Log book

04/02/2026

Problem- uC STM32 target not found upon trying to program it using st-link

1. Trying to see if the uC pins are soldered properly- using multimeter probing and camera- swd - Cannot Program a Custom STM32 Board - Electrical Engineering Stack Exchange

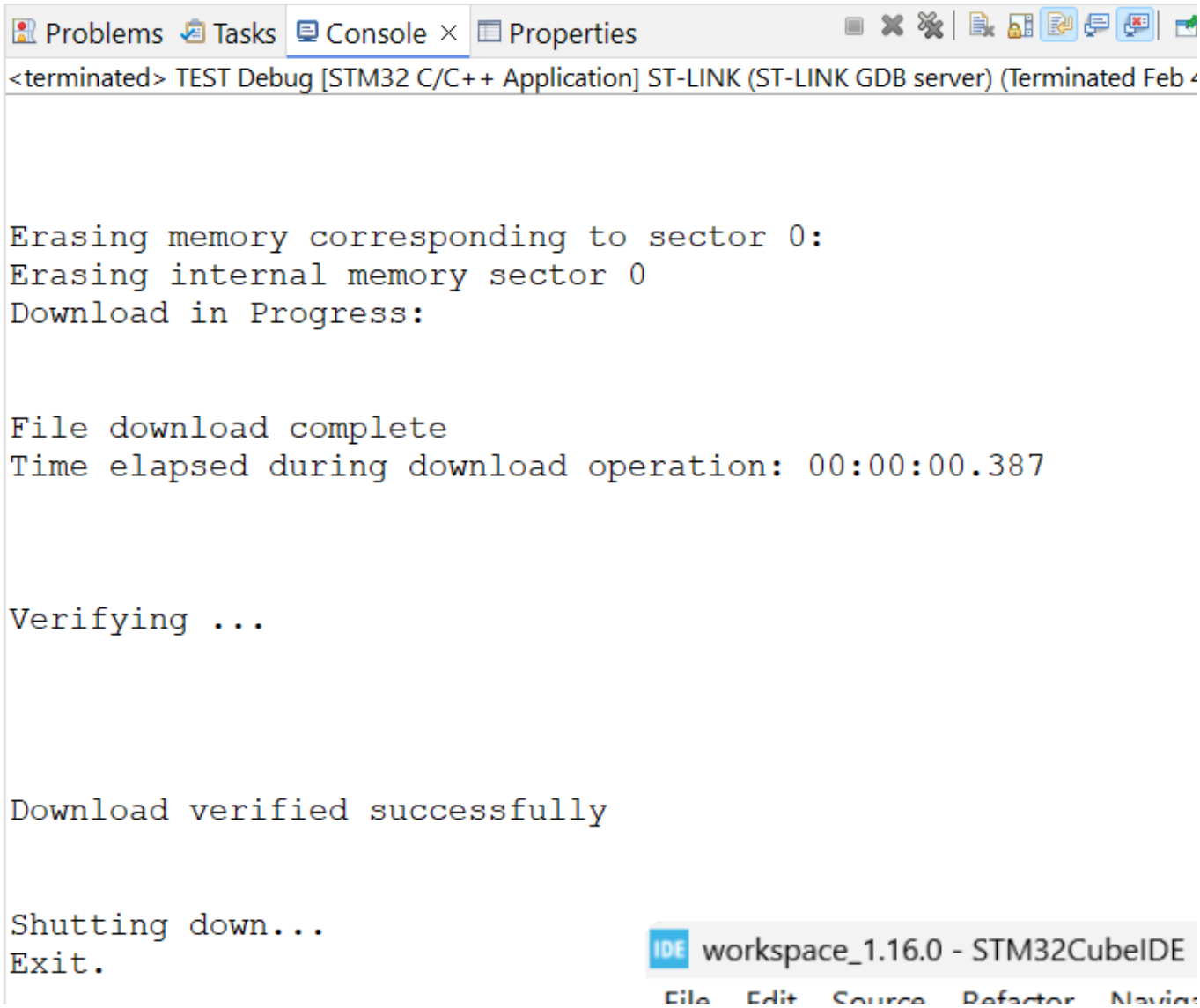
`I found this error after following this instruction: "Use a multimeter and test all of the connections for shorts or lack of connection. Remember to touch the pins/pads/whatever really gently, because if you press the probe hard, you may "fix" the connection temporarily (for example you push the pin of IC to the trace on PCB and the test is OK, but as soon as you let go the pin bends up again)."`

some pins of the microcontroller are very shaky, upon applying some pressure sideways than the other, maybe they are not soldered properly

20260204-145733-324.wmv

7:33 p.m.
programmed succesfully, turns out the SWCLK pin was hovering over the pad and not actually soldered- as you can see in the above video, fixed that by soldering each of the pin

still left to check and solder rest of the shaking pins

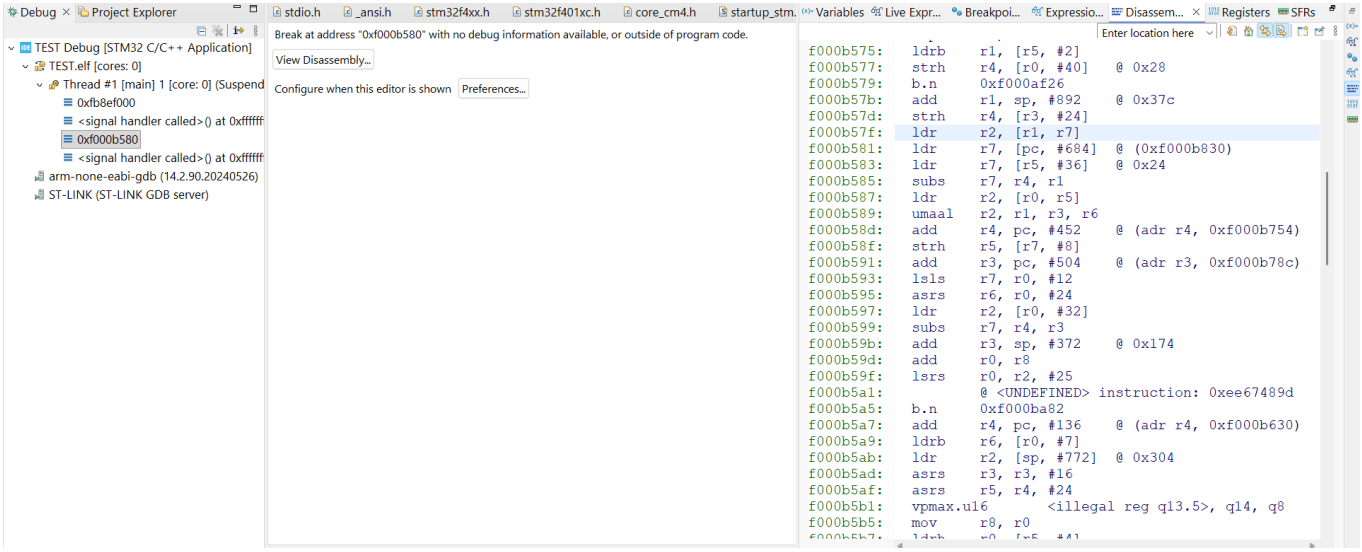


task:

1. Solder MPU6050 and clock crystal
2. Get output from MPU6050, take files from MPU6050 library, implement the changed code, apply whatever filter required, to stabilize the output- get quick working model, if possible use visual python or see the output in a form of a graph
3. Test the IR led circuit

05/02/2026

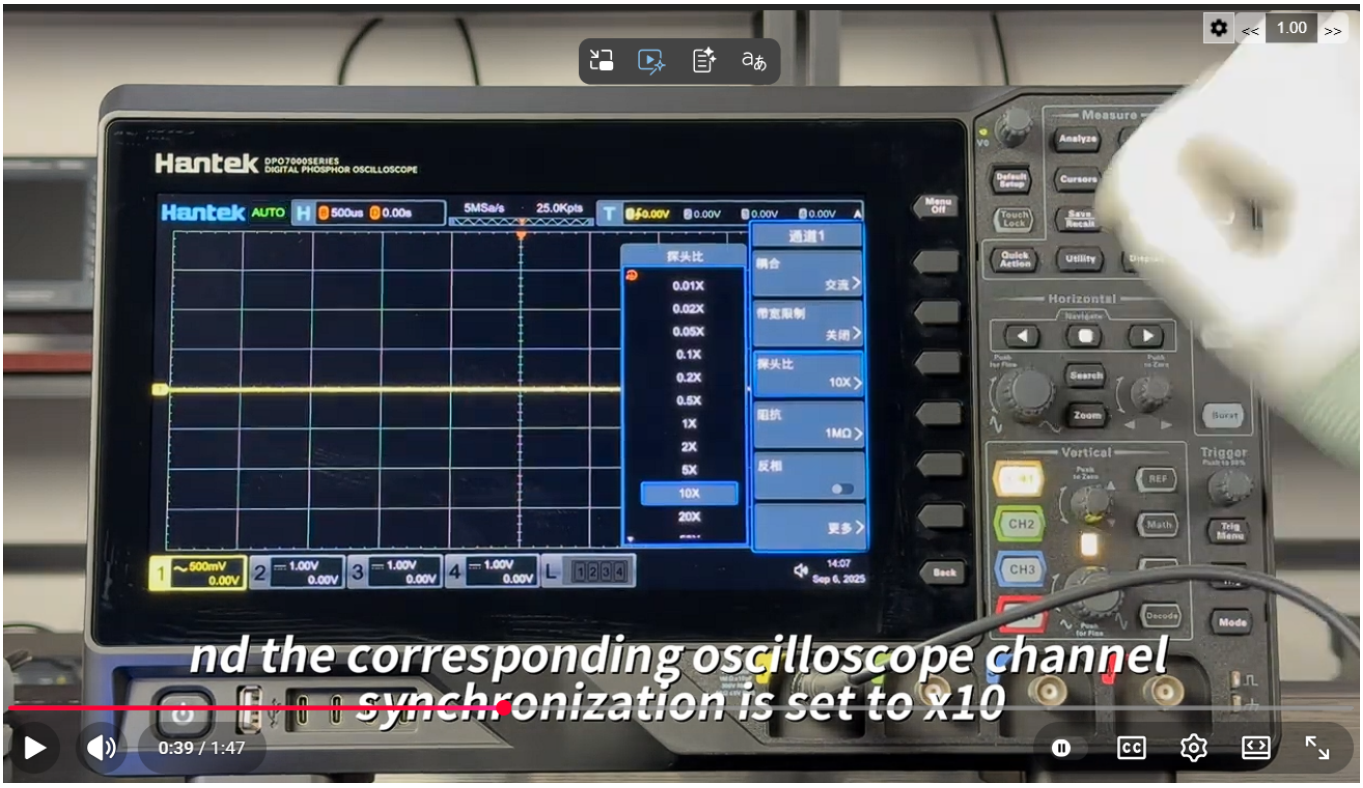
1:40 p.m. upon soldering the HSE cermaic oscillator and configruign RCC to hig speed external, we are getting an error



yet to test the output with AD2 scope, because we should use a low capacitance probe preferably scope with 10x impedance to measure the signal

measuring the output of oscillator

the attenuation of the measuring probe must be set to 10x to reduce attenuation and reduce load effects, also the ground probe of the measuring probe must be as short as possible. The bandwidth of the oscilloscope must be 5 times the measuring device



