EXAMPLE NAME: PWM_CCU8 _EXAMPLE_XMC45

OVERVIEW: This example starts 2 slices of CCU8 synchronously using an external start event and 1 slice of CCU8 is started during initialization.

DESCRIPTION:

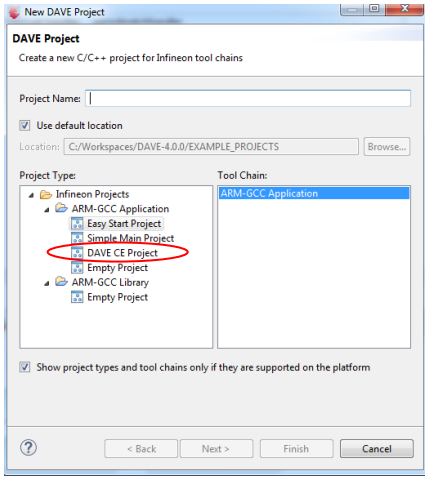
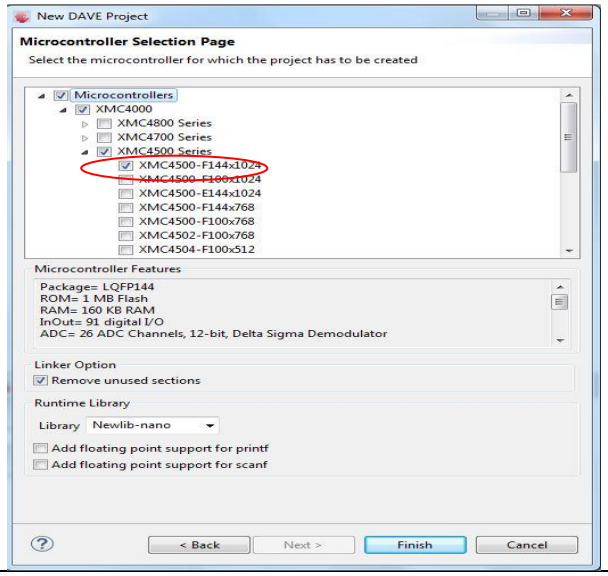
- PWM_CCU8 APP
    - Instance 0 is configured in asymmetric mode and timer is started with an external event is used to configure the dead time for the output signal.
    - Instance 1 is configured in symmetric mode and timer is started during initialization.
    - Instance 2 is configured in asymmetric mode and timer is started with an external event.
    - Instance 0 and 1 share the same CCU8 kernel.
- GLOBAL_CCU8 APP is used to trigger the start of 2 PWM slices.

REQUIRMENTS:

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

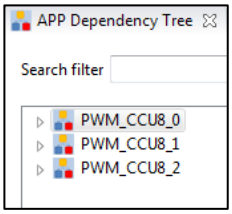
HOW TO CREATE THE PROJECT:

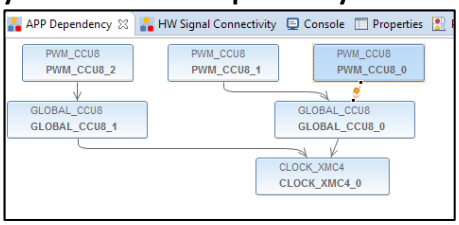
1. Open the DAVE CE and use  "Add IDE New Project Wizard" on the toolbar to add a new DAVE Project.

Enter Project Name Select "Project Type ➔ DAVE CE Project"	Select Microcontroller ➔XMC4500 Series ➔ XMC4500-F144X1024
	

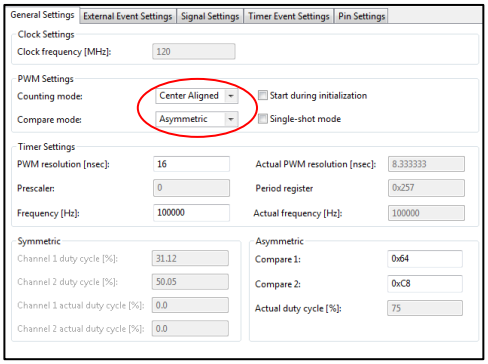
2. Use the  "Add New APP" in the toolbar to add APPs listed. Configure the APP instances with the following configurations.

