EXAMPLE NAME: WATCHDOG_EXAMPLE_XMC45

OVERVIEW: This example demonstrates how a program is kept in operation when a window watchdog is properly serviced. When a WDT pre-warning alarm event is entered, the watchdog is serviced and then stopped.

DESCRIPTION:

- WATCHDOG APP is used to set the window boundary and enable the pre-warning alarm interrupt event.
- SYSTIMER APP is used to generate the software timer for LED toggling and watchdog servicing
- DIGITAL_IO APP is used for LED display.

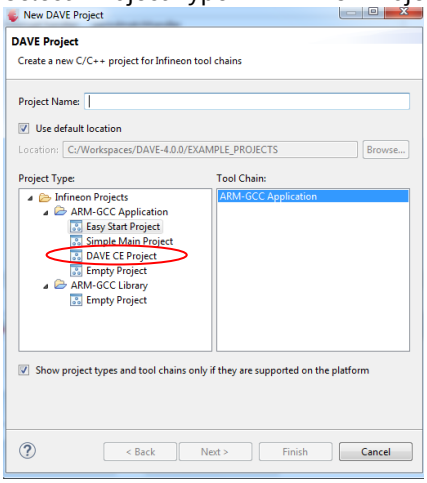
REQUIRMENTS:

Boards Required: XMC4500 CPU Board (Order Nr: KIT_XMC45_EE1_002)

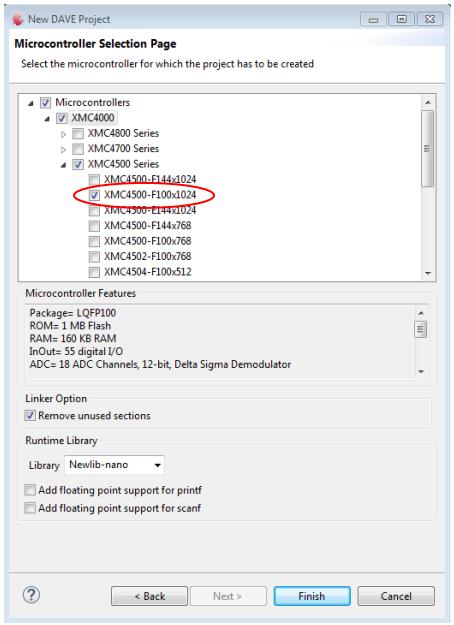
HOW TO CREATE THE PROJECT:

1. Open the DAVE CE and use  "Add IDE New Project Wizard" on the toolbar to add a new DAVE Project.

Enter Project Name
Select "Project Type ➔ DAVE CE Project"

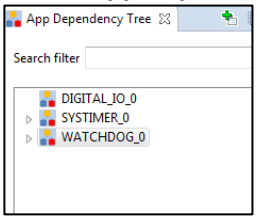


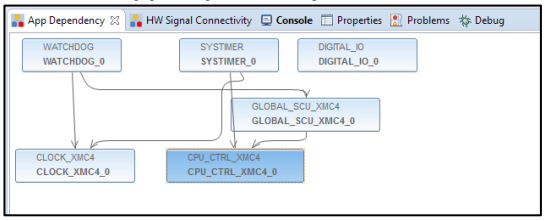
Select Microcontrollers
➔XMC4500 Series ➔ XMC4500-F144X1024



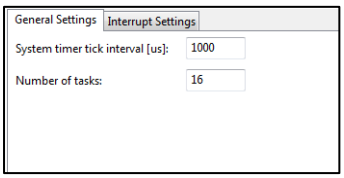
2. Use the  "Add New APP" in the toolbar to add APPs listed. Configure the App instances with the following configurations.

Views: App Dependency Tree and App Dependency



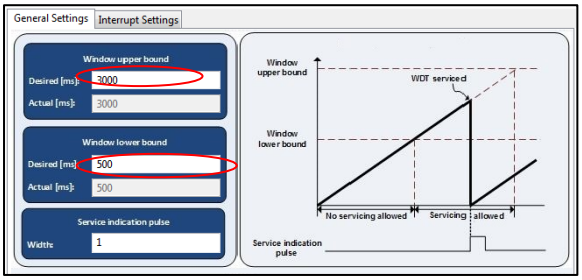


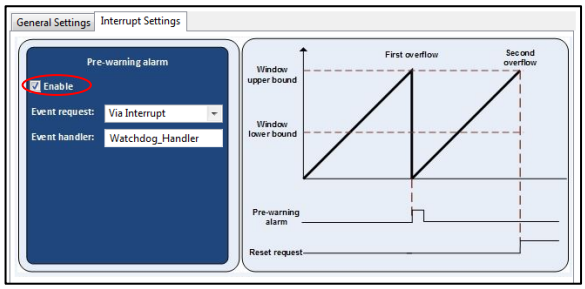
SYSTIMER:



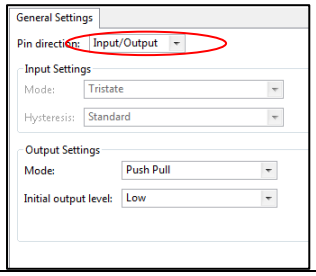
⇨ No change to settings on Tabs: Event Settings and Pin Settings

WATCHDOG_0:





DIGITAL_IO:



3. Use the  "Manual Pin Allocator" found in the toolbar, configure the output pin for the LED.



4. Generate the code for configurations made and change main.c accordingly.
5. Build and download to the microcontroller.

HOW TO USE THE XMC SCU LLD IN THE PROJECT:

1. SCU LLD (API: `XMC_SCU_RESET_GetDeviceResetReason`) is used to check the device reset status. Using this, the cause of the reset can be determined.
2. Refer to LLD documentation for complete API definition

HOW TO TEST:

Download and run the demo in the uC.

OBSERVATIONS:

- LED toggles every second.
- On entering the WDT pre-warning alarm event, the WDT is serviced when the lower window boundary is reached. Thereafter the WDT is stop.

- LED continues to toggle at every second.

HINTS WHEN MIGRATING EXAMPLE TO OTHER DEVICES IN THE SAME XMC FAMILY:
No additional information is required