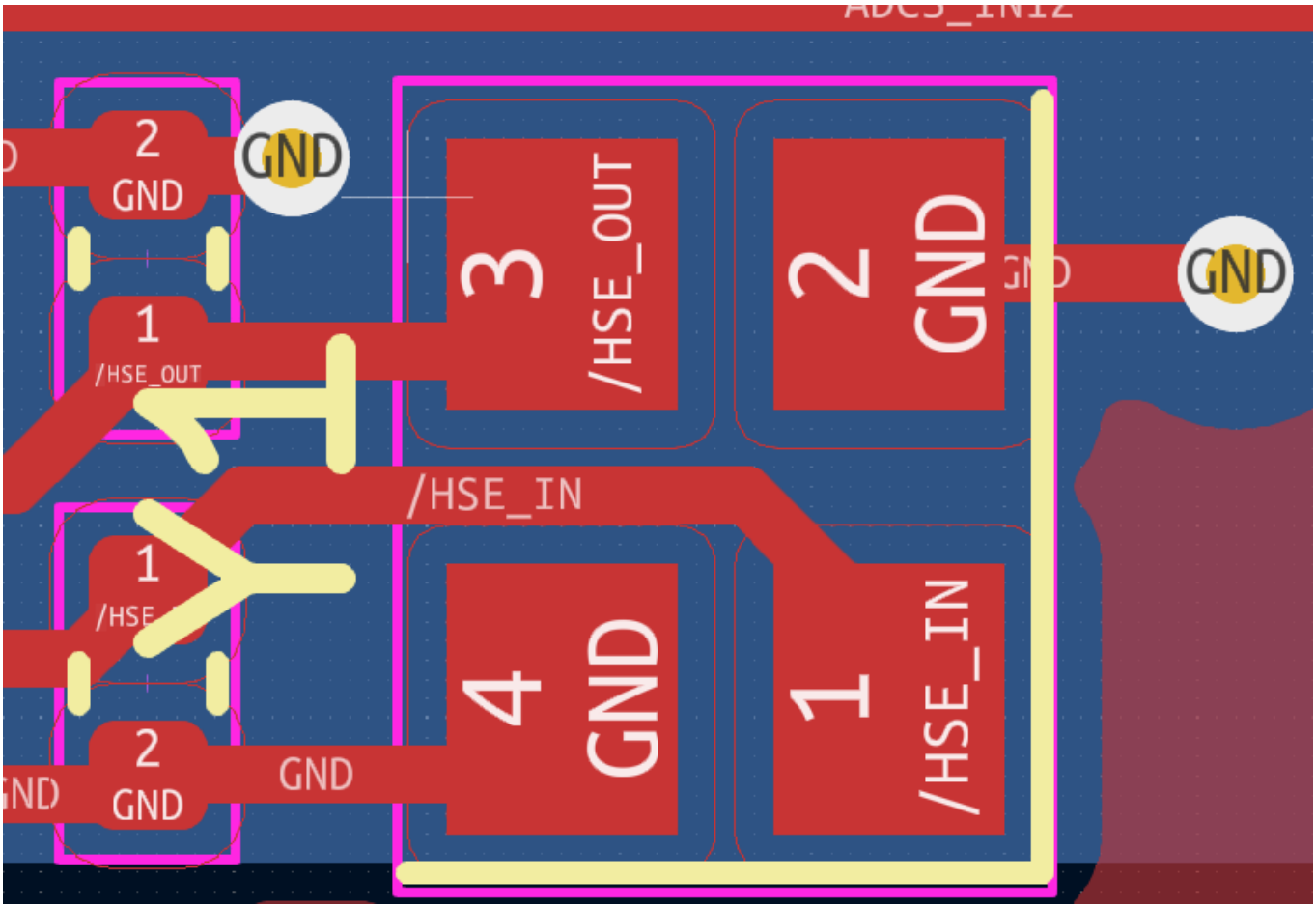
4:12 am- tried measuring the output of the oscillator using AD2, it was not that good, one probe at the ground leg and the other probe at the HSE_OUT, was getting some random waveform

Not sure if the way I measured was right,

[How To Test A Crystal Oscillator Using An AWG and a 'Scope]

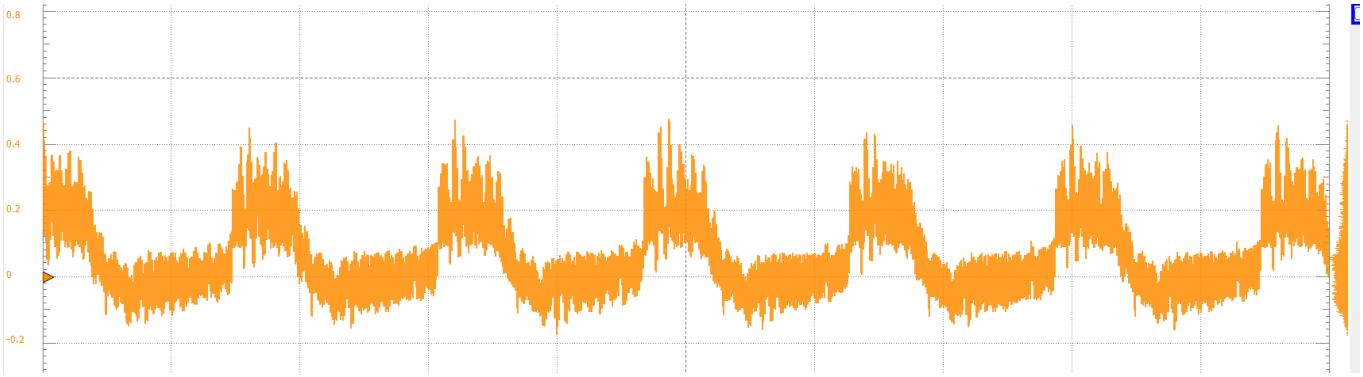
The above video uses a wavegenerator and the scope , ties the ground of the wavegen and the scope, connects the wavegen to one leg of the crystal oscillator and the other to the oscilloscope, basically sending a sine wave through the crystal and measuring the response at the "output"

4:16 a.m. , going to send the sinewave at the HSE_Input and see the output, oscilloscope ground and the negative terminal of AD2 are both connected together,
I will not connect the ground of the crystal oscillator and the

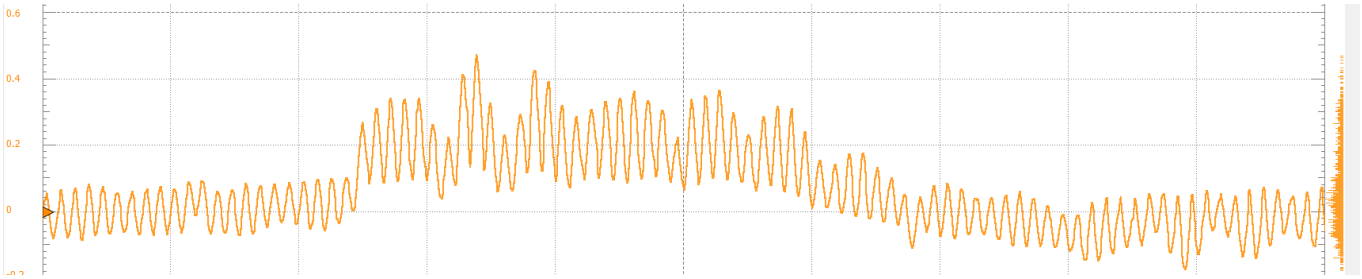


Upon giving a 5Khz sinewave at HSE IN

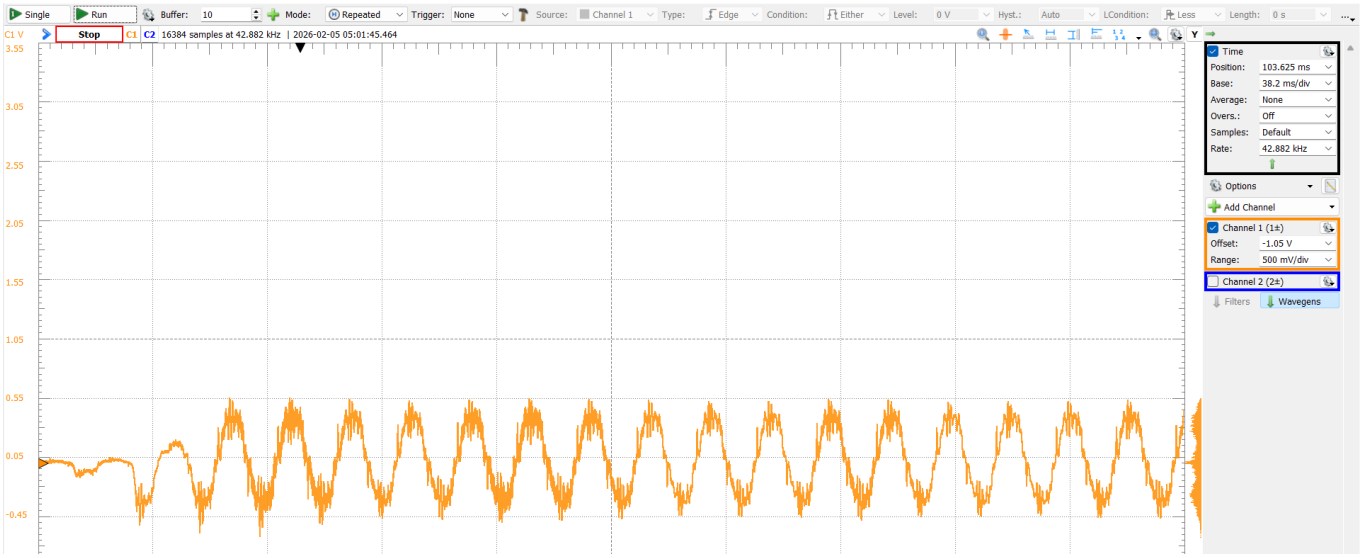
the reponse is



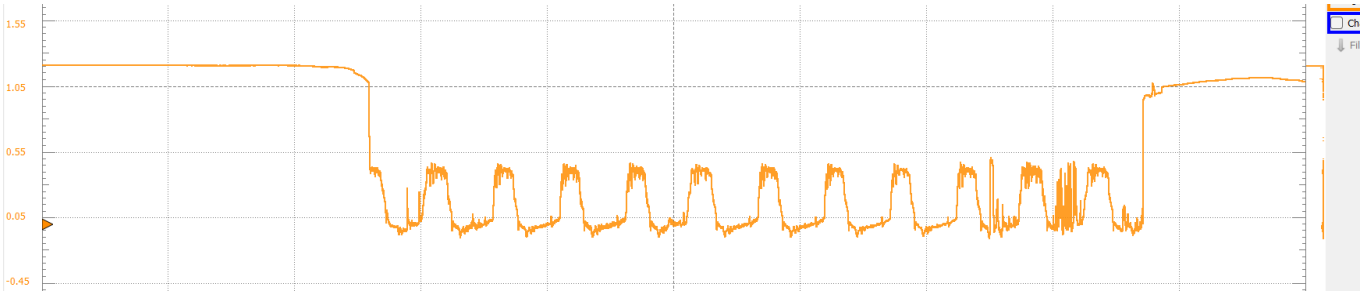
"zoomed in version"



Increasing the input to 2Mhz sinewave at HSE IN



Increasing the input to 9Mhz



5:12 a.m. -There maybe is not a problem with how I have soldred the HSE since we are getting good-ish responses, so gotta figure out what else is the problem

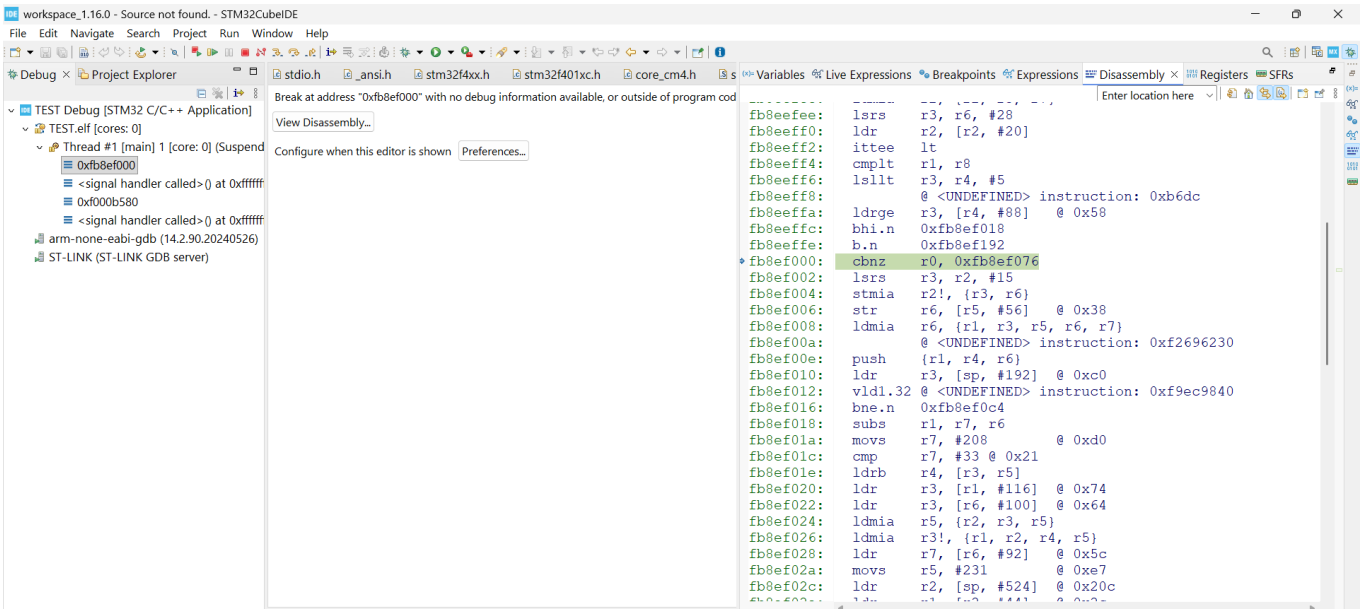
12:17 p.m. -
MPU6050 not responding, address itself not getting detected, yet to check the I2C trace
Few possible problems

1. MPU6050 may not be soldered properly, alignemnt wrong
2. MPU6050 IC may have got screwed, because of applying 370 deg hot air
3. VLOGIC, VDD across the MPU6050 is 3.18V
4. something wrong in the code itself

