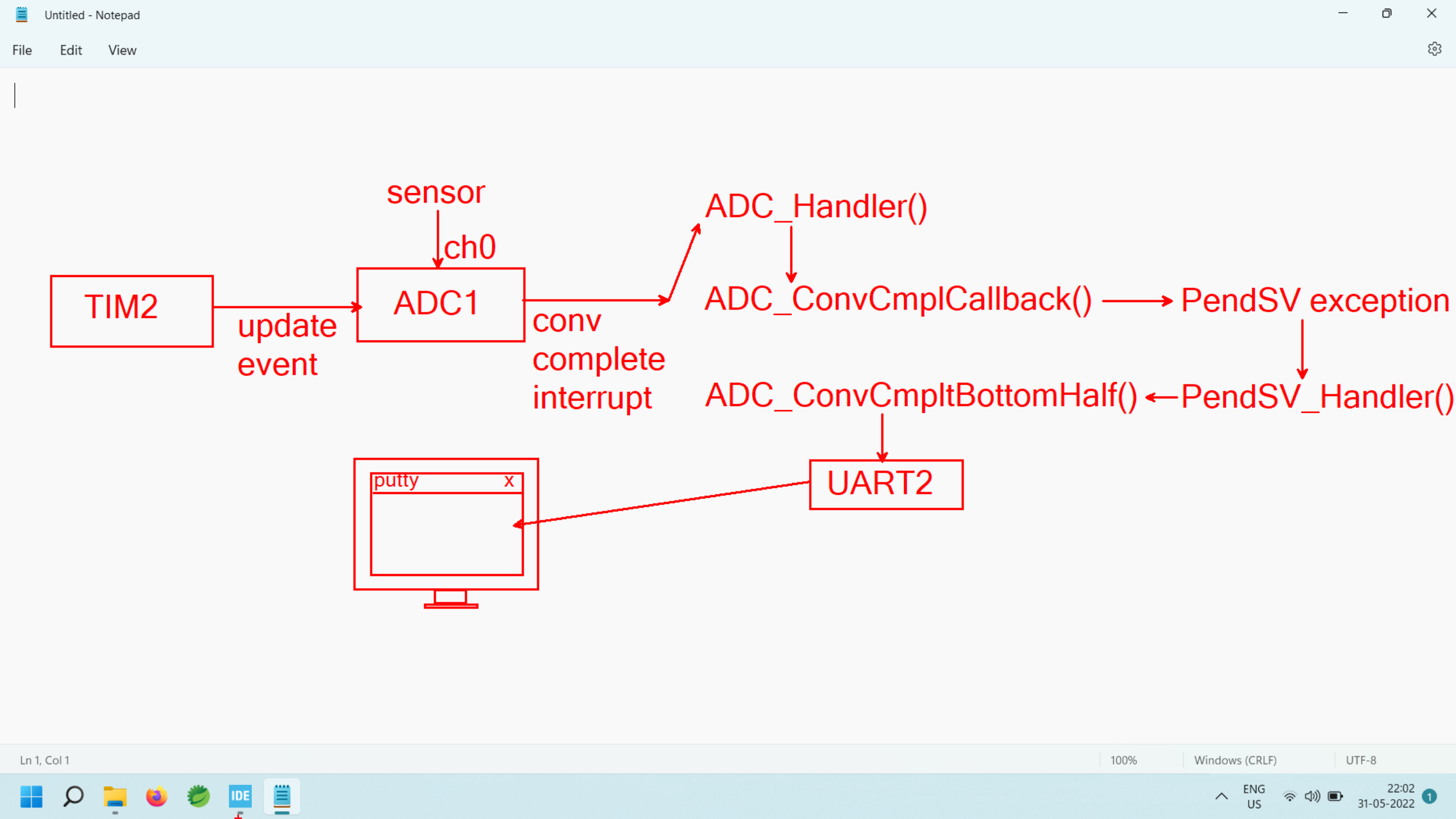
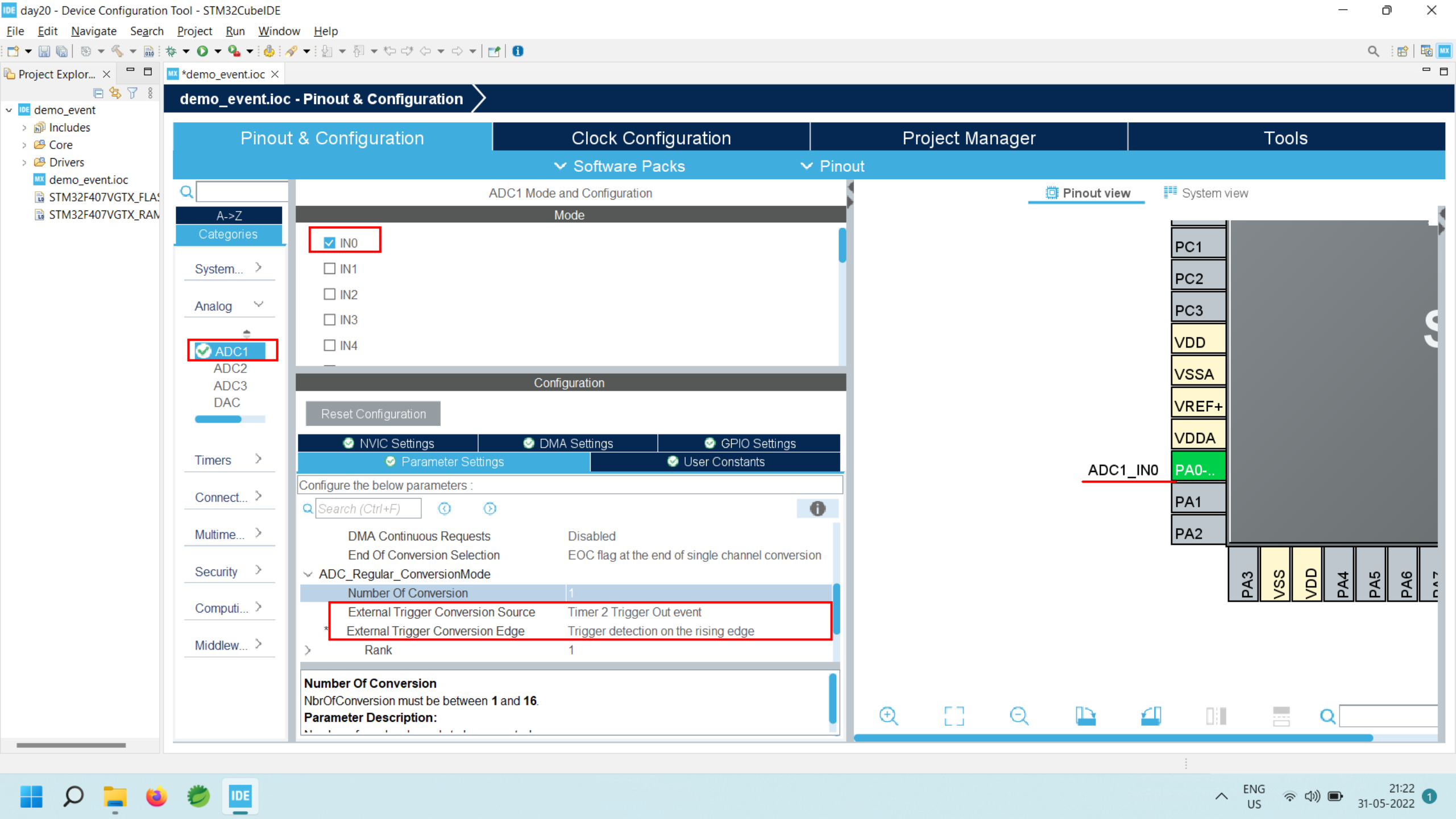


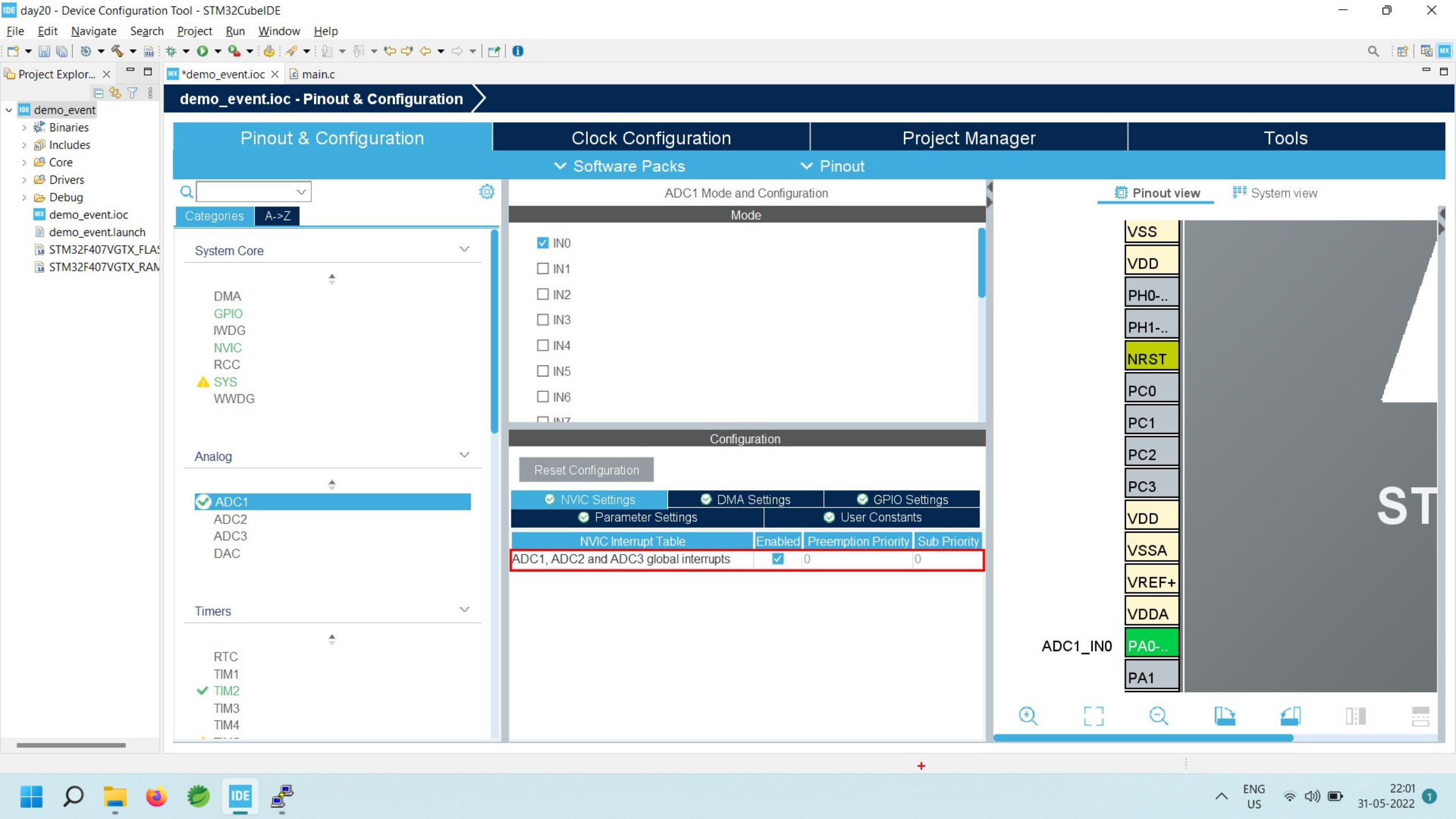
Timer Triggered ADC and PendSV handler

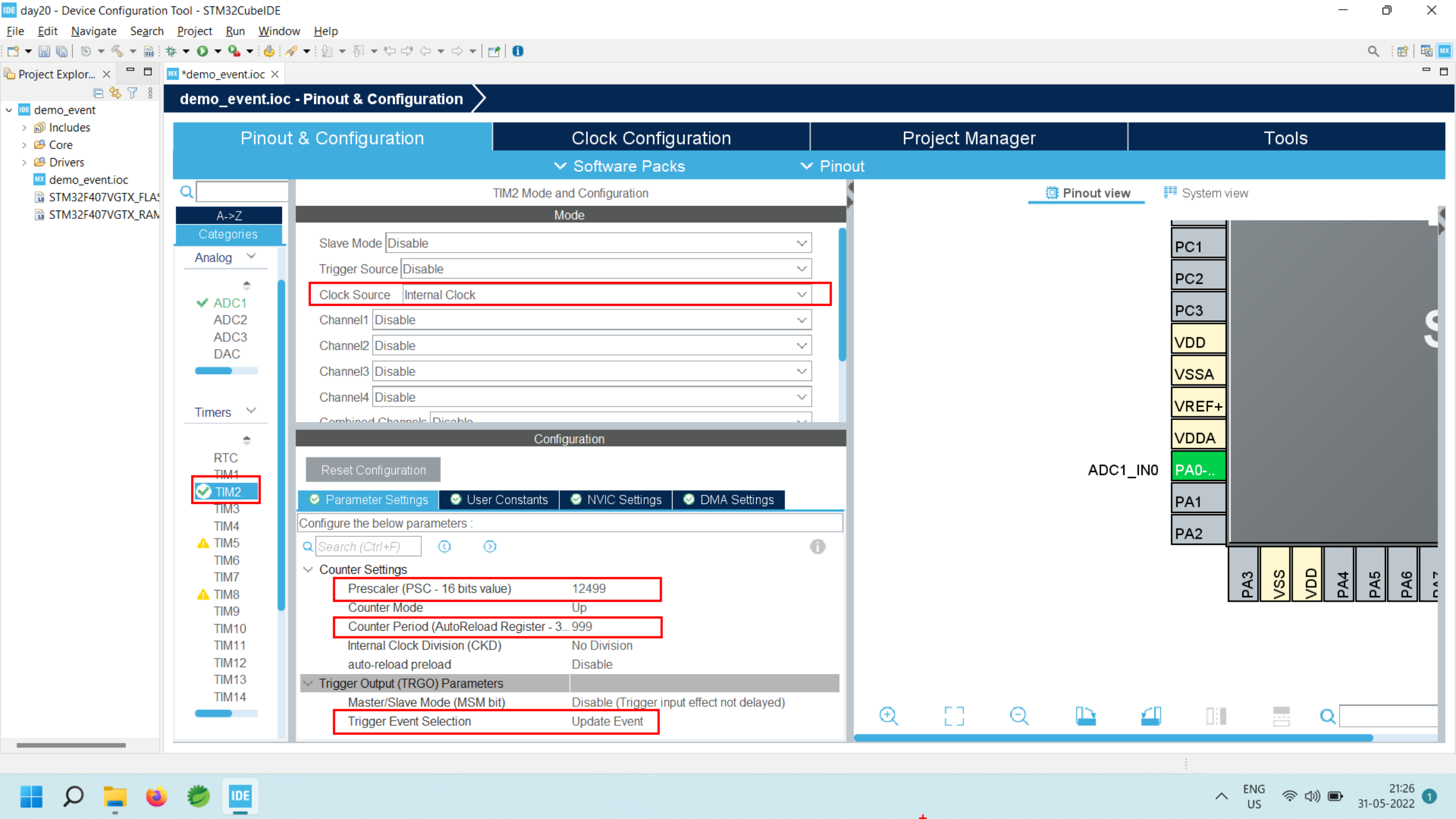
PG-DESD @ SUNBEAM INFOTECH

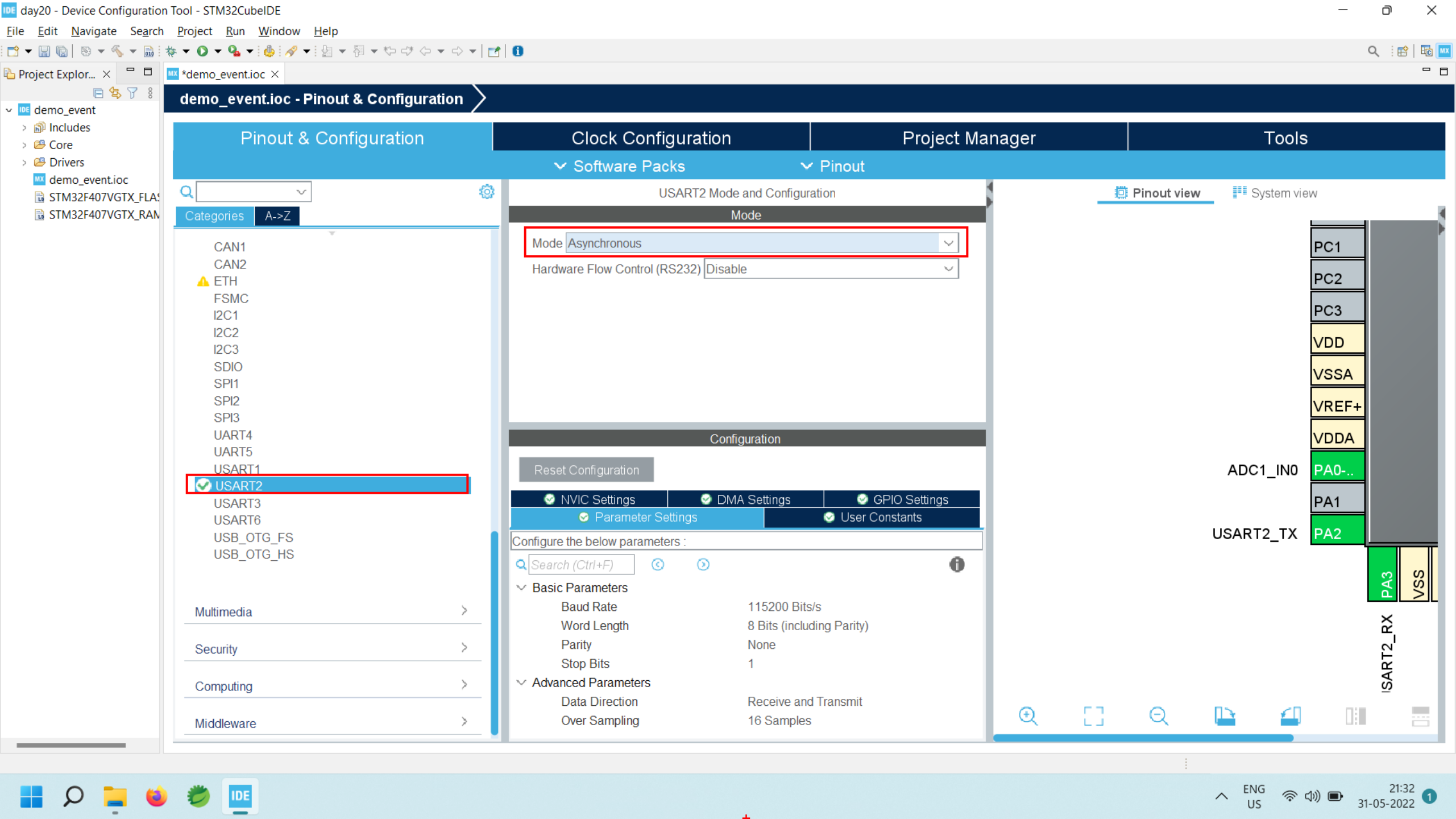


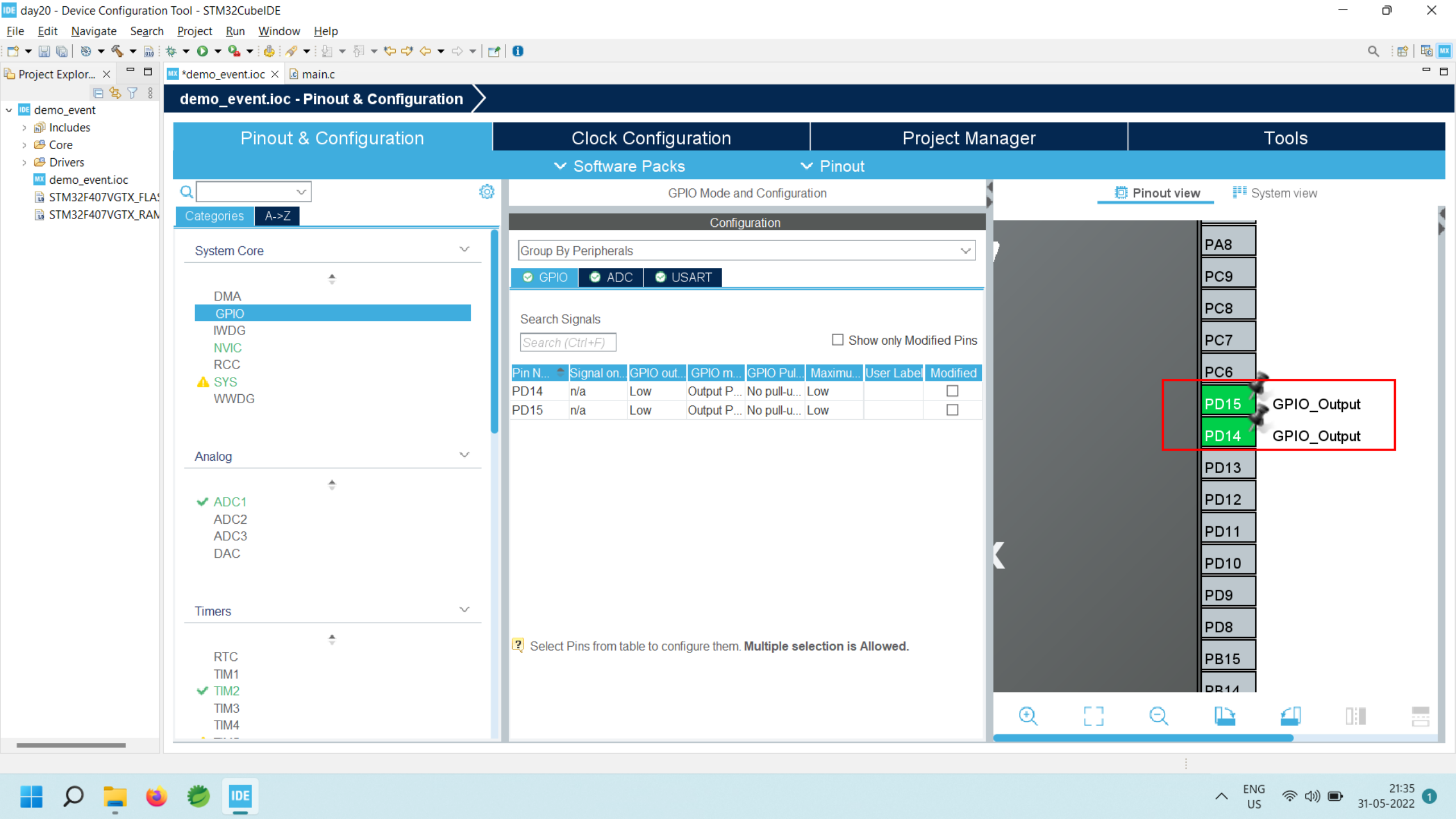


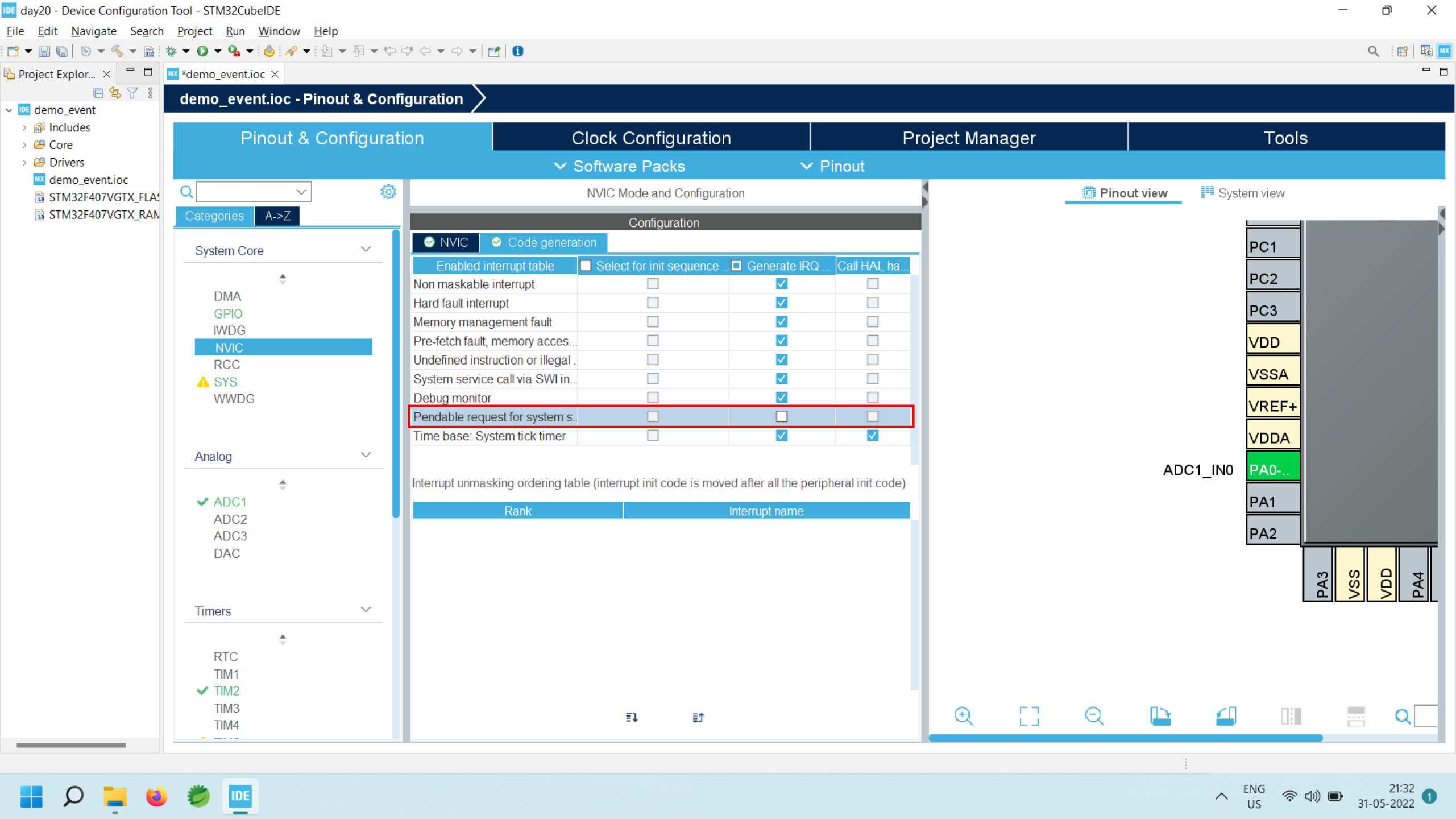












demo_event

- > Includes
- > Core
- > Drivers
 - demo_event.ioc
 - STM32F407VGTX_FLASH.ld
 - STM32F407VGTX_RAM.ld

```

94  MX_GPIO_Init();
95  MX_ADC1_Init();
96  MX_TIM2_Init();
97  MX_USART2_UART_Init();
98  /* USER CODE BEGIN 2 */
99  NVIC_SetPriority(PendSV_IRQn, 0xFF); // Set PendSV as lowest priority exception
100 HAL_TIM_Base_Start(&htim2);
101 HAL_ADC_Start_IT(&hadc1);
102 /* USER CODE END 2 */
103
104 /* Infinite loop */
105 /* USER CODE BEGIN WHILE */
106 while (1)
107 {
108     HAL_GPIO_TogglePin(GPIOD, GPIO_PIN_14);
109     HAL_Delay(200);
110 /* USER CODE END WHILE */
111
112 /* USER CODE BEGIN 3 */
113 }
114 /* USER CODE END 3 */
115 }
116

```

Problems X Tasks Console Properties

0 items

Description	Resource	Path	Local

Writable

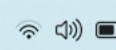
Build Analyzer X Static Stack Analyzer

Memory Regions Memory Details

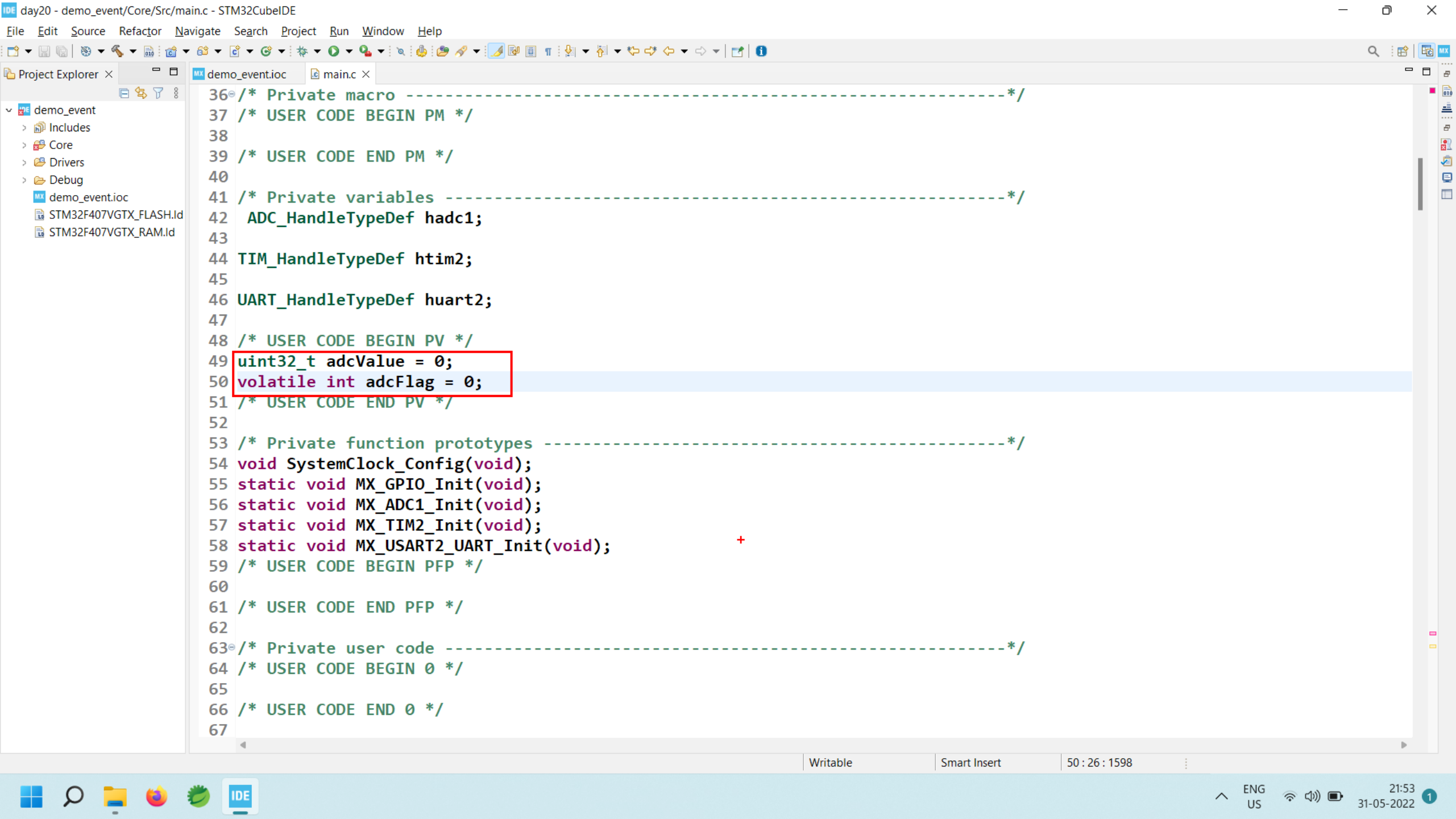
Region	Start address	End address	Size	Free	Used	Usage (%)

Smart Insert

115 : 1 : 3098


ENG
US

21:36
31-05-2022

1



day20 - demo_event/Core/Src/main.c - STM32CubeIDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

demo_event

- Includes
- Core
- Drivers
 - demo_event.ioc
 - STM32F407VGTX_FLASH.Id
 - STM32F407VGTX_RAM.Id

demo_event.ioc

main.c

```
316 }
317
318 /* USER CODE BEGIN 4 */
319
320 void HAL_ADC_ConvCpltCallback(ADC_HandleTypeDef* hadc) {
321     // ADC Handler -- Top Half -- Timecritical
322     adcValue = HAL_ADC_GetValue(&hadc1);
323     HAL_GPIO_TogglePin(GPIOD, GPIO_PIN_15);
324     // Pend the PendSV handler
325     adcFlag = 1;
326     SCB->ICSR |= SCB_ICSR_PENDSVSET_Msk;
327 }
328
329 void ADC_ConvCpltBottomHalfHandler(void) {
330     // ADC Handler -- Bottom Half -- Non-timecritical
331     char str[32];
332     int count;
333     count = sprintf(str, "PendSV ADC = %04lu \r\n", adcValue);
334     HAL_UART_Transmit(&huart2, (uint8_t*)str, count, HAL_MAX_DELAY);
335 }
336
337 void PendSV_Handler(void) {
338     extern volatile int adcFlag;
339     if(adcFlag) {
340         adcFlag = 0;
341         ADC_ConvCpltBottomHalfHandler();
342     }
343 }
344
345 /* USER CODE END 4 */
346
347 /**
```

// ST-HAL

void ADC_Handler() {

....

....

}

ADC1

conv complete interrupt

CH0

Sensor

TIM2

PCLK=12.5MHz

PR=12500

ARR=1000

update event

PendSV Exception

UART2

Writable

Smart Insert

319 : 1 : 8782

ENG US

21:39

31-05-2022

THANK YOU!

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