

- In an attempt to fix the warning, I generated 3 builds, and specified DWARF versions 2, 3, and 4, respectively, but none of those builds removed the warning.
- **Bug in the book (missing info), page 163**
  - "After that, experiment with using Ozone to load and single-step through the program (details on how to do this were covered in Chapter 6, *Debugging Tools for Real-Time Systems*)."
  - I could not find anything in Chapter 6, or elsewhere, that describes how to use Ozone to step through the code or set breakpoints. That info is provided below.
- **Additional info, page 163**
  - Info on using the Ozone debugger:
  - Breakpoints
    - Set breakpoints by clicking on a source or assembly instruction, then:
      - Press F9, or Right click
    - A breakpoint can be removed by:
      - Clicking on it, then press F9, or
      - Use View to open the frame "Breakpoints and Tracepoints"
    - Breakpoint problems and trouble-shooting:
      - It may be possible to inadvertently set breakpoints in library code.
        - To find and remove them:
          - Use the View menu to open the frame "Breakpoints and Tracepoints"
      - The maximum number of breakpoints is limited.
        - Setting a breakpoint for a C instruction results in "derived breakpoints" for each of its assembly instructions.
        - It may be possible to reduce the number of breakpoints by setting them for assembly instructions instead of C instructions.
  - Stepping through the code:
    - Click on the Debug menu to see the options
  - More info is in the *Ozone User Guide*
- **Bug in the book (missing info), page 163**
  - Problem:
    - A key requirement in using SystemView appears to be omitted in the book:
      - SystemView's Record feature should not be started until after the scheduler is started on the board, i.e., until after `vTaskStartScheduler()` runs.
    - From my testing,
      - SystemView's Record feature will not record any events if it is started before the scheduler is started.
      - SystemView itself can be started at anytime. However, the Record feature should not be started before the scheduler.
  - Reference info:
    - The requirement is also stated at this web-page, and described:
      - [https://piconomix.com/px-fwlib/hero\\_board\\_example\\_freertos\\_blinking\\_led/](https://piconomix.com/px-fwlib/hero_board_example_freertos_blinking_led/)
      - All SystemView events must be timestamped correctly and the usual solution is to piggy-back on the SysTick peripheral interrupt. Unfortunately the SysTick peripheral is only initialized when the FreeRTOS scheduler is started with a call to `vTaskStartScheduler()`. All SystemView events before this will be timestamped with a zero value and it confuses the Segger SystemView GUI.
      - The timestamping mechanism must be initialized and running correctly before logging any SystemView events. Timestamps must have sequential incrementing values otherwise the GUI will be get confused.
    - The Segger forums contain corroborating info:
      - <https://forum.segger.com/index.php/Thread/7517-SOLVED-Timeline-not-showing-SysTick-or-Scheduler-events/>
      - The Segger SystemView GUI is not able to cope with events that are not timestamped properly (sequentially).
- **Bug in the book (missing info) and in the code (main\_taskCreation.c), page 163**
  - Problem:
    - The book's figure shows using SystemView to record the three tasks in `main_taskCreation.c`. A recording like that does not seem possible, with the code and instructions provided.
    - SystemView's Record feature would have to be started after the scheduler is started, but before `GreenTask()` runs. This is effectively impossible. (Though, there may be a technique for this that I'm not aware of.)
  - Solution:
    - One solution is to make `GreenTask()` spin when it starts, to allow time for starting SystemView.
    - This can be done by adding the following line to the beginning of `GreenTask()`. The task will spin until the User button is pushed, on the board.
      - `while(!ReadPushButton());`
    - The target program would be started via Ozone, then SystemView would be started, then its Record feature.
    - A limitation of this solution is that SystemView's Record does not show `GreenTask` as