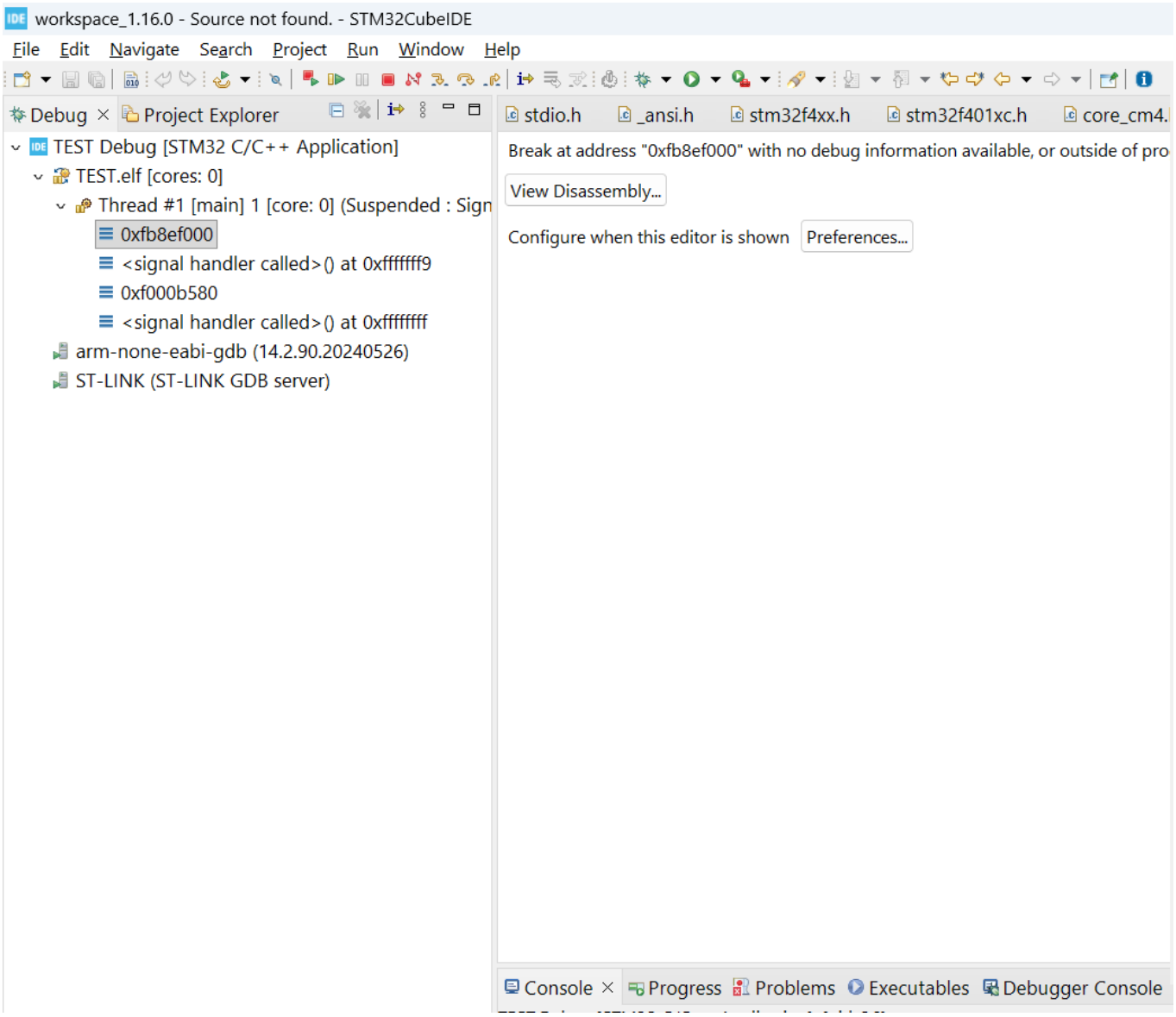
06/12/2026

2:13 a.m. - after soldering the MPU6050, VCC and ground are both connected , continuity check was beeping
after desolsering and resoldering continuity check between VCC and ground multimeter did not give sound, as it should be

3:19 a.m.



10:59 a.m. - Similar error - searched google- got this link- [Debug randomly causes "Signal Thread #1 (Suspende... - STMicroelectronics Community]



Accd to the link, vectactive = 3

subtract 16, you get -13

```
 * @brief STM32H7XX Interrupt Number Definition, according to the selected
device
 *        in @ref Library_configuration_section
 */
typedef enum
{
/******  Cortex-M Processor Exceptions Numbers
***********************************************************************/
  NonMaskableInt_IRQn         = -14,    /*!< 2 Non Maskable Interrupt
*/
  HardFault_IRQn              = -13,    /*!< 4 Cortex-M Memory Management
Interrupt                               */
  MemoryManagement_IRQn       = -12,    /*!< 4 Cortex-M Memory Management
Interrupt                               */
```

```
  BusFault_IRQn               = -11,    /*!< 5 Cortex-M Bus Fault Interrupt
*/
  UsageFault_IRQn             = -10,    /*!< 6 Cortex-M Usage Fault Interrupt
*/
  SVCall_IRQn                 = -5,     /*!< 11 Cortex-M SV Call Interrupt
*/
  DebugMonitor_IRQn           = -4,     /*!< 12 Cortex-M Debug Monitor
Interrupt                               */
  PendSV_IRQn                 = -2,     /*!< 14 Cortex-M Pend SV Interrupt
*/
  SysTick_IRQn                = -1,     /*!< 15 Cortex-M System Tick Interrupt
*/
/******  STM32 specific Interrupt Numbers
******************************************************************************/
  WWDG_IRQn                   = 0,      /*!< Window WatchDog Interrupt (
wwdg1_it, wwdg2_it)                    */
  PVD_AVD_IRQn                = 1,      /*!< PVD/AVD through EXTI Line
detection Interrupt                     */
  TAMP_STAMP_IRQn             = 2,      /*!< Tamper and TimeStamp interrupts
through the EXTI line             */
  RTC_WKUP_IRQn               = 3,      /*!< RTC Wakeup interrupt through the
EXTI line                          */



  -13 corresponds to HardFault_IRQn, so the processor is in the hard fault
interrupt.

Because the processor is going to 0x1fffecec for this interrupt and not to
somewhere in your program, it suggests your vector table is missing or
corrupted or something else.
```

12/02/2026

1:09 p.m.
same error as the previous screenshot, when trying to debug the program
changed the main.c code

```
  /* Initialize all configured peripherals */
  MX_GPIO_Init();
  MX_I2C3_Init();
  /* USER CODE BEGIN 2 */
  HAL_StatusTypeDef ret= HAL_I2C_IsDeviceReady(&hi2c3, 0b1101000<<1 + 0, 1,
1000);
  if(ret == HAL_OK){
```

```
        flag==1;
    }
    else{
        flag==0;
    }

    /* USER CODE END 2 */

    /* Infinite loop */
    /* USER CODE BEGIN WHILE */
    while (1)
    {
      /* USER CODE END WHILE */

      /* USER CODE BEGIN 3 */

    }
    /* USER CODE END 3 */
}
```

What could be the possible reason for a hardfaullt interrupt?
because somewhere in the code it is trying to jump to an invalid address
Source: Debug randomly causes "Signal Thread #1 (Suspende... - STMicroelectronics Community

Some issue related to vector table getting corrupted and apparently it happened in stm32f407 mCU for someone

Solved: Corrupted Flash in Vector Table area - sector 0 - STMicroelectronics Community

```
I had immiedeately went to the above link because someone said that since your
code is jumping to invalid memory location, it suggests that the vector table
is missing or corrupted or something else
```

OP who posted the question/issue regarding corrupted bytes in the flash memory, also answered the question- they said `setting the BOR(brownout reset) level to 3 fixed the issue`
They also said its a issue specific to STM32F407, at least for them

The Flash memory can be corrupted in Sector 0 (default vector table) when the BOR level is
off, and reset of MCU become at low voltage. To solve the issue, BOR level should set at level 3

Someone else answered-

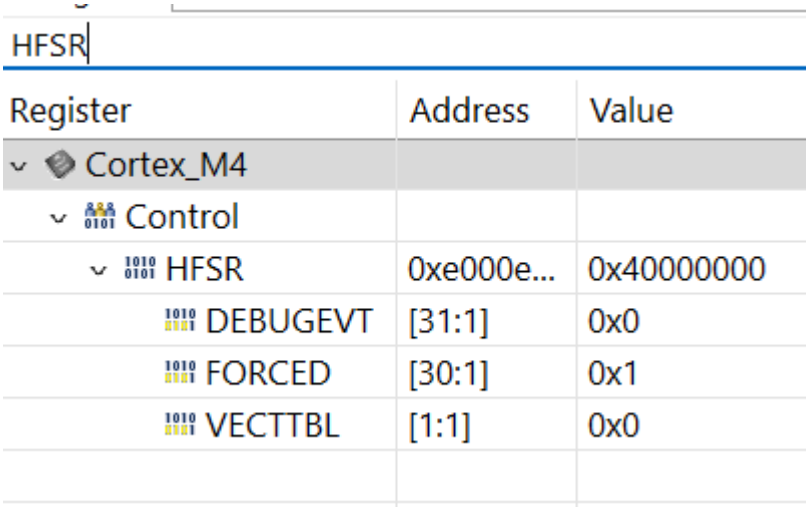
```
Writing blocks of zeros, whilst leaving original content elsewhere is very
odd.

The write functions as a write-once, so unlike more classic FLASH chips you
can't keep knocking down ONE bits.

Double check your VCAP capacitors.

Remove your flashing code and see if you can replicate.
```

How does VCAP capacitors make any difference?

Ways of resolving

1. Check Boot0 pin
2. write something in the hardfault, such that we are able to see what caused the error
3. Seeing from the very beginning like, just after the boot mode what happens setting a breakpoint in the HAL_Init function
4. Could be an error inconfiguring of ioc file

13/02/2026- 3:06 A.M.
this is a hardfault error
upon checking the HFSR register



CFSR REGISTER-

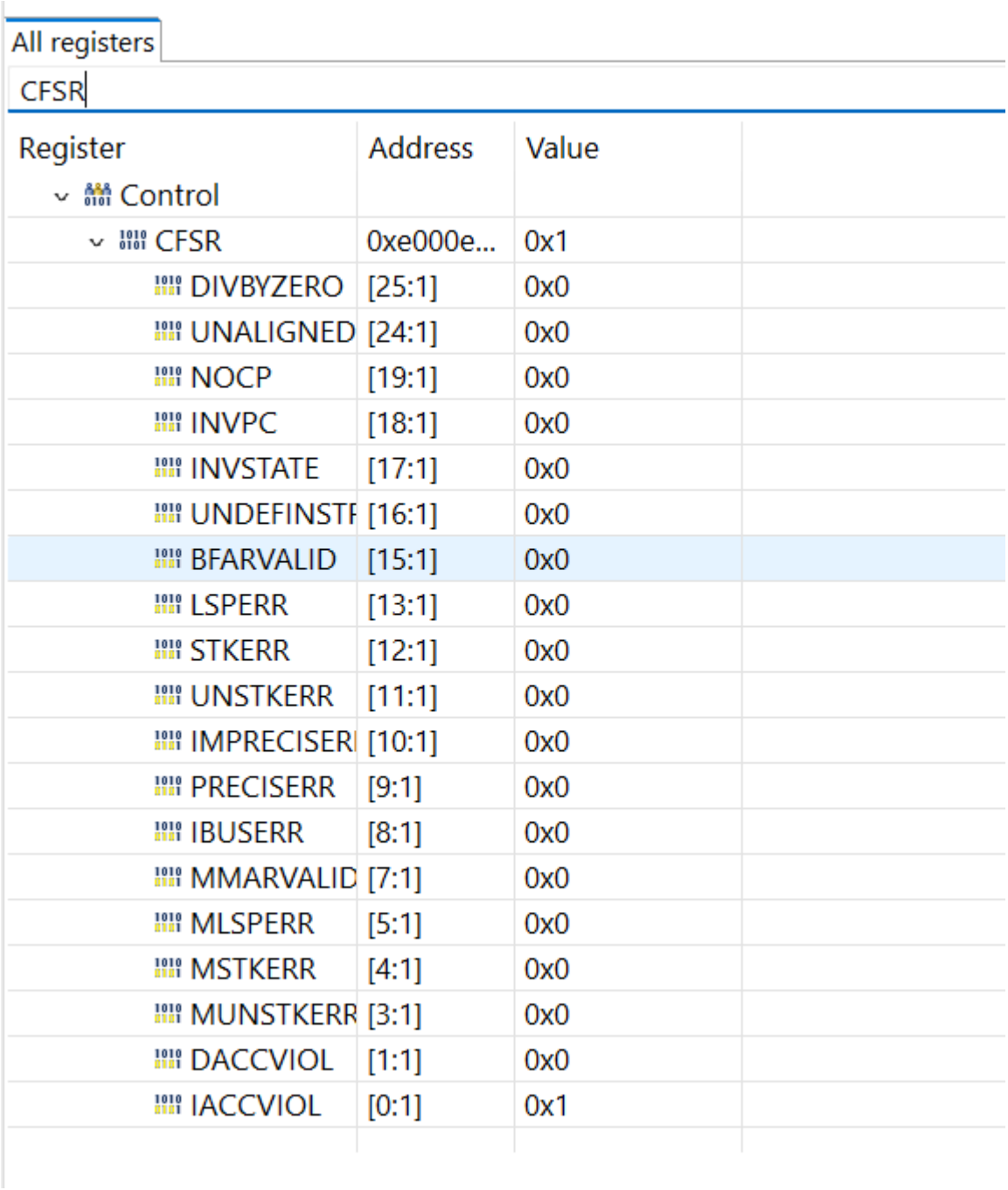


Table 7.9 Memory Management Fault Status Register (0xE000ED28)

