

# Micrium

## STM32L152-Eval Example Projects for $\mu$ C/OS-II and $\mu$ C/OS-III

### Feature: LED blink

This feature can be tested without the need of any additional Micrium product. Once the Start Task begins, LEDs 1 and 2 will start blinking.

**IDE(s):** IAR Embedded Workbench for ARM v6.40

Keil  $\mu$ Vision4 v4.54.0.0

Atollic TrueSTUDIO for ARM Pro v3.1.0

**$\mu$ C/OS II Version:** v2.89.00

**$\mu$ C/OS III Version:** v3.03.01

**$\mu$ C/CPU Version:** v1.29.01

**$\mu$ C/LIB Version:** v1.37.00

**FOR:** STMicroelectronics STM32L152-Eval STM32L152VBT6

**Included 3<sup>rd</sup> Party Libraries:** STM32L1xx Firmware Libraries

**[WARNING]:** Make sure to open the project using the mentioned IDE(s) version or later.

### IAR Embedded Workbench Startup:

- Open the project up in IAR EWARM
  - + Found in 'File' -> 'Open' -> 'Workspace'
  - + Find the directory and workspace where the project is located (Ex: Micrium/Software/Evalboards/ST/STM32L152-Eval/IAR/uCOS-III/uCOS-III.eww)
    - This also applies to uCOS-II, as you would only need to replace the uCOS-III to uCOS-II, to obtain Micrium's OS-II.
- Compile the project.
  - + This can be found in 'Project' -> 'Make' or the shortcut (F7)
    - Should 'Make' with 0 Warnings and 0 Errors.
- Have the board connected via USB ST-link (CN1) cable to computer **before** downloading project to board.
  - + Make sure the (JP12) pins are selecting ST-LINK as the power source.
- Once the board is connected and the built-in ST-Link driver has successfully downloaded, 'Download and Debug' the project onto the board.
  - + Found in 'Project' -> 'Download and Debug' or the shortcut (Ctrl + D)
- Once the project has finished downloading 'Run' the project.
  - + Found in 'Debug' -> 'Go' or the shortcut (F5)
- To disconnect from the debugging session 'Stop Debugging' can be found under 'Debug' as well.

#### Keil $\mu$ Vision4 Startup:

- Open the project up in Keil  $\mu$ Vision4
  - + Found in 'Project' -> 'Open Project'
  - + Find the directory and workspace where the project is located (Ex: Micrium/Software/Evalboards/ST/STM32L152-Eval/KeilMDK/uCOS-III/uCOS-III.uvproj)
    - This also applies to uCOS-II, as you would only need to replace the uCOS-III to uCOS-II, to obtain Micrium's OS-II.
- Compile the project.
  - + This can be found in 'Project' -> 'Build Target' or the Shortcut (F7)
    - Should 'Build' with 0 Warnings and 0 Errors.
- Have the board connected via USB ST-link (CN1) cable to computer **before** downloading project to board.
  - + Make sure the (JP12) pin(s) are selecting ST-LINK as the power source.
- Once the board is connected and the built-in ST-Link driver has successfully downloaded, 'Download and Debug' the project onto the board.
  - + Found in 'Debug' -> 'Start/Stop Debug Session' or the Shortcut (Ctrl + F5)
- Once the project has finished downloading 'Run' the project.
  - + Found in 'Debug' -> 'Run' or the Shortcut (F5)
- To disconnect from the debugging session press the 'Start/Stop Debug Session' button once more, or the Shortcut (Ctrl + F5).

#### Atollic TrueSTUDIO Startup:

- Open the project up in Atollic TrueSTUDIO
  - + Found in 'File' -> 'Import'
  - + Select 'Existing Projects into Workspace'
  - + Select root directory and find the directory and workspace where the project is located (Ex: Micrium/Software/Evalboards/ST/STM32L152-Eval/Atollic/uCOS-III/)
    - This also applies to uCOS-II, as you would only need to replace the uCOS-III to uCOS-II, to obtain Micrium's OS-II.
  - + Select 'Finish'.
- Compile the project.
  - + This can be found in 'Project' -> 'Build All' or the Shortcut (Ctrl + B)
    - Should 'Build' successfully.
- Have the board connected via USB ST-link (CN1) cable to computer **before** downloading project to board.
  - + Make sure the (JP12) pin(s) are selecting ST-LINK as the power source.
- Once the board is connected and the built-in ST-Link driver has successfully downloaded, 'Download and Debug' the project onto the board.

- + Right click on the project directory inside the 'Project Explorer' and select 'Debug As' -> '1 Embedded C/C++ Application'
- Once the project has finished downloading 'Run' the project.
  - + Found in 'Run' -> 'Resume' or the Shortcut (F8)
- To disconnect from the debugging session, the command 'Terminate' can be found under 'Run' as well, or the Shortcut (Ctrl + F2).

To remove the project from the workspace, right click on the project directory inside the 'Project Explorer' and select 'Close Project'. Once the project is closed, right click and 'Delete' project from workspace.

**[WARNING]:** If you do not 'Close' the project before you delete it, there is a chance that you will delete the project completely from your computer.