLAB X and EasyCODE, in MPLAB select the menu option *Tools > EasyCODE > Disconnect from EasyCODE*.

The message *Debug mode deactivated...* should now appear in the EasyCODE output window.

Deactivating or uninstalling the plugin

To deactivate or uninstall the plugin, open the list of installed plugins: menu option *Tools > Plugins, Installed* property tab.

Here, mark the entry *EcDebugPlugin* and click either *Deactivate* or *Uninstall*. MPLAB X has to be restarted afterwards.

Function overview

The following functions are available in EasyCODE for the duration of a live connection between MPLAB X and EasyCODE:

In the EasyCODE Debugging menu or in the Debug toolbar:

- Start (F5), pause, continue or quit the program in debug mode.
- Step Into (F11)
- Step Over (F10)
- Step Out (Shift+F11)
- Run to Cursor (Ctrl+F10)

- Display the actual value of a variable.
- Add variable for monitoring in MPLAB X.
- Remove variable from monitoring in MPLAB X.

(Selecting one of the last three commands opens a small dialog window where the variable can be entered or changed. By default, the identifier in the structure chart over which the cursor is positioned is marked so that the dialog usually only has to be confirmed by pressing the *Return* key.)

- In the EasyCODE structure diagram, select the line where the cursor is positioned in the MPLAB X editor.

In the EasyCODE structure diagram:

- A symbol in the upper left corner of the structure diagram indicates the status of the debug session (*Running, Pause* or *Finished*). This symbol also indicates whether the actual debugging line is in this file.
- The actual debugging line is marked in the structure diagram with a yellow arrow.
As soon as the MPLAB X debugger stops and the actual debugging line is marked in the MPLAB X editor, EasyCODE also receives this information. EasyCODE then loads or activates the corresponding file and marks the debugging line.
- The actual breakpoints are marked in the structure diagram by red dots. Whenever you set or delete a breakpoint in the MPLAB X editor, this change is also immediately shown in the EasyCODE structure diagram (provided that the corresponding file is displayed there).
(Unfortunately, due to a technical restriction in MPLAB X it is not yet possible to manually set or delete breakpoints in the EasyCODE structure diagram. To do this, please switch to the MPLAB X editor.)
- Positioning the mouse pointer in the structure diagram over a current variable causes its value, type and address to be displayed in a tool tip.