Bits	Name	Type	Reset Value	Description
7	MMARVALID	—	0	Indicates the MMAR is valid
6:5	—	—	—	—
4	MSTKERR	R/Wc	0	Stacking error
3	MUNSTKERR	R/Wc	0	Unstacking error
2	—	—	—	—
1	DACCVIOL	R/Wc	0	Data access violation
0	IACCVIOL	R/Wc	0	Instruction access violation

the forced bit is set

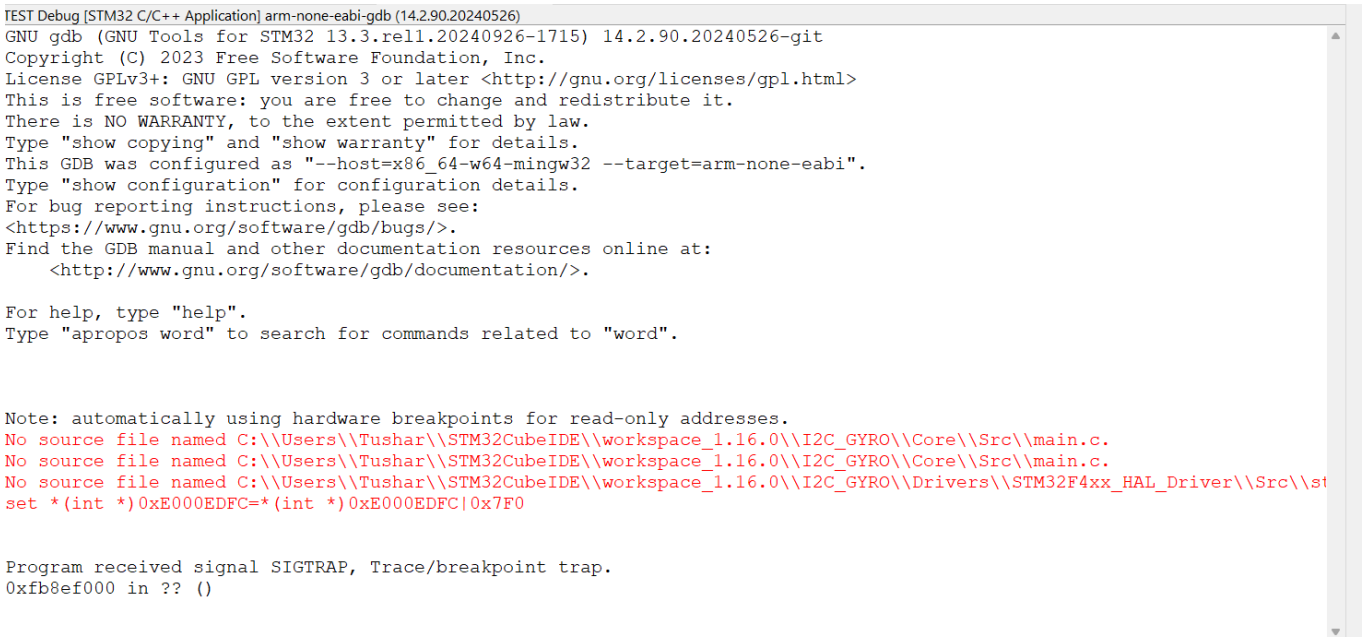
which indicates "The hard fault handler can be caused by usage faults, bus faults, and memory management faults if their handler cannot be executed"

So it has to be either one of the three faults, because a hardfault is triggered when the handler for each of them is not there or not enabled

since in teh CFSR register only IACCVIOL bit is set which is of memory management fault type, we conclude it is a memory management fault

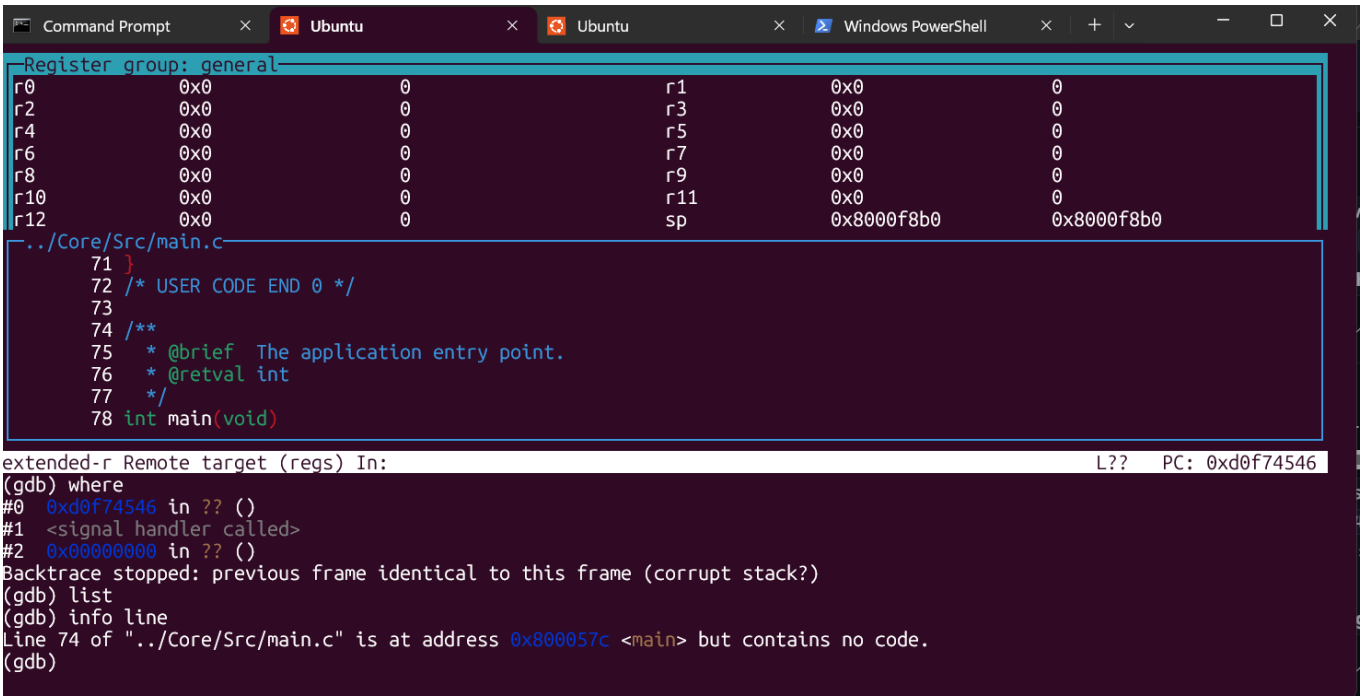
[How to debug a HardFault on an ARM Cortex-M MCU | Interrupt]

5:19 a.m.