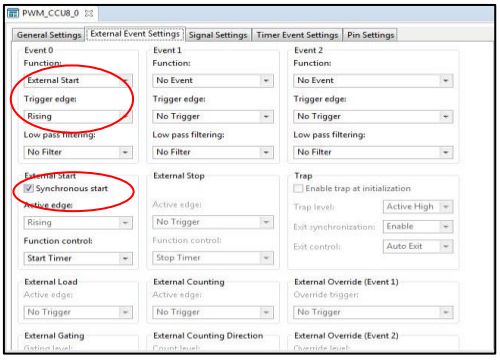
Views: APP Dependency Tree and APP Dependency

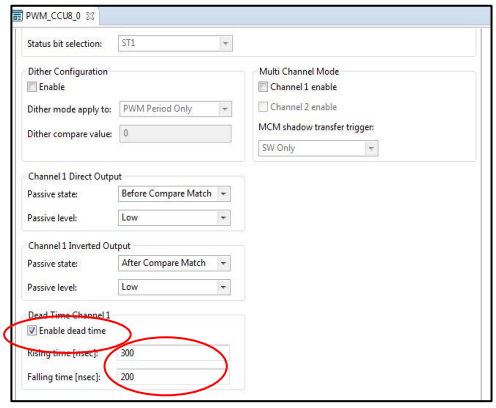


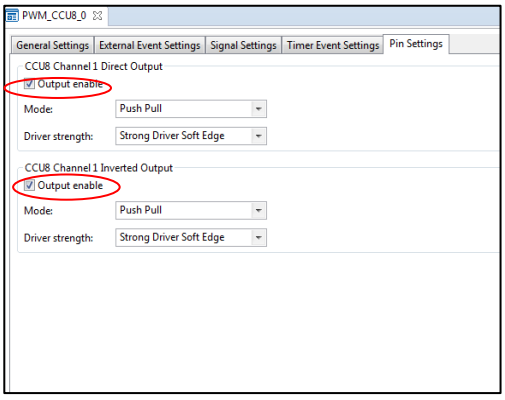


PWM_CCU8_0: Default settings to Tab: Timer Event Settings

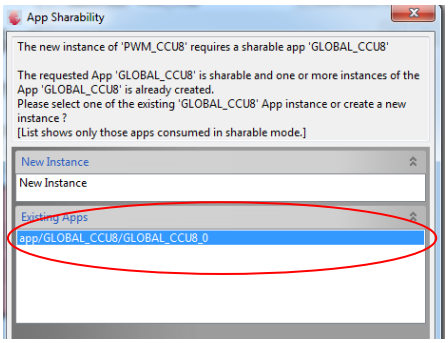


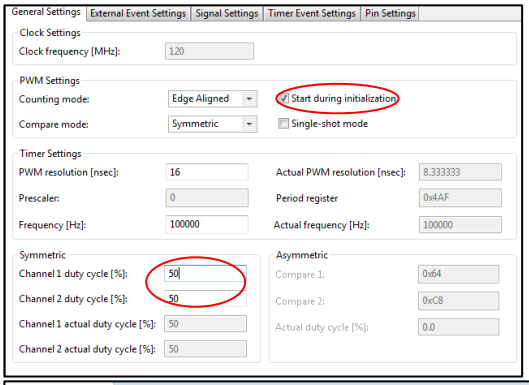


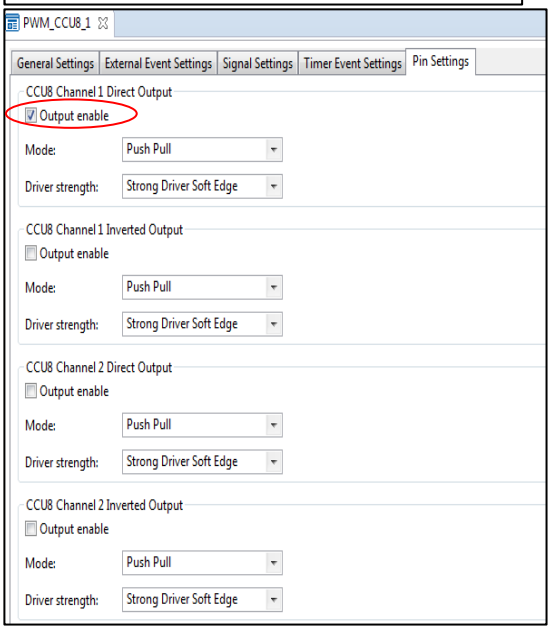




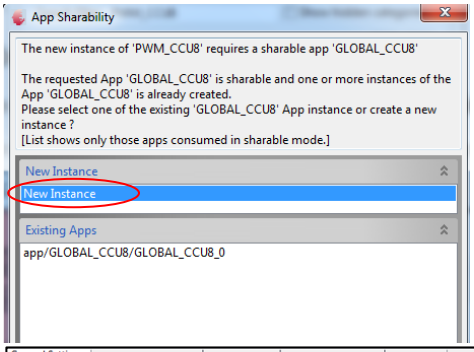
PWM_CCU8_1: Share same kernel with PWM_CCU8_0

