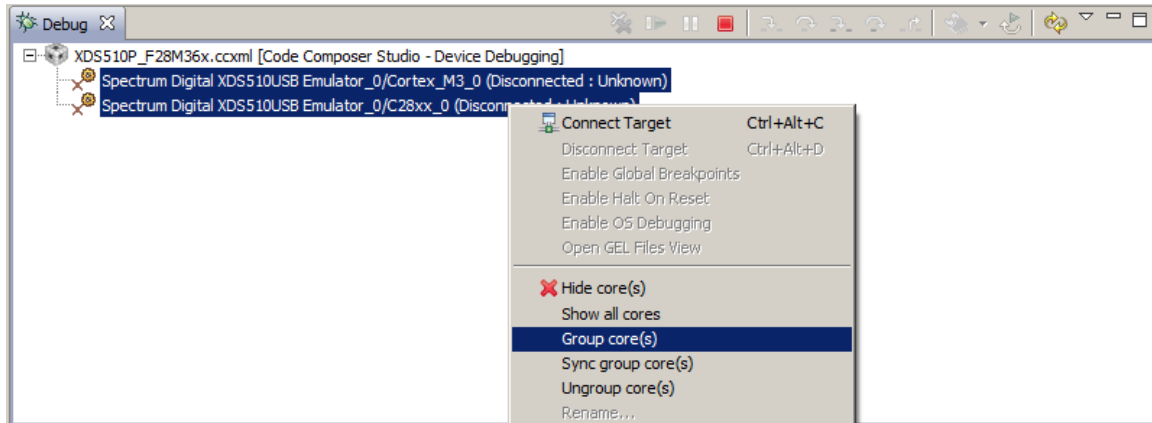


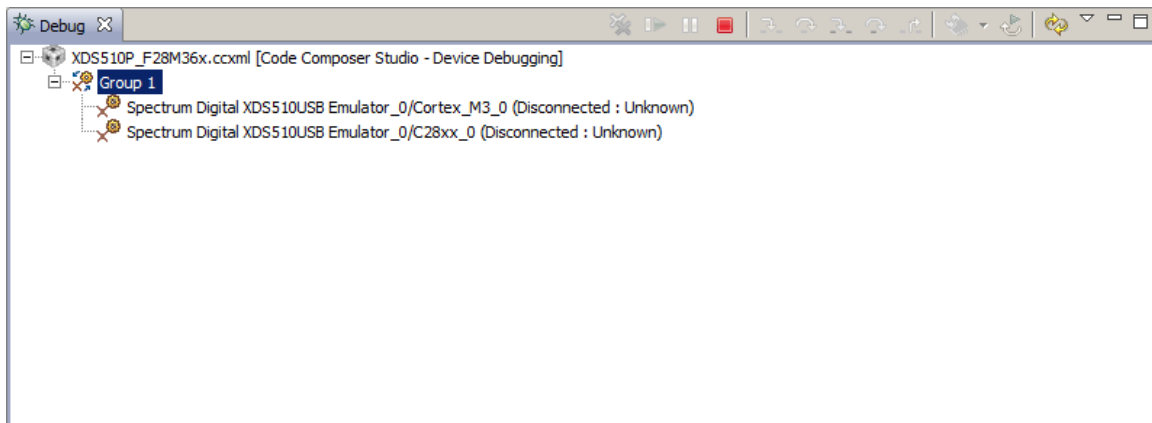
# Cross Trigger Procedure

## 1. Group cores

After launch the emulator, choose two cores and right click. Choose 'Group core(s)' in the popup menu as below. (Take Concerto as an example)



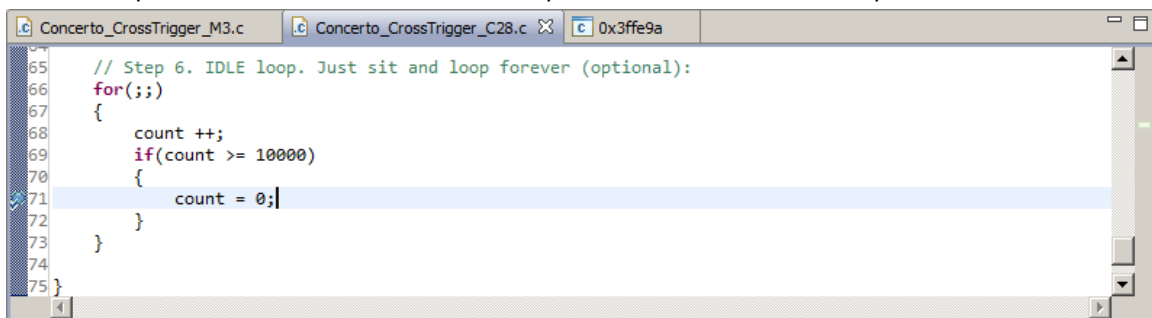
After grouped, the debug window is show like this.