signal handler called at 0xffffffe

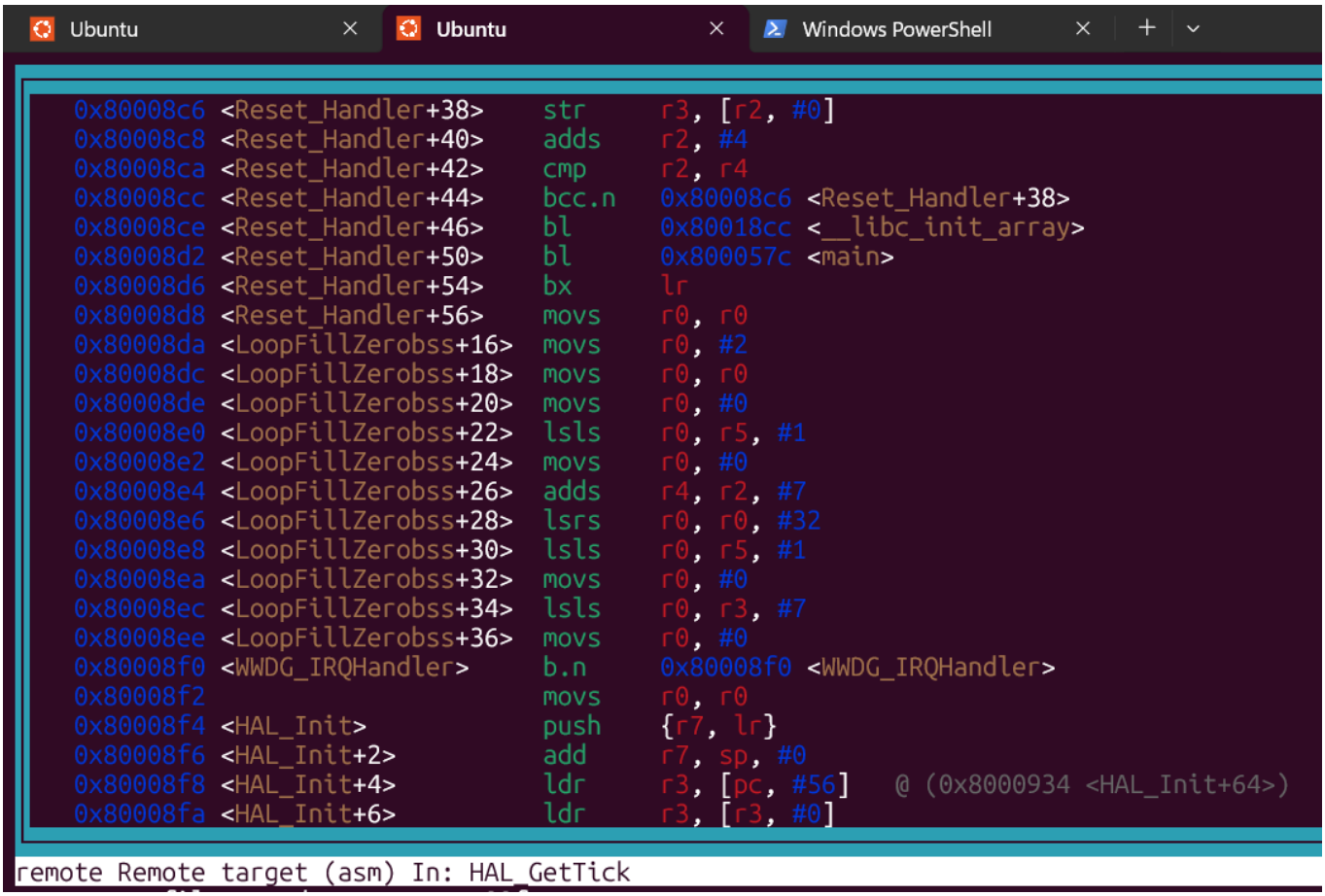
16/02/2026

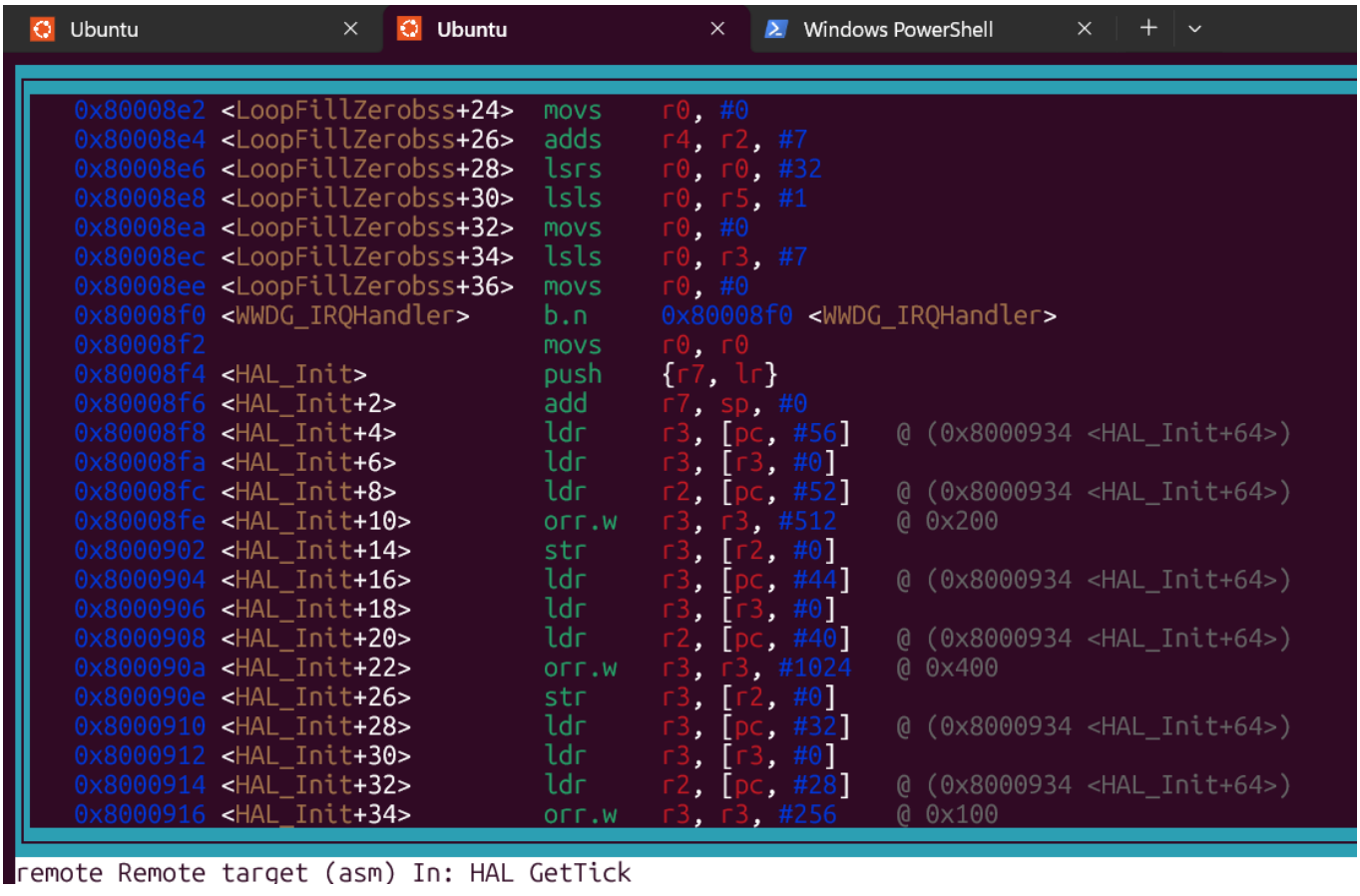


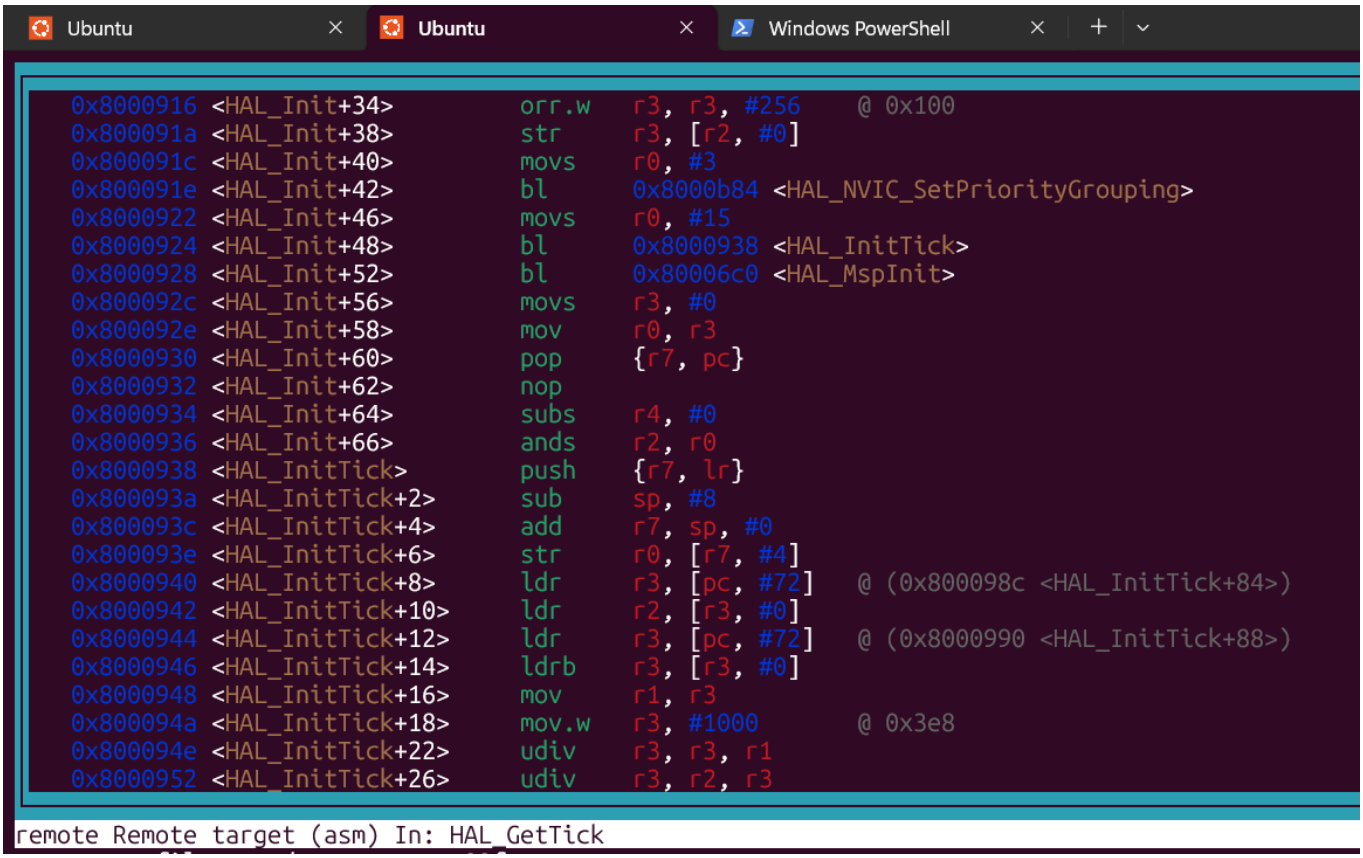
5:49 p.m.

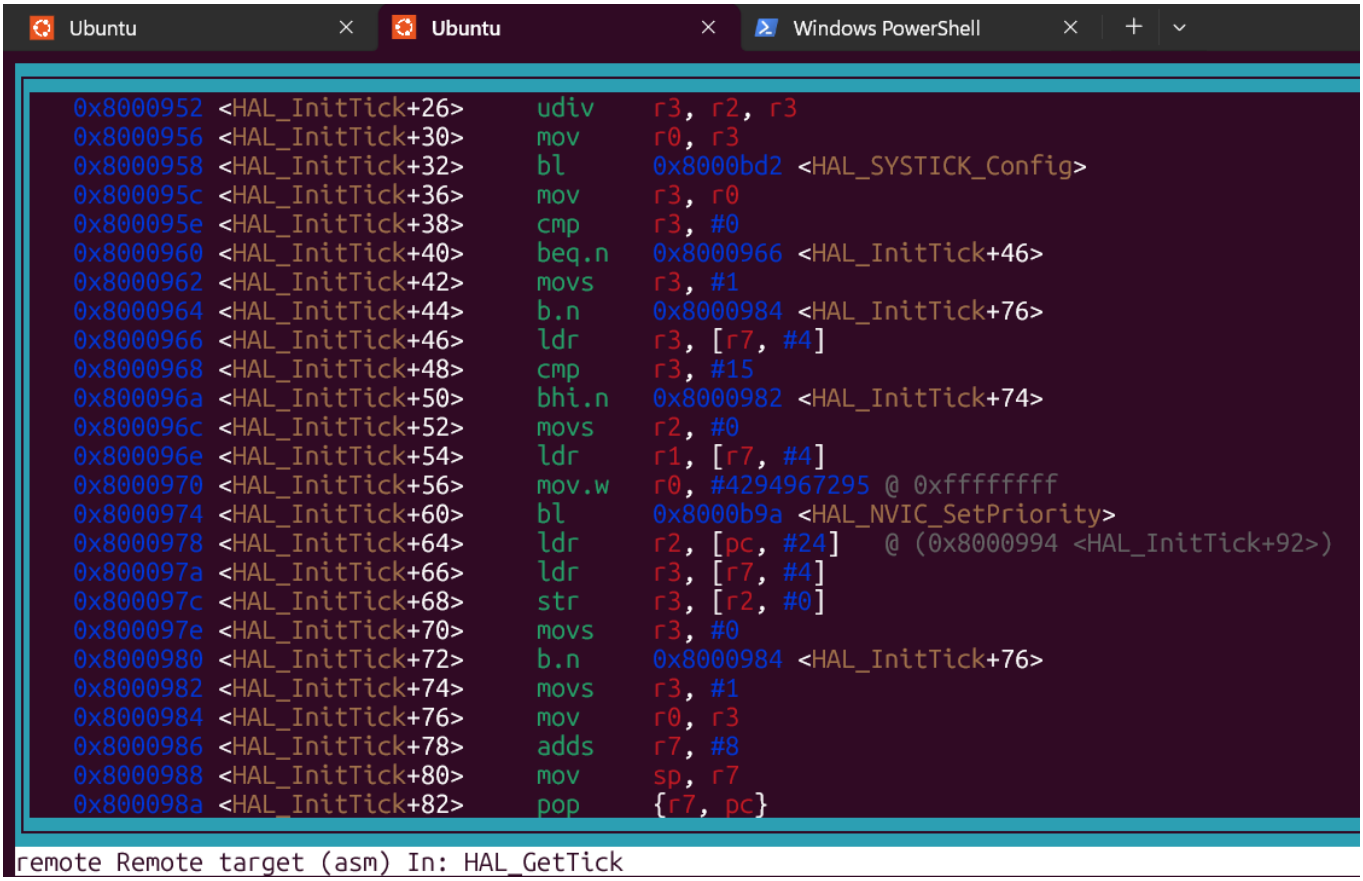
The order in which we get the interrupt

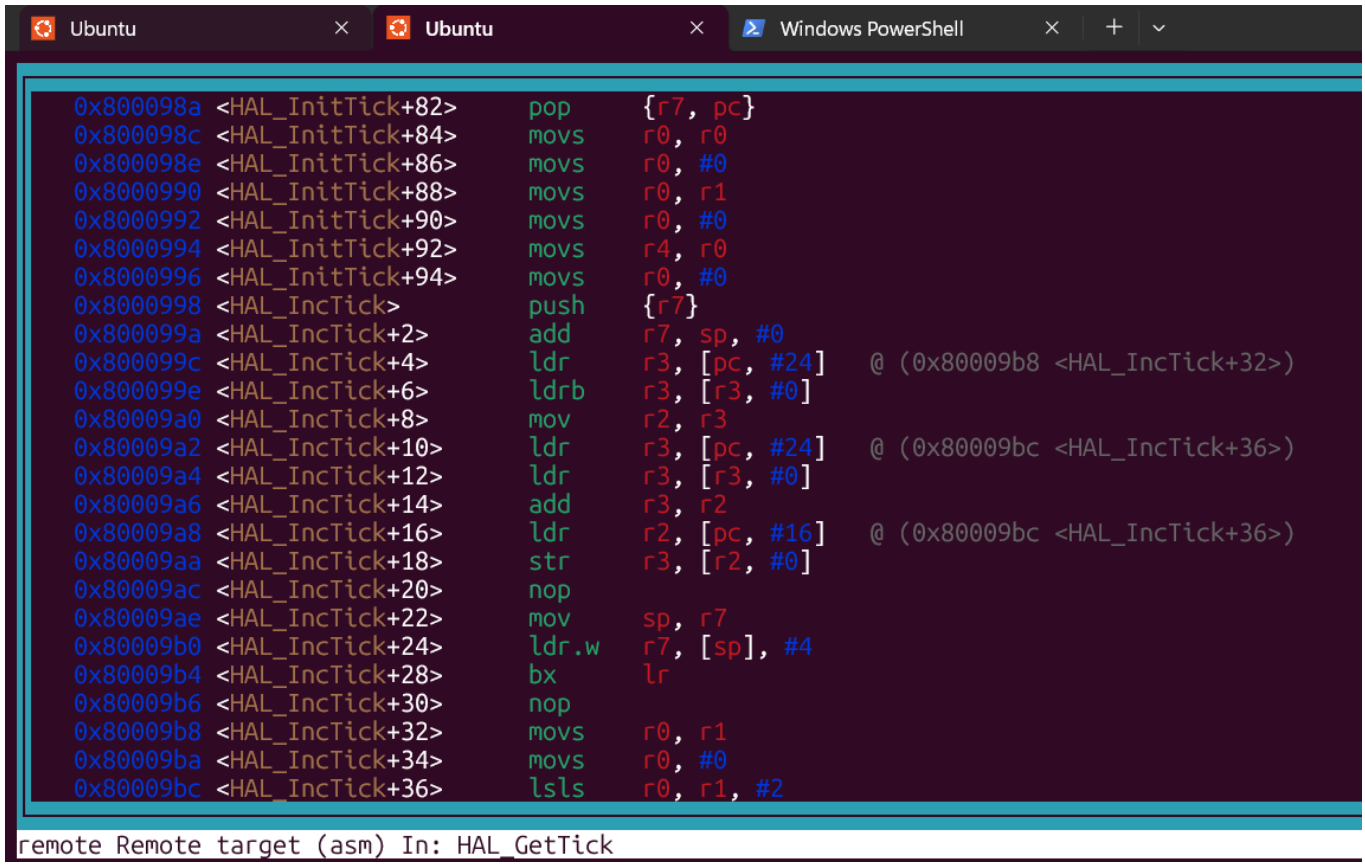
the order in which program is executed in the flash memory g_pfnVectors -> udivmoddi4+48 -> ITM_SendChar -> `_write` * -> main -> SystemClockConfig -> GPIOInit -> Error handler -> MSPInit -> ..bunch of other gfunctions -> SystemInit -> reset handler