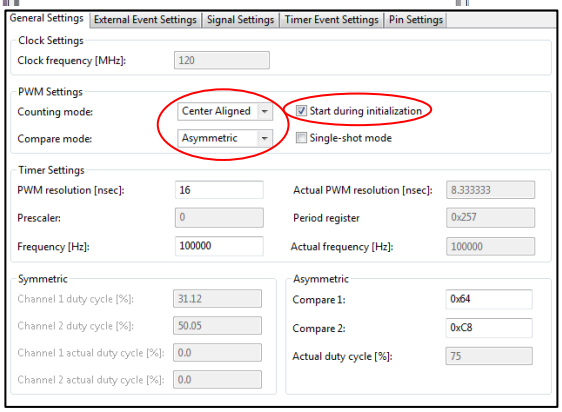


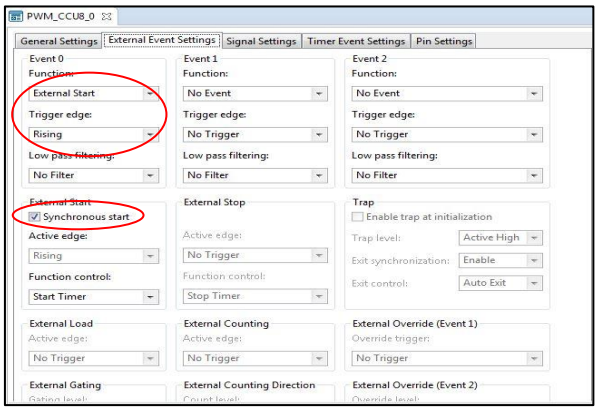


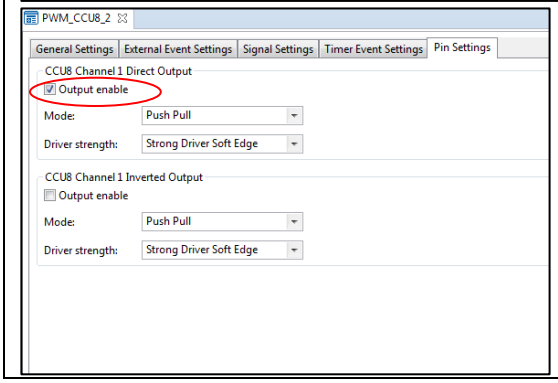


PWM_CCU8_2: Use a new CCU8 kernel









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

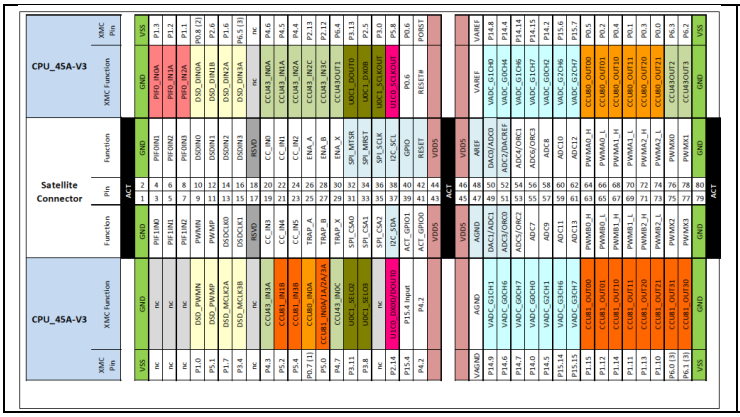
App Instance Name	Resource	Port-Pin	Pin Number
PWM_CCU8_0			
	PWM_CCU8 CH1 Direct Out	(P0.5)	#141
	PWM_CCU8 CH1 Invert Out	(P0.2)	#144
PWM_CCU8_1			
	PWM_CCU8 CH1 Direct Out	(P0.3)	#143
PWM_CCU8_2			
	PWM_CCU8 CH1 Direct Out	(P1.15)	#94