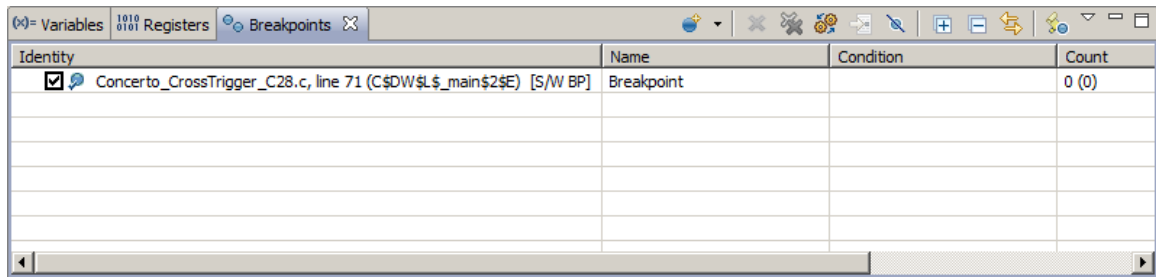
✧ It doesn't matter to group the cores before connected or after connected.

## 2. Download program to two cores.

Set a breakpoint in one core. Let's set a breakpoint in C28x core for example as below.

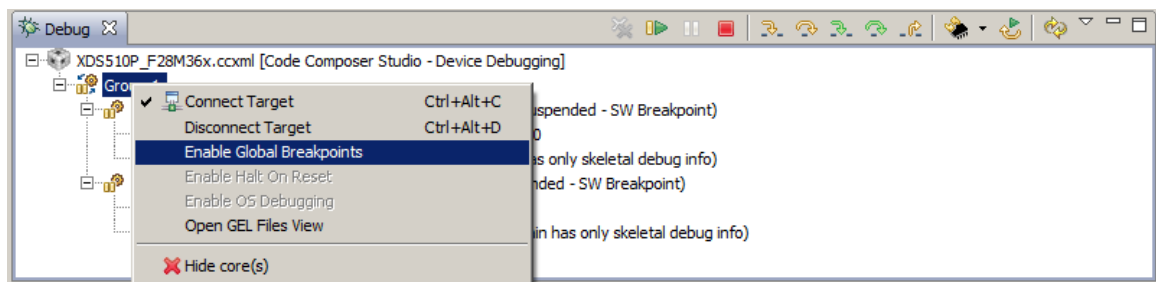


And in breakpoint window, the breakpoint can also be found.

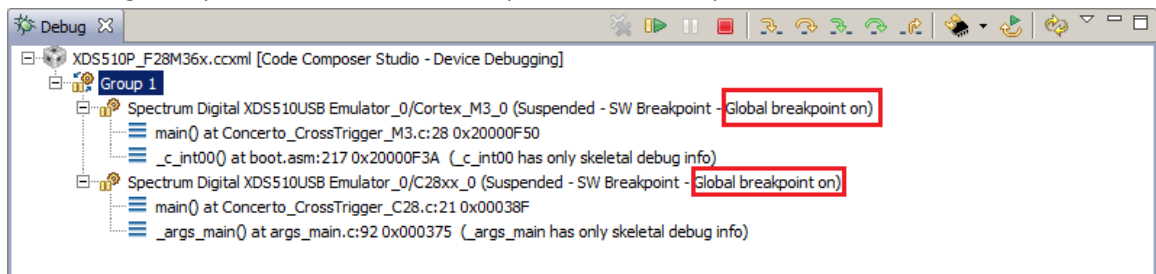


### 3. Enable global breakpoints.

Right click on 'Group 1' in Debug window and select 'Enable Global Breakpoints' in popup menu.



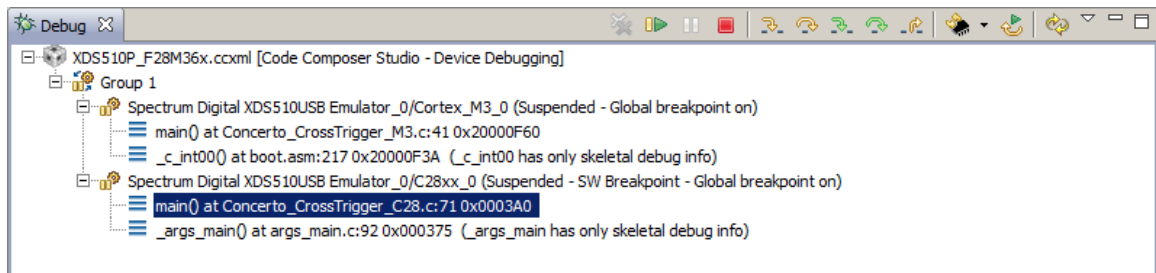
After doing this, you will see 'Global breakpoint on' on every core label.