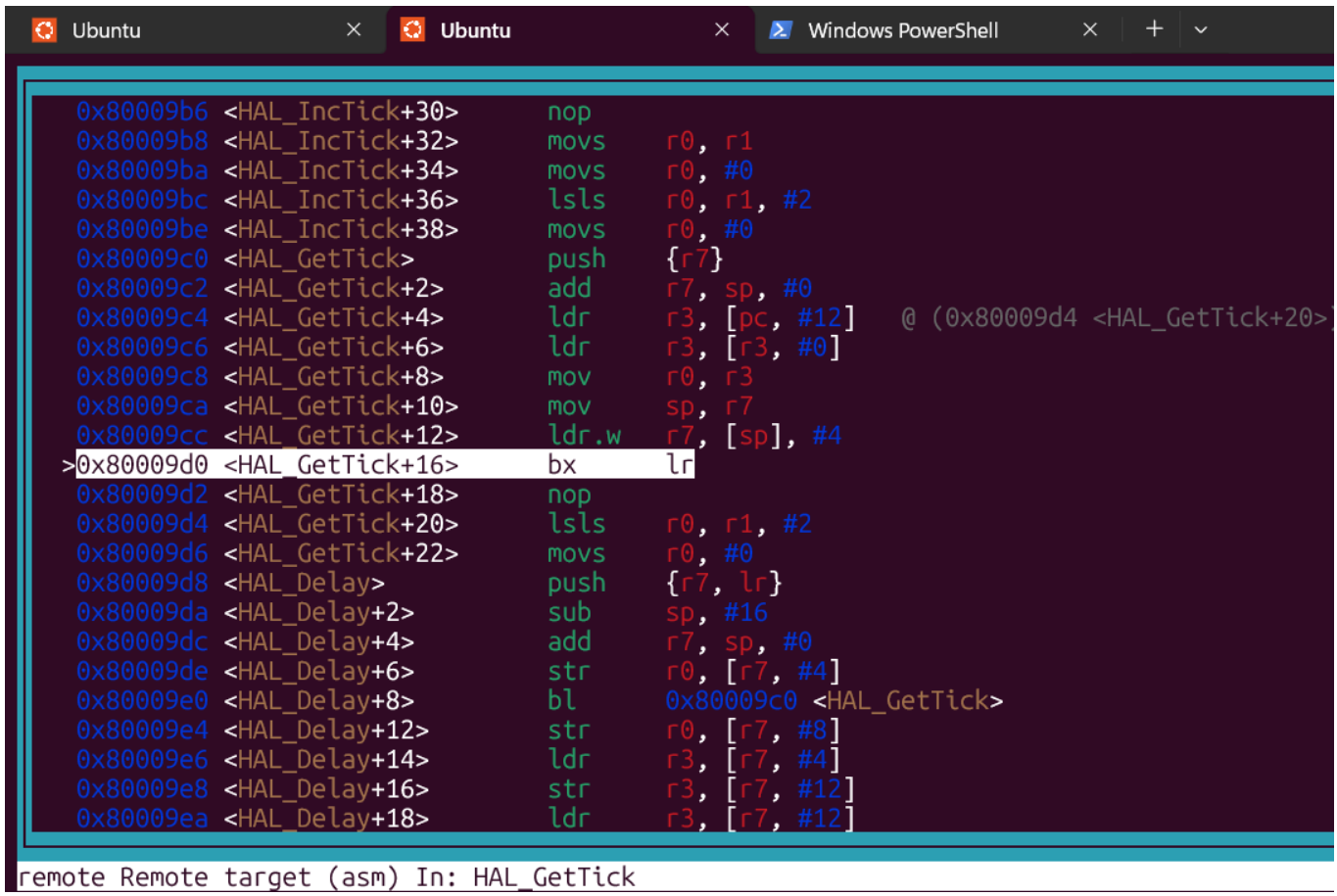

Ubuntu
Ubuntu
Windows PowerShell
0x80008c6 <Reset_Handler+38> str r3, [r2, #0]
0x80008c8 <Reset_Handler+40> adds r2, #4
0x80008ca <Reset_Handler+42> cmp r2, r4
0x80008cc <Reset_Handler+44> bcc.n 0x80008c6 <Reset_Handler+38>
0x80008ce <Reset_Handler+46> bl 0x80018cc <__libc_init_array>
0x80008d2 <Reset_Handler+50> bl 0x800057c <main>
0x80008d6 <Reset_Handler+54> bx lr
0x80008d8 <Reset_Handler+56> movs r0, r0
0x80008da <LoopFillZerobss+16> movs r0, #2
0x80008dc <LoopFillZerobss+18> movs r0, r0
0x80008de <LoopFillZerobss+20> movs r0, #0
0x80008e0 <LoopFillZerobss+22> lsls r0, r5, #1
0x80008e2 <LoopFillZerobss+24> movs r0, #0
0x80008e4 <LoopFillZerobss+26> adds r4, r2, #7
0x80008e6 <LoopFillZerobss+28> lsrs r0, r0, #32
0x80008e8 <LoopFillZerobss+30> lsls r0, r5, #1
0x80008ea <LoopFillZerobss+32> movs r0, #0
0x80008ec <LoopFillZerobss+34> lsls r0, r3, #7
0x80008ee <LoopFillZerobss+36> movs r0, #0
0x80008f0 <WWDG_IRQHandler> b.n 0x80008f0 <WWDG_IRQHandler>
0x80008f2 movs r0, r0
0x80008f4 <HAL_Init> push {r7, lr}
0x80008f6 <HAL_Init+2> add r7, sp, #0
0x80008f8 <HAL_Init+4> ldr r3, [pc, #56] @ (0x8000934 <HAL_Init+64>)
0x80008fa <HAL_Init+6> ldr r3, [r3, #0]
remote Remote target (asm) In: HAL_GetTick

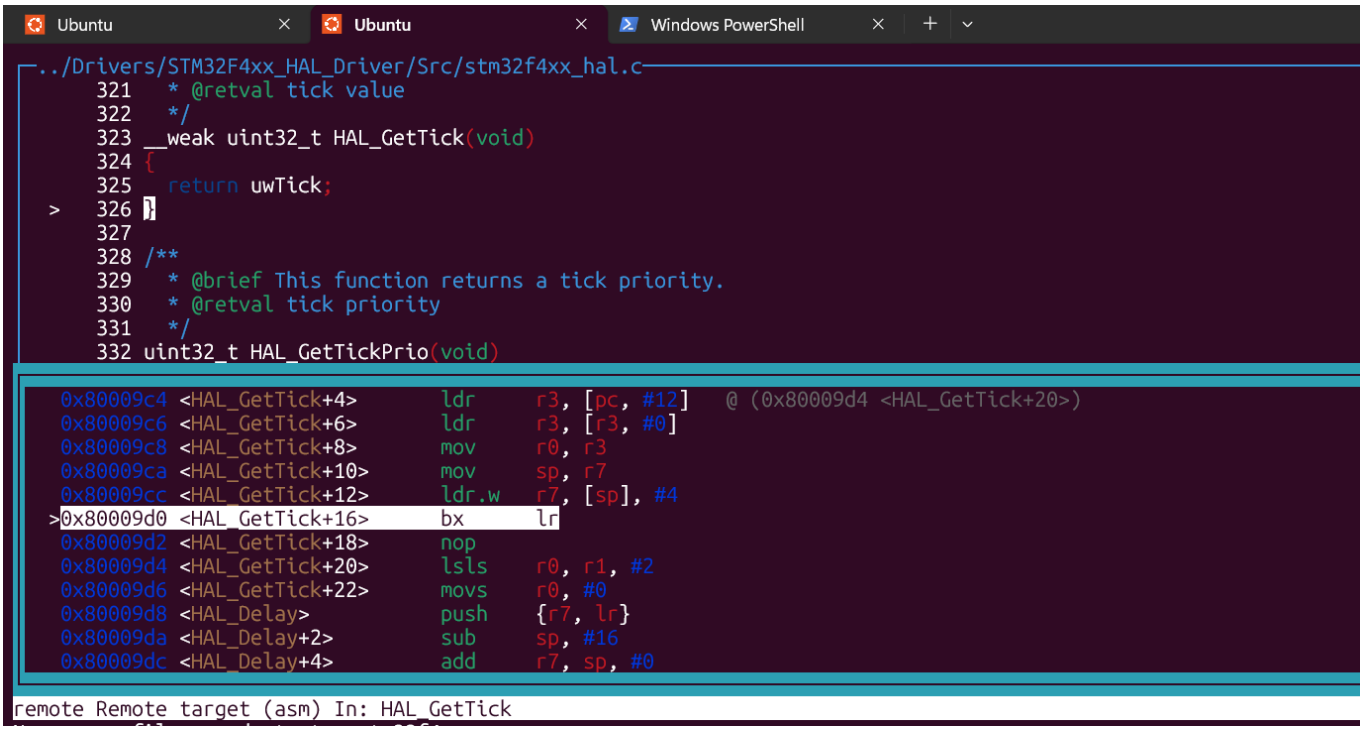

Ubuntu
Ubuntu
Windows PowerShell
0x80008e2 <LoopFillZerobss+24> movs r0, #0
0x80008e4 <LoopFillZerobss+26> adds r4, r2, #7
0x80008e6 <LoopFillZerobss+28> lsrs r0, r0, #32
0x80008e8 <LoopFillZerobss+30> lsls r0, r5, #1
0x80008ea <LoopFillZerobss+32> movs r0, #0
0x80008ec <LoopFillZerobss+34> lsls r0, r3, #7
0x80008ee <LoopFillZerobss+36> movs r0, #0
0x80008f0 <WWDG_IRQHandler> b.n 0x80008f0 <WWDG_IRQHandler>
0x80008f2 movs r0, r0
0x80008f4 <HAL_Init> push {r7, lr}
0x80008f6 <HAL_Init+2> add r7, sp, #0
0x80008f8 <HAL_Init+4> ldr r3, [pc, #56] @ (0x8000934 <HAL_Init+64>)
0x80008fa <HAL_Init+6> ldr r3, [r3, #0]
0x80008fc <HAL_Init+8> ldr r2, [pc, #52] @ (0x8000934 <HAL_Init+64>)
0x80008fe <HAL_Init+10> orr.w r3, r3, #512 @ 0x200
0x8000902 <HAL_Init+14> str r3, [r2, #0]
0x8000904 <HAL_Init+16> ldr r3, [pc, #44] @ (0x8000934 <HAL_Init+64>)
0x8000906 <HAL_Init+18> ldr r3, [r3, #0]
0x8000908 <HAL_Init+20> ldr r2, [pc, #40] @ (0x8000934 <HAL_Init+64>)
0x800090a <HAL_Init+22> orr.w r3, r3, #1024 @ 0x400
0x800090e <HAL_Init+26> str r3, [r2, #0]
0x8000910 <HAL_Init+28> ldr r3, [pc, #32] @ (0x8000934 <HAL_Init+64>)
0x8000912 <HAL_Init+30> ldr r3, [r3, #0]
0x8000914 <HAL_Init+32> ldr r2, [pc, #28] @ (0x8000934 <HAL_Init+64>)
0x8000916 <HAL_Init+34> orr.w r3, r3, #256 @ 0x100
remote Remote target (asm) In: HAL_GetTick


Ubuntu
Ubuntu
Windows PowerShell
0x8000916 <HAL_Init+34> orr.w r3, r3, #256 @ 0x100
0x800091a <HAL_Init+38> str r3, [r2, #0]
0x800091c <HAL_Init+40> movs r0, #3
0x800091e <HAL_Init+42> bl 0x8000b84 <HAL_NVIC_SetPriorityGrouping>
0x8000922 <HAL_Init+46> movs r0, #15
0x8000924 <HAL_Init+48> bl 0x8000938 <HAL_InitTick>
0x8000928 <HAL_Init+52> bl 0x80006c0 <HAL_MspInit>
0x800092c <HAL_Init+56> movs r3, #0
0x800092e <HAL_Init+58> mov r0, r3
0x8000930 <HAL_Init+60> pop {r7, pc}
0x8000932 <HAL_Init+62> nop
0x8000934 <HAL_Init+64> subs r4, #0
0x8000936 <HAL_Init+66> ands r2, r0
0x8000938 <HAL_InitTick> push {r7, lr}
0x800093a <HAL_InitTick+2> sub sp, #8
0x800093c <HAL_InitTick+4> add r7, sp, #0
0x800093e <HAL_InitTick+6> str r0, [r7, #4]
0x8000940 <HAL_InitTick+8> ldr r3, [pc, #72] @ (0x800098c <HAL_InitTick+84>)
0x8000942 <HAL_InitTick+10> ldr r2, [r3, #0]
0x8000944 <HAL_InitTick+12> ldr r3, [pc, #72] @ (0x8000990 <HAL_InitTick+88>)
0x8000946 <HAL_InitTick+14> ldrb r3, [r3, #0]
0x8000948 <HAL_InitTick+16> mov r1, r3
0x800094a <HAL_InitTick+18> mov.w r3, #1000 @ 0x3e8
0x800094e <HAL_InitTick+22> udiv r3, r3, r1
0x8000952 <HAL_InitTick+26> udiv r3, r2, r3
remote Remote target (asm) In: HAL_GetTick

