ACTIVATE SECURE MEMORY

# Link

<https://www.youtube.com/watch?v=qCuVBD2dmTA&list=PLnMKNibPkDnFzux3PHKUEi14ftDn9Cbm7&index=12>

# Description

In this paperwork, we will configure the secure memory, and then activate it to see how to protect some portions of code.

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# Prerequisites

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## STM32 Board

## ST-Link cable

## STM32CubeProgrammer

## STM32CubeMX

## STM32CubeIDE

# Walkthrough

## Step 1 : Launch STM32CubeMX and generate the code

Launch STM32CubeMX and select the right board depending on the one you are using. In my case I use the G071RB Nucleo board. Then you can generate the code of your project.  
Don’t forget to select the correct IDE (in my case STM32CubeIDE).  
Please make sure that the PC13 is set as a GPIO\_input because we want to use it as a push button.  
Graphical user interface, application

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Step 2 : Create The test code  
Basically we call the unsecure\_code function in the main.  
This function permits to call the secure\_toggle\_led function and to enter in the secure memory protection if the button is pressed.  
The section attribute will link our part of memory to our function.  
Text

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Step 3 : Separate the memory  
Now in the FLASH.id you have to create the new section of memory. This one will permit us to put the unsecure code only in FLASH\_unsecure memory.   
To do so we add a section .mysection that corresponds to the FLASH\_unsecure we created.

Graphical user interface, text, application

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When you have finished you can compile the code and execute the debugger.

Step 4 : Activate the secure memory  
Launch the STM32Programmer and go to OB and then FLASH security.  
In the SEC\_SIZE field, put as a value 0x1c.  
Graphical user interface, text, application, email

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Apply the modifications and reset the board.

Step 5 : Check the secure memory  
During this step, you have to disconnect and reconnect but with HOTPLUG mode.  
Once it is realized you should not be able to see 0x08000000.  
Graphical user interface, text

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But at the same time you should be able to see the 0x0801E000 memory section that corresponds to the unsecured function.  
Graphical user interface, application, table

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