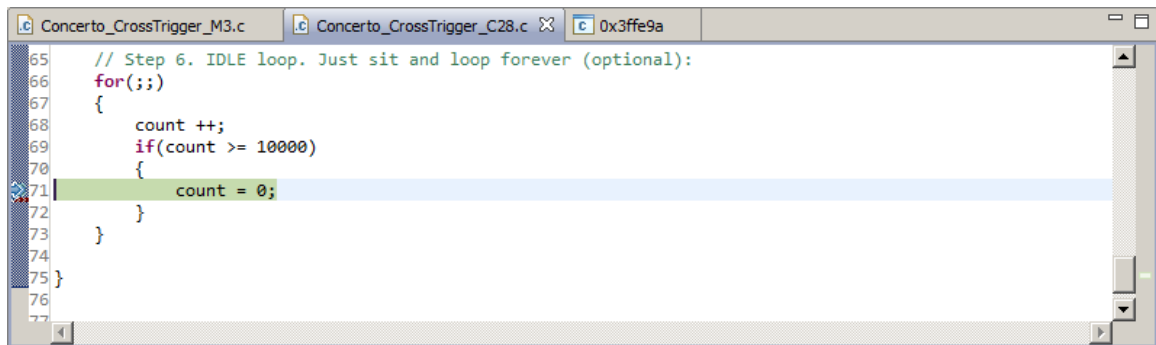
### 4. Run the program and check cross trigger.

Run the core without breakpoint first. If there is running sequence required, e.g. on Concerto, M3 core needs to be run first at the very first time, don't set the breakpoint on the first running core.

Then run the other core with breakpoint. When it hits the breakpoint, two cores will be suspended at the same time.



Click on 'main()...' label of the core with breakpoint, you can see it stopped at the breakpoint.

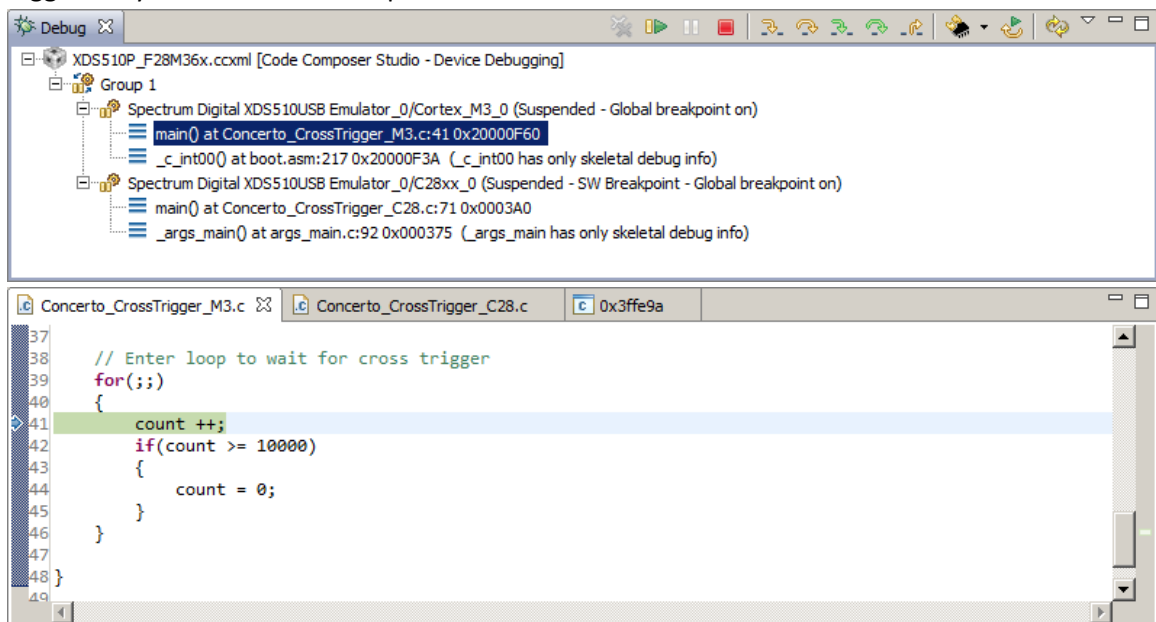


The screenshot shows the code editor for Concerto\_CrossTrigger\_M3.c. The code is as follows:

```
65 // Step 6. IDLE loop. Just sit and loop forever (optional):
66 for(;;)
67 {
68     count++;
69     if(count >= 10000)
70     {
71         count = 0;
72     }
73 }
74
75 }
76
77 }
```

A breakpoint is set at line 71, and the code is stopped at that point.