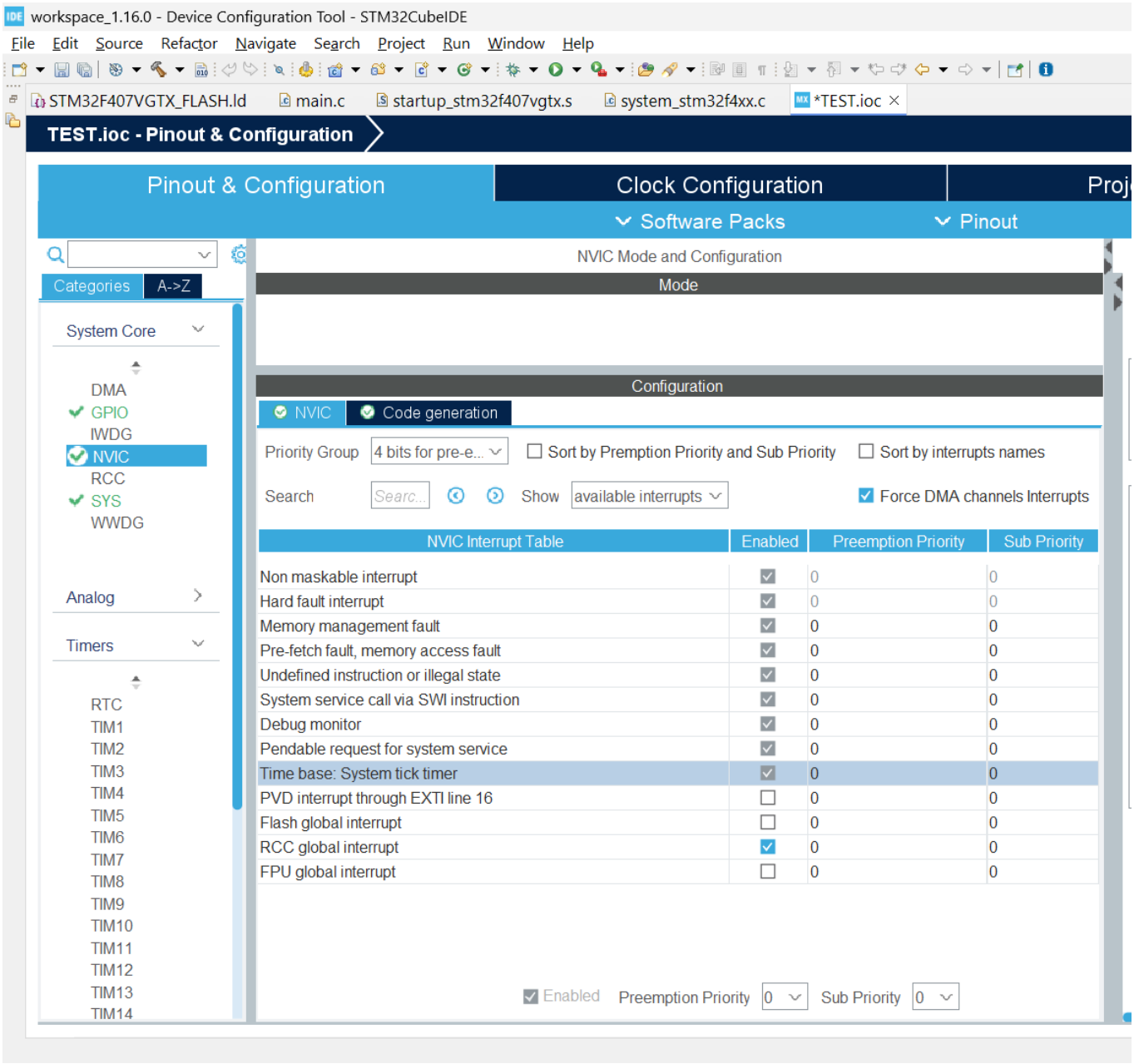

Ubuntu
Ubuntu
Windows PowerShell
0x8000952 <HAL_InitTick+26> udiv r3, r2, r3
0x8000956 <HAL_InitTick+30> mov r0, r3
0x8000958 <HAL_InitTick+32> bl 0x8000bd2 <HAL_SYSTICK_Config>
0x800095c <HAL_InitTick+36> mov r3, r0
0x800095e <HAL_InitTick+38> cmp r3, #0
0x8000960 <HAL_InitTick+40> beq.n 0x8000966 <HAL_InitTick+46>
0x8000962 <HAL_InitTick+42> movs r3, #1
0x8000964 <HAL_InitTick+44> b.n 0x8000984 <HAL_InitTick+76>
0x8000966 <HAL_InitTick+46> ldr r3, [r7, #4]
0x8000968 <HAL_InitTick+48> cmp r3, #15
0x800096a <HAL_InitTick+50> bhi.n 0x8000982 <HAL_InitTick+74>
0x800096c <HAL_InitTick+52> movs r2, #0
0x800096e <HAL_InitTick+54> ldr r1, [r7, #4]
0x8000970 <HAL_InitTick+56> mov.w r0, #4294967295 @ 0xffffffff
0x8000974 <HAL_InitTick+60> bl 0x8000b9a <HAL_NVIC_SetPriority>
0x8000978 <HAL_InitTick+64> ldr r2, [pc, #24] @ (0x8000994 <HAL_InitTick+92>)
0x800097a <HAL_InitTick+66> ldr r3, [r7, #4]
0x800097c <HAL_InitTick+68> str r3, [r2, #0]
0x800097e <HAL_InitTick+70> movs r3, #0
0x8000980 <HAL_InitTick+72> b.n 0x8000984 <HAL_InitTick+76>
0x8000982 <HAL_InitTick+74> movs r3, #1
0x8000984 <HAL_InitTick+76> mov r0, r3
0x8000986 <HAL_InitTick+78> adds r7, #8
0x8000988 <HAL_InitTick+80> mov sp, r7
0x800098a <HAL_InitTick+82> pop {r7, pc}
remote Remote target (asm) In: HAL_GetTick

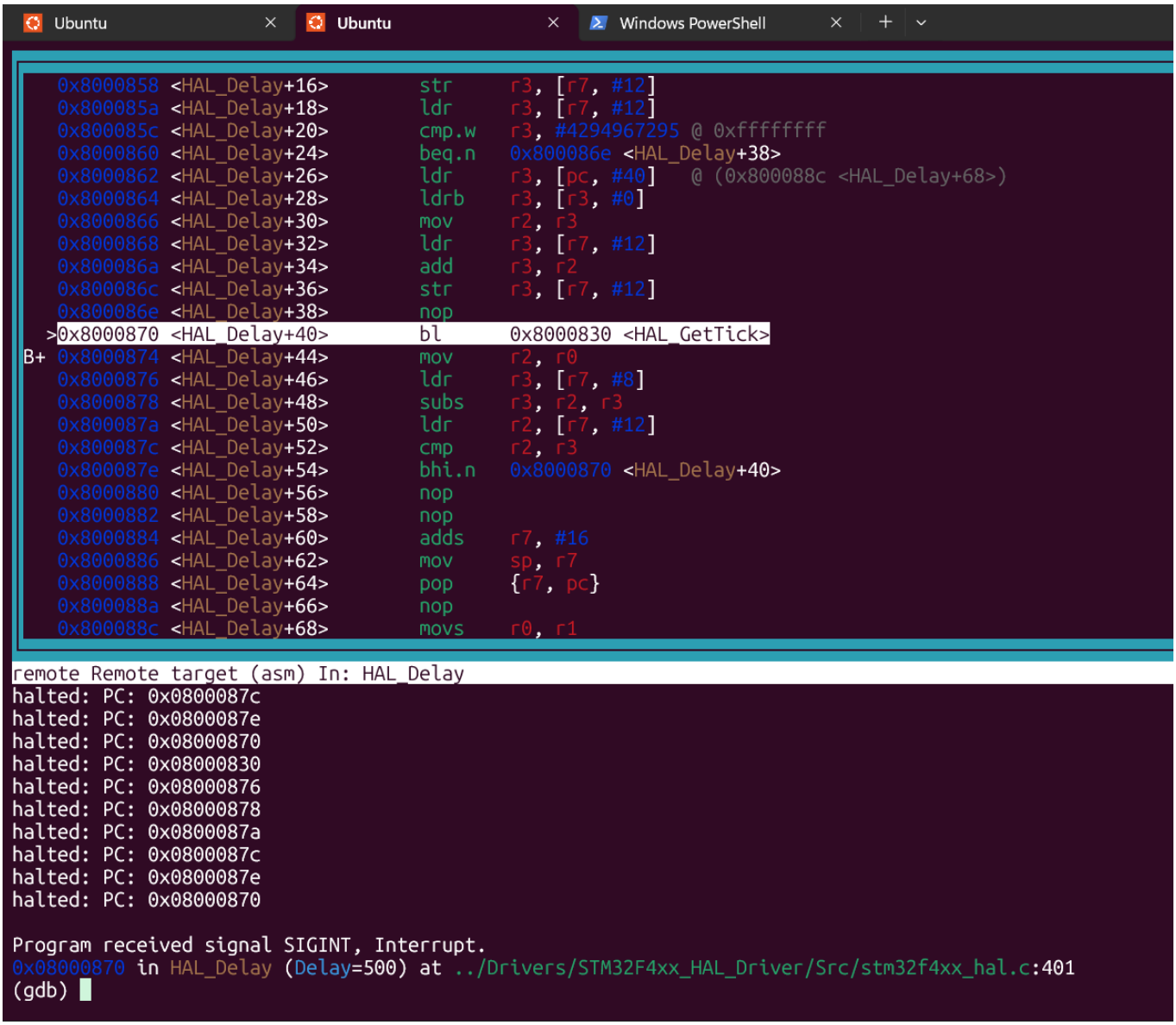

Ubuntu
Ubuntu
Windows PowerShell
0x800098a <HAL_InitTick+82> pop {r7, pc}
0x800098c <HAL_InitTick+84> movs r0, r0
0x800098e <HAL_InitTick+86> movs r0, #0
0x8000990 <HAL_InitTick+88> movs r0, r1
0x8000992 <HAL_InitTick+90> movs r0, #0
0x8000994 <HAL_InitTick+92> movs r4, r0
0x8000996 <HAL_InitTick+94> movs r0, #0
0x8000998 <HAL_IncTick> push {r7}
0x800099a <HAL_IncTick+2> add r7, sp, #0
0x800099c <HAL_IncTick+4> ldr r3, [pc, #24] @ (0x80009b8 <HAL_IncTick+32>)
0x800099e <HAL_IncTick+6> ldrb r3, [r3, #0]
0x80009a0 <HAL_IncTick+8> mov r2, r3
0x80009a2 <HAL_IncTick+10> ldr r3, [pc, #24] @ (0x80009bc <HAL_IncTick+36>)
0x80009a4 <HAL_IncTick+12> ldr r3, [r3, #0]
0x80009a6 <HAL_IncTick+14> add r3, r2
0x80009a8 <HAL_IncTick+16> ldr r2, [pc, #16] @ (0x80009bc <HAL_IncTick+36>)
0x80009aa <HAL_IncTick+18> str r3, [r2, #0]
0x80009ac <HAL_IncTick+20> nop
0x80009ae <HAL_IncTick+22> mov sp, r7
0x80009b0 <HAL_IncTick+24> ldr.w r7, [sp], #4
0x80009b4 <HAL_IncTick+28> bx lr
0x80009b6 <HAL_IncTick+30> nop
0x80009b8 <HAL_IncTick+32> movs r0, r1
0x80009ba <HAL_IncTick+34> movs r0, #0
0x80009bc <HAL_IncTick+36> lsls r0, r1, #2
remote Remote target (asm) In: HAL_GetTick


Ubuntu
Ubuntu
Windows PowerShell
0x80009b6 <HAL_IncTick+30> nop
0x80009b8 <HAL_IncTick+32> movs r0, r1
0x80009ba <HAL_IncTick+34> movs r0, #0
0x80009bc <HAL_IncTick+36> lsls r0, r1, #2
0x80009be <HAL_IncTick+38> movs r0, #0
0x80009c0 <HAL_GetTick> push {r7}
0x80009c2 <HAL_GetTick+2> add r7, sp, #0
0x80009c4 <HAL_GetTick+4> ldr r3, [pc, #12] @ (0x80009d4 <HAL_GetTick+20>)
0x80009c6 <HAL_GetTick+6> ldr r3, [r3, #0]
0x80009c8 <HAL_GetTick+8> mov r0, r3
0x80009ca <HAL_GetTick+10> mov sp, r7
0x80009cc <HAL_GetTick+12> ldr.w r7, [sp], #4
>0x80009d0 <HAL_GetTick+16> bx lr
0x80009d2 <HAL_GetTick+18> nop
0x80009d4 <HAL_GetTick+20> lsls r0, r1, #2
0x80009d6 <HAL_GetTick+22> movs r0, #0
0x80009d8 <HAL_Delay> push {r7, lr}
0x80009da <HAL_Delay+2> sub sp, #16
0x80009dc <HAL_Delay+4> add r7, sp, #0
0x80009de <HAL_Delay+6> str r0, [r7, #4]
0x80009e0 <HAL_Delay+8> bl 0x80009c0 <HAL_GetTick>
0x80009e4 <HAL_Delay+12> str r0, [r7, #8]
0x80009e6 <HAL_Delay+14> ldr r3, [r7, #4]
0x80009e8 <HAL_Delay+16> str r3, [r7, #12]
0x80009ea <HAL_Delay+18> ldr r3, [r7, #12]
remote Remote target (asm) In: HAL_GetTick

