

MT-101 Lesson 2-2: Debugging in the ModusToolbox IDE

Welcome back to Cypress Academy. This is ModusToolbox 101. In this chapter I'll show you a few of the basics of debugging in the ModusToolbox IDE. If you are already familiar with debugging in Eclipse, much of this will be a review.

First, let's open a workspace that we've already created. And guess what? It's the BlinkyLED again. That thing never is going to go away. But that's alright – it's simple for what we want to show here.

Next, I'll build the application. When the build is complete, I'll select the BlinkyLED_mainapp Eclipse project inside of the application. This populates the Quick Panel. Now, I'll select the BlinkyLED Debug (KitProg3) in the Launches area. Notice that we have a pre-defined configuration for J-link if that's your debugger of choice. You can also setup your own custom debug configurations from the standard Eclipse Run Configurations menu.

Once the debugger starts running, you can use all of the standard Eclipse debugging commands. For those of you who are PSoC Creator users, you're going to really like this because it's much faster than it ever was in PSoC Creator. For example, I can double-click or right click here to add a breakpoint so that each time through the main "while" loop the program will halt. I can press the green button to resume execution and press the pause button to halt the MCU at any time. While halted I can see where each thread has stopped, look at the variables, etc.

There are lots of additional debugging features and techniques built into Eclipse. I won't cover those here but there's lots of training material out there to help you in your learning journey.

Note that the ModusToolbox perspective is useful for both development as well as debugging but it's Eclipse so you can reconfigure the windows and perspectives however you wish, and I've seen some crazy reconfigurations over my time.

Once I'm done debugging, I'll click the red stop button and then I'll switch back to the Project Explorer window.

That's just a short discussion of the debugging capabilities in the ModusToolbox IDE. As I'm standing here, I would hope that you're not going to have to use to many of them, but if you're anything like me you may find yourself spending a lot of time running the debugger. While there are many internet videos on Eclipse debugging, the best way to learn is just to start writing and debugging your own code.

If you have any questions or general comments, by all means please post them in the ModusToolbox community. If you have a personal note or just want to chat, please feel free to email me at alan_hawse@cypress.com or tweet me @askiotexpert. Good luck

with your projects and hopefully you won't spend too much time with the debugger, but there it is, I know where we are. Good luck.