If you click on 'main()...' label of the core without breakpoint, you can see it stopped at somewhere. And you have no idea where it was before it stopped, because it is cross triggered by the core with breakpoint.



The screenshot shows the Debug console and the code editor. The Debug console shows the following state:

- Group 1
  - Spectrum Digital XDS510USB Emulator\_0/Cortex\_M3\_0 (Suspended - Global breakpoint on)
    - main() at Concerto\_CrossTrigger\_M3.c:41 0x20000F60
    - \_c\_int00() at boot.asm:217 0x20000F3A (\_c\_int00 has only skeletal debug info)
  - Spectrum Digital XDS510USB Emulator\_0/C28xx\_0 (Suspended - SW Breakpoint - Global breakpoint on)
    - main() at Concerto\_CrossTrigger\_C28.c:71 0x0003A0
    - \_args\_main() at args\_main.c:92 0x000375 (\_args\_main has only skeletal debug info)

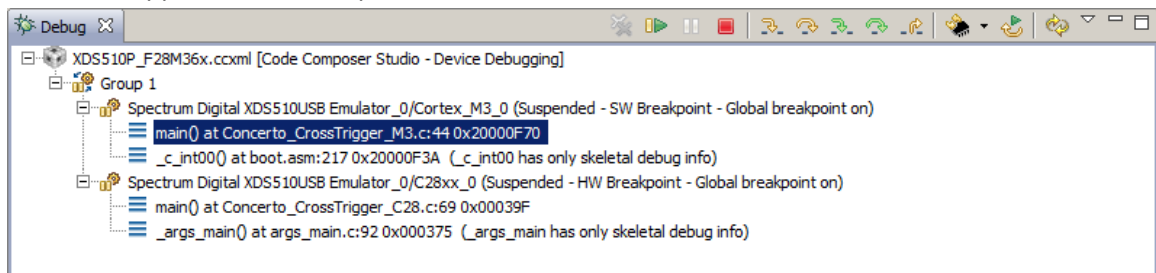
The code editor shows the code for Concerto\_CrossTrigger\_M3.c, with a breakpoint set at line 41:

```
37
38 // Enter loop to wait for cross trigger
39 for(;;)
40 {
41     count++;
42     if(count >= 10000)
43     {
44         count = 0;
45     }
46 }
47
48 }
```

##### 5. C28x core can also cross triggered by M3 core as below.

Set a breakpoint in main loop of M3 core. When hit the breakpoint, C28x core is cross triggered.

M3 core stopped at the breakpoint.

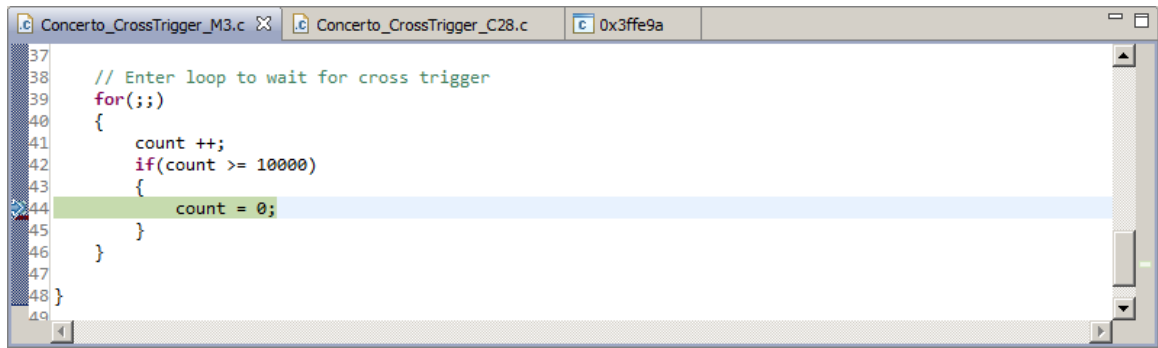


The screenshot shows the Debug console and the code editor. The Debug console shows the following state:

- Group 1
  - Spectrum Digital XDS510USB Emulator\_0/Cortex\_M3\_0 (Suspended - SW Breakpoint - Global breakpoint on)
    - main() at Concerto\_CrossTrigger\_M3.c:44 0x20000F70
    - \_c\_int00() at boot.asm:217 0x20000F3A (\_c\_int00 has only skeletal debug info)
  - Spectrum Digital XDS510USB Emulator\_0/C28xx\_0 (Suspended - HW Breakpoint - Global breakpoint on)
    - main() at Concerto\_CrossTrigger\_C28.c:69 0x00039F
    - \_args\_main() at args\_main.c:92 0x000375 (\_args\_main has only skeletal debug info)

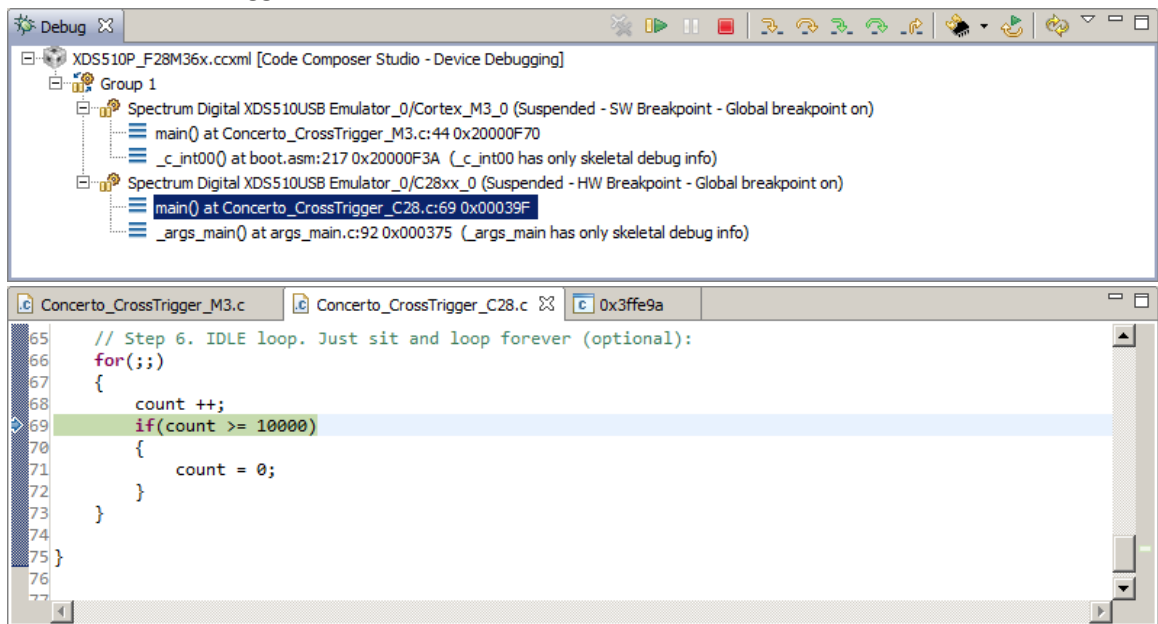
The code editor shows the code for Concerto\_CrossTrigger\_M3.c, with a breakpoint set at line 44:

```
37
38 // Enter loop to wait for cross trigger
39 for(;;)
40 {
41     count++;
42     if(count >= 10000)
43     {
44         count = 0;
45     }
46 }
47
48 }
```



```
37
38 // Enter loop to wait for cross trigger
39 for(;;)
40 {
41     count ++;
42     if(count >= 10000)
43     {
44         count = 0;
45     }
46 }
47
48 }
```

C28x core is cross triggered.



Debug X

XDS510P\_F28M36x.ccxml [Code Composer Studio - Device Debugging]

Group 1

- Spectrum Digital XDS510USB Emulator\_0/Cortex\_M3\_0 (Suspended - SW Breakpoint - Global breakpoint on)
  - main() at Concerto\_CrossTrigger\_M3.c:44 0x20000F70
  - \_c\_int00() at boot.asm:217 0x20000F3A (\_c\_int00 has only skeletal debug info)
- Spectrum Digital XDS510USB Emulator\_0/C28xx\_0 (Suspended - HW Breakpoint - Global breakpoint on)
  - main() at Concerto\_CrossTrigger\_C28.c:69 0x00039F
  - \_args\_main() at args\_main.c:92 0x000375 (\_args\_main has only skeletal debug info)

```
65 // Step 6. IDLE loop. Just sit and loop forever (optional):
66 for(;;)
67 {
68     count ++;
69     if(count >= 10000)
70     {
71         count = 0;
72     }
73 }
74
75 }
```

6. You can easily test this function using dual core examples in [controlSUITE](#).