



# TESA TOPGUN

## SIMPLE IO TESTING

B-L475E-IOT01A (Discovery Kit for IoT Node, STM32L)

STM32CubeIDE (IDE for STM32)

ผศ.ดร.สันติ นุราช

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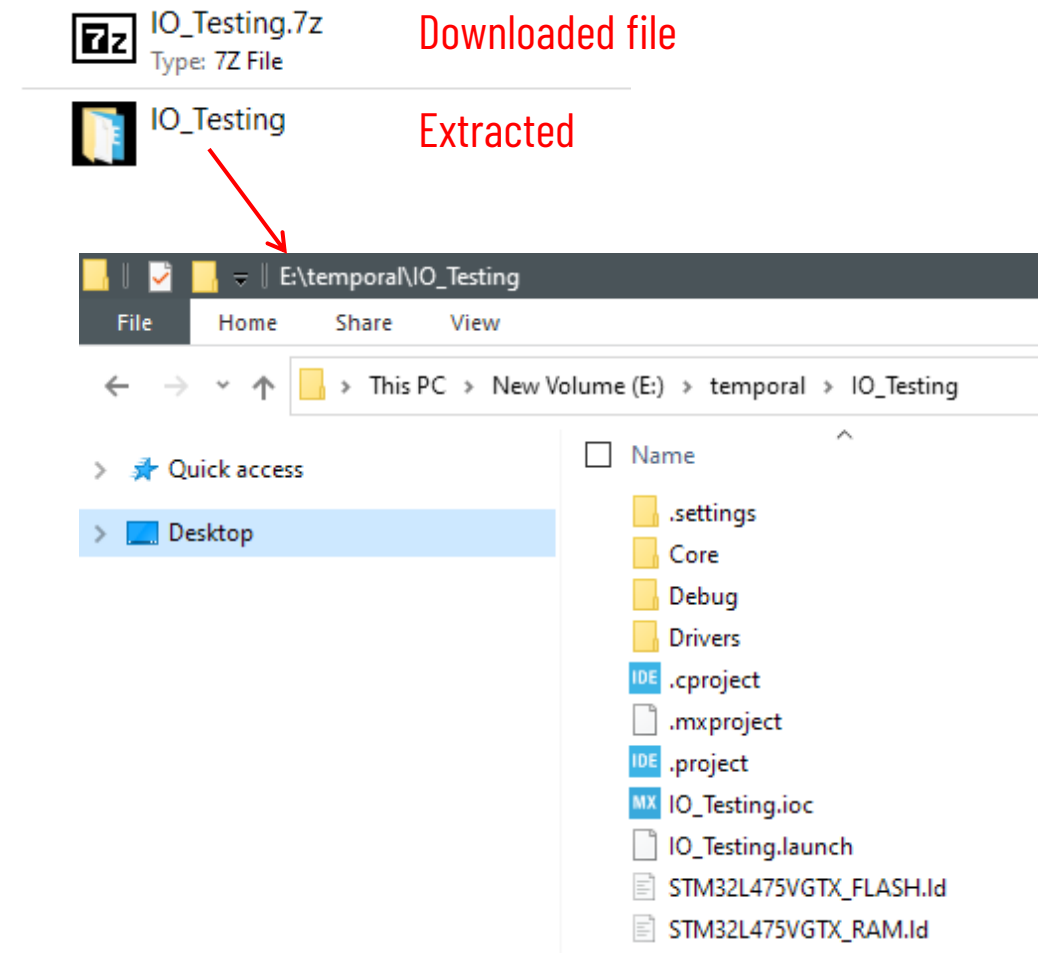
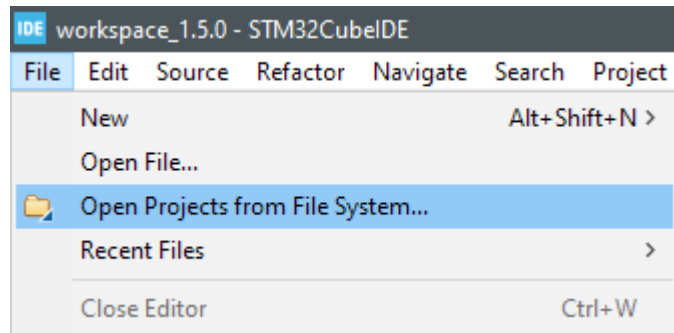
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# Simple IO Testing

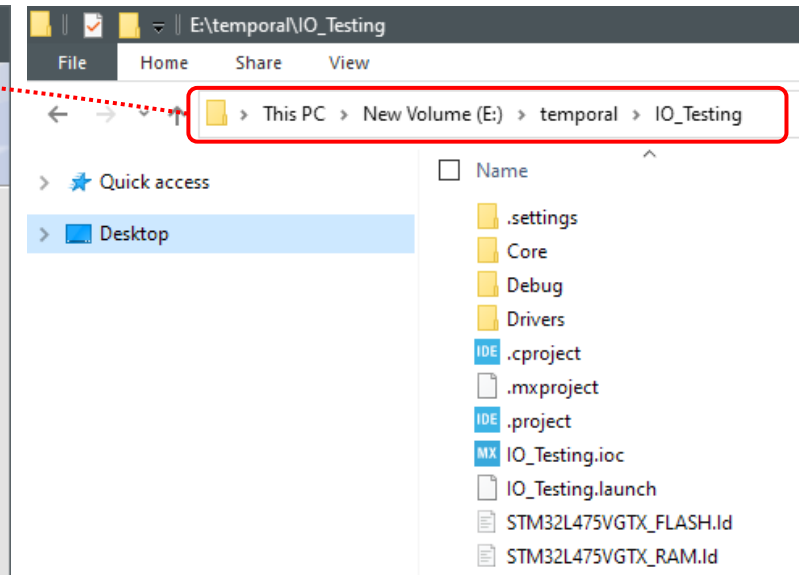