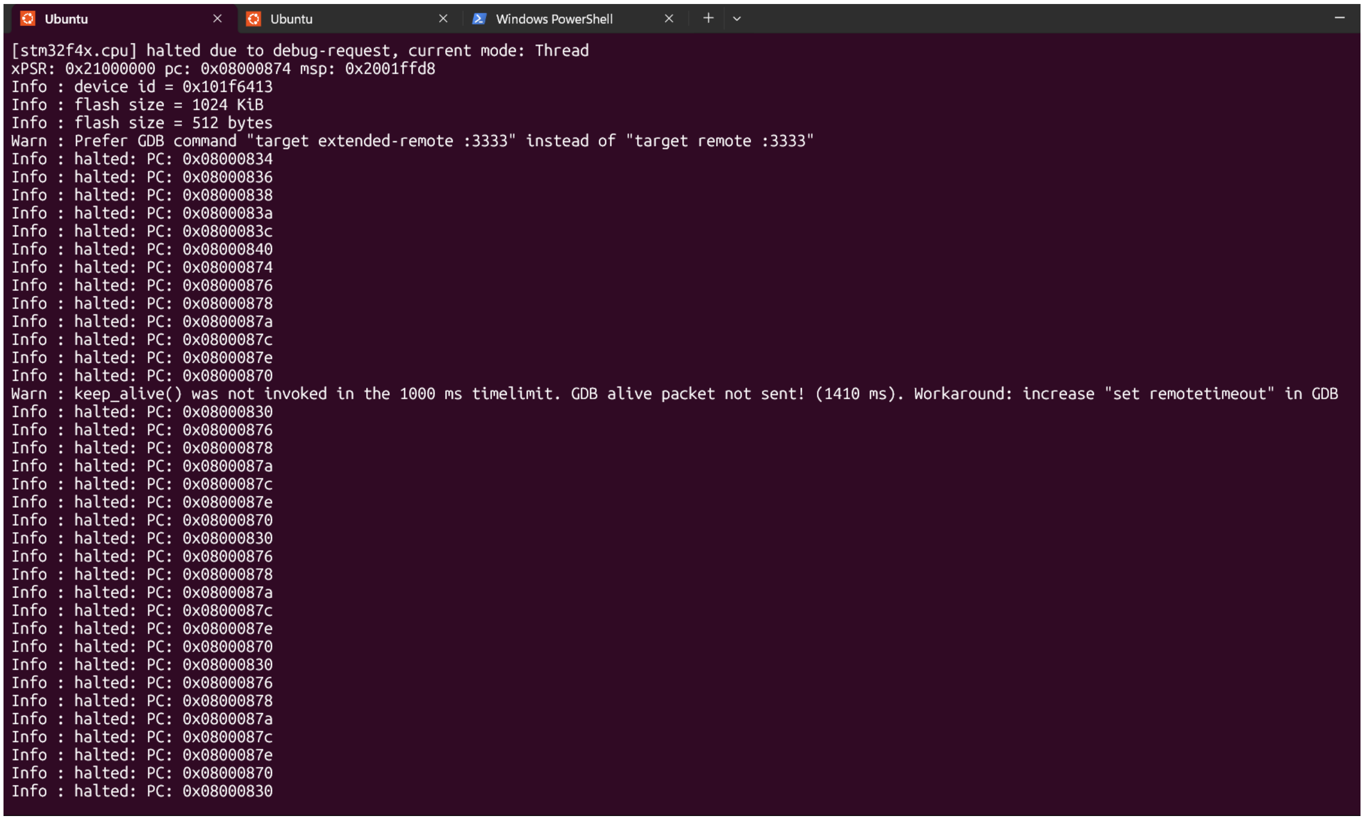


setting the interrupt priority of sysTick timer as 0, previously it was set to 15(god knows why)


workspace_1.16.0 - Device Configuration Tool - STM32CubeIDE
File Edit Source Refactor Navigate Search Project Run Window Help
STM32F407VGTX_FLASH.ld
main.c
startup_stm32f407vgtx.s
system_stm32f4xx.c
*TEST.ioc
TEST.ioc - Pinout & Configuration
Pinout & Configuration
Clock Configuration
Software Packs
Pinout
Categories
A->Z
System Core
DMA
GPIO
IWDG
NVIC
RCC
SYS
WWDG
Analog
Timers
RTC
TIM1
TIM2
TIM3
TIM4
TIM5
TIM6
TIM7
TIM8
TIM9
TIM10
TIM11
TIM12
TIM13
TIM14
NVIC Mode and Configuration
Mode
Configuration
NVIC
Code generation
Priority Group
4 bits for pre-e...
Sort by Premption Priority and Sub Priority
Sort by interrupts names
Search
Show
available interrupts
Force DMA channels Interrupts
NVIC Interrupt Table
Enabled
Preemption Priority
Sub Priority
Non maskable interrupt
Hard fault interrupt
Memory management fault
Pre-fetch fault, memory access fault
Undefined instruction or illegal state
System service call via SWI instruction
Debug monitor
Pendable request for system service
Time base: System tick timer
PVD interrupt through EXTI line 16
Flash global interrupt
RCC global interrupt
FPU global interrupt
Enabled
Preemption Priority
Sub Priority



OpenOCD gives this




```
[stm32f4x.cpu] halted due to debug-request, current mode: Thread
xPSR: 0x21000000 pc: 0x08000874 msp: 0x2001ffd8
Info : device id = 0x101f6413
Info : flash size = 1024 KiB
Info : flash size = 512 bytes
Warn : Prefer GDB command "target extended-remote :3333" instead of "target remote :3333"
Info : halted: PC: 0x08000834
Info : halted: PC: 0x08000836
Info : halted: PC: 0x08000838
Info : halted: PC: 0x0800083a
Info : halted: PC: 0x0800083c
Info : halted: PC: 0x08000840
Info : halted: PC: 0x08000874
Info : halted: PC: 0x08000876
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
Info : halted: PC: 0x0800087e
Info : halted: PC: 0x08000870
Warn : keep_alive() was not invoked in the 1000 ms timelimit. GDB alive packet not sent! (1410 ms). Workaround: increase "set remotetimeout" in GDB
Info : halted: PC: 0x08000830
Info : halted: PC: 0x08000876
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
Info : halted: PC: 0x0800087e
Info : halted: PC: 0x08000870
Info : halted: PC: 0x08000830
Info : halted: PC: 0x08000876
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
Info : halted: PC: 0x0800087e
Info : halted: PC: 0x08000870
Info : halted: PC: 0x08000830
Info : halted: PC: 0x08000876
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
Info : halted: PC: 0x0800087e
Info : halted: PC: 0x08000870
Info : halted: PC: 0x08000830
```

```
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
Info : halted: PC: 0x0800087e
Info : halted: PC: 0x08000870
Info : halted: PC: 0x08000830
Info : halted: PC: 0x08000876
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
Info : halted: PC: 0x0800087e
Info : The target is not running when halt was requested, stopping GDB.
Info : The target is not running when halt was requested, stopping GDB.
Info : halted: PC: 0x08000870
Info : halted: PC: 0x08000874
Info : halted: PC: 0x08000876
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
Info : halted: PC: 0x0800087e
Info : halted: PC: 0x08000870
Info : halted: PC: 0x08000830
Info : halted: PC: 0x08000876
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
```

```
Info : halted: PC: 0x0800087e
Info : halted: PC: 0x08000870
Info : halted: PC: 0x08000830
Info : halted: PC: 0x08000876
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
Info : halted: PC: 0x0800087e
Info : halted: PC: 0x08000870
Info : halted: PC: 0x08000830
Info : halted: PC: 0x08000876
Info : halted: PC: 0x08000878
Info : halted: PC: 0x0800087a
Info : halted: PC: 0x0800087c
Info : halted: PC: 0x0800087e
```

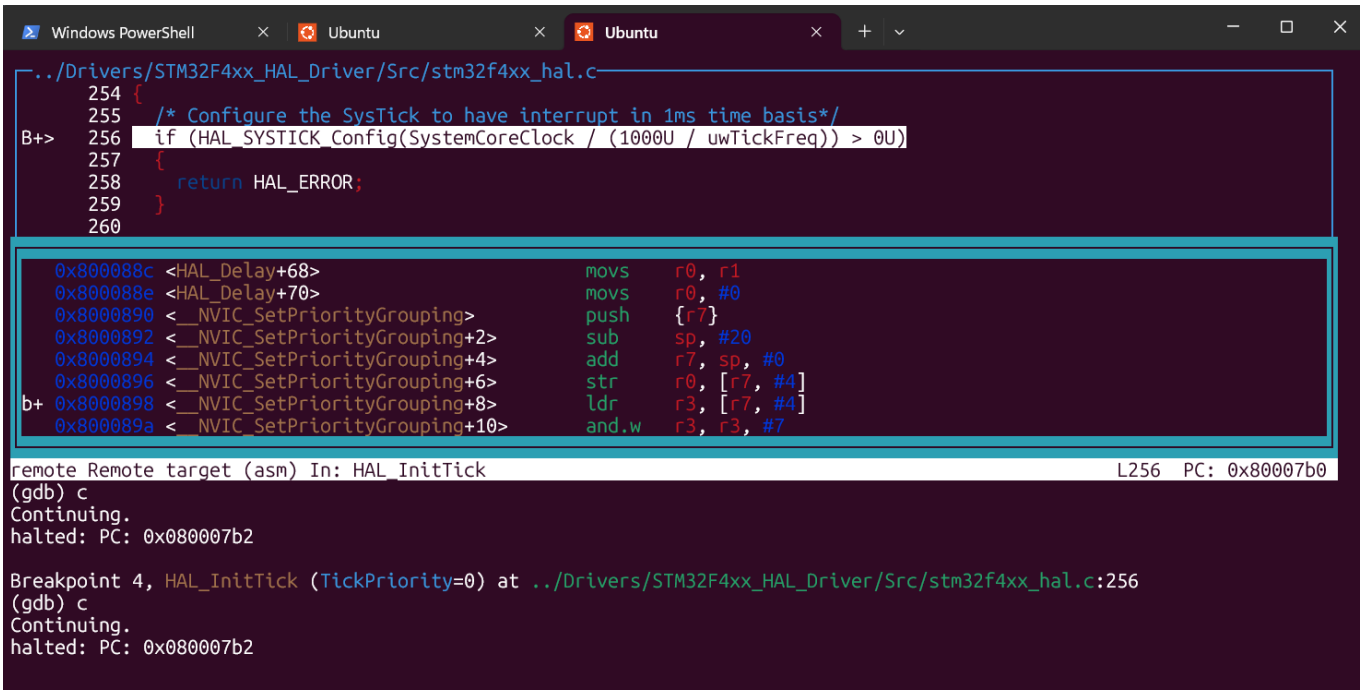
The above output came from `openOCD` when `next` command was executed via `gdb`
Still the cause of the error is yet to be determined

9:29 p.m.

Changed the delay to 10ms
now its working kind of but defaults to a

```

```

The issue exactly arises when stepping through HAL_InitTick, maybe the initialization configuration of our SysTick timer is wrong


Windows PowerShell
Ubuntu
Ubuntu
../Drivers/STM32F4xx_HAL_Driver/Src/stm32f4xx_hal.c
254 {
255 /* Configure the SysTick to have interrupt in 1ms time basis*/
B+> 256 if (HAL_SYSTICK_Config(SystemCoreClock / (1000U / uwTickFreq)) > 0U)
257 {
258 return HAL_ERROR;
259 }
260
0x800088c <HAL_Delay+68> movs r0, r1
0x800088e <HAL_Delay+70> movs r0, #0
0x8000890 <__NVIC_SetPriorityGrouping> push {r7}
0x8000892 <__NVIC_SetPriorityGrouping+2> sub sp, #20
0x8000894 <__NVIC_SetPriorityGrouping+4> add r7, sp, #0
0x8000896 <__NVIC_SetPriorityGrouping+6> str r0, [r7, #4]
b+ 0x8000898 <__NVIC_SetPriorityGrouping+8> ldr r3, [r7, #4]
0x800089a <__NVIC_SetPriorityGrouping+10> and.w r3, r3, #7
remote Remote target (asm) In: HAL_InitTick L256 PC: 0x80007b0
(gdb) c
Continuing.
halted: PC: 0x080007b2
Breakpoint 4, HAL_InitTick (TickPriority=0) at ../Drivers/STM32F4xx_HAL_Driver/Src/stm32f4xx_hal.c:256
(gdb) c
Continuing.
halted: PC: 0x080007b2