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

HOW TO TEST:

Download and run the demo in the uC.

Connect the headers to ACT Satellite connectors on the XMC4500 board.



Port 0.5 → Pin 64

Port 0.2 → Pin 66

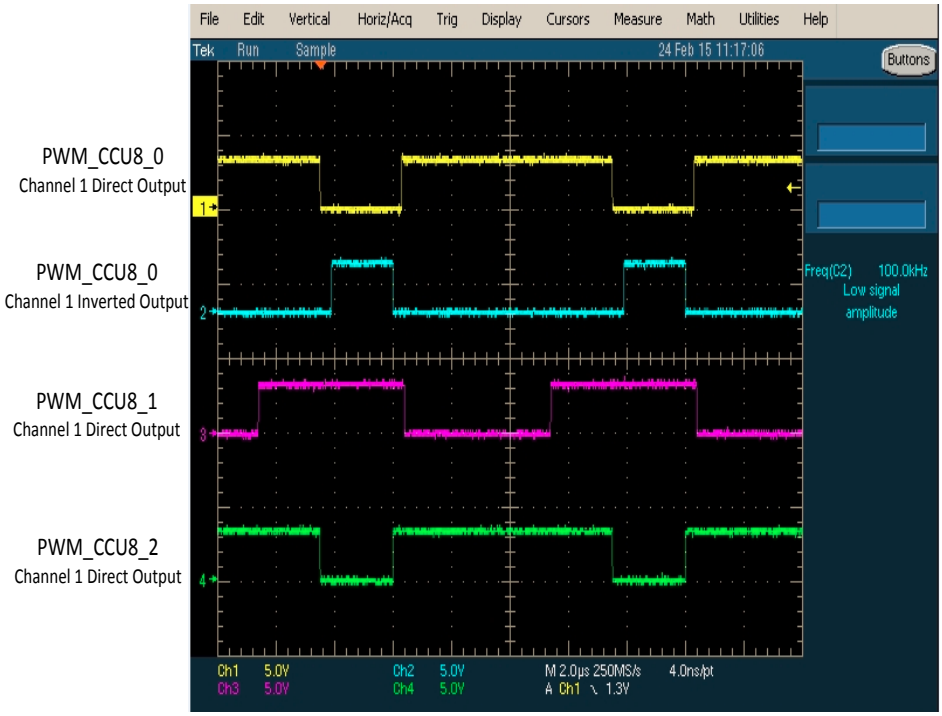
Port 0.3 → Pin 72

Port 1.15 → Pin 63

Ground → Pin 79, Pin 80

OBSERVATIONS:

On the oscilloscope, observe the signals.



HINTS WHEN MIGRATING EXAMPLE TO OTHER DEVICES IN THE SAME XMC FAMILY:

No additional information is required.