STM cube IDE Practical

HAL - Hardware Abstraction Layer.

IRQ handlers area available in **'stm32f4xx_it.c'** file. ['it' file]
Go to declaration of respective IRQ handler.

To set GPIO mode, Click on pin and select option from list.

To use Debug mode, enable debug mode from SYS under System core available on left side; And then select systick in dropdown option.

To use external interrupt, select pin as GPIO_EXTI and then enable EXTI from NVIC under System core available on left side.

We can select the frequency in clock configuration.
Dark colored box needs to be reselected with proper values.

Steps to view data of printf(""); [like Serial Monitor in Arduino]

- In syscall.c file
  - Replace __'**io_putchar(*ptr++);'** by **'ITM_SendChar(*ptr++);'**
    in __attribute __((weak)) **int _write** (int file, char *ptr, int len){}

- In Debug Config,
  - Enable Serial wire viewer

- Windows → ShowView → SWV → SWV ITM data console.
- In SWV ITM data console,
  - Settings [First option on RHS] → Enable port 0
  - Click on Start trace [Second option on RHS]

- Enable printf() messages for debug.
- Either press 'Step over' to view step by step execution or click on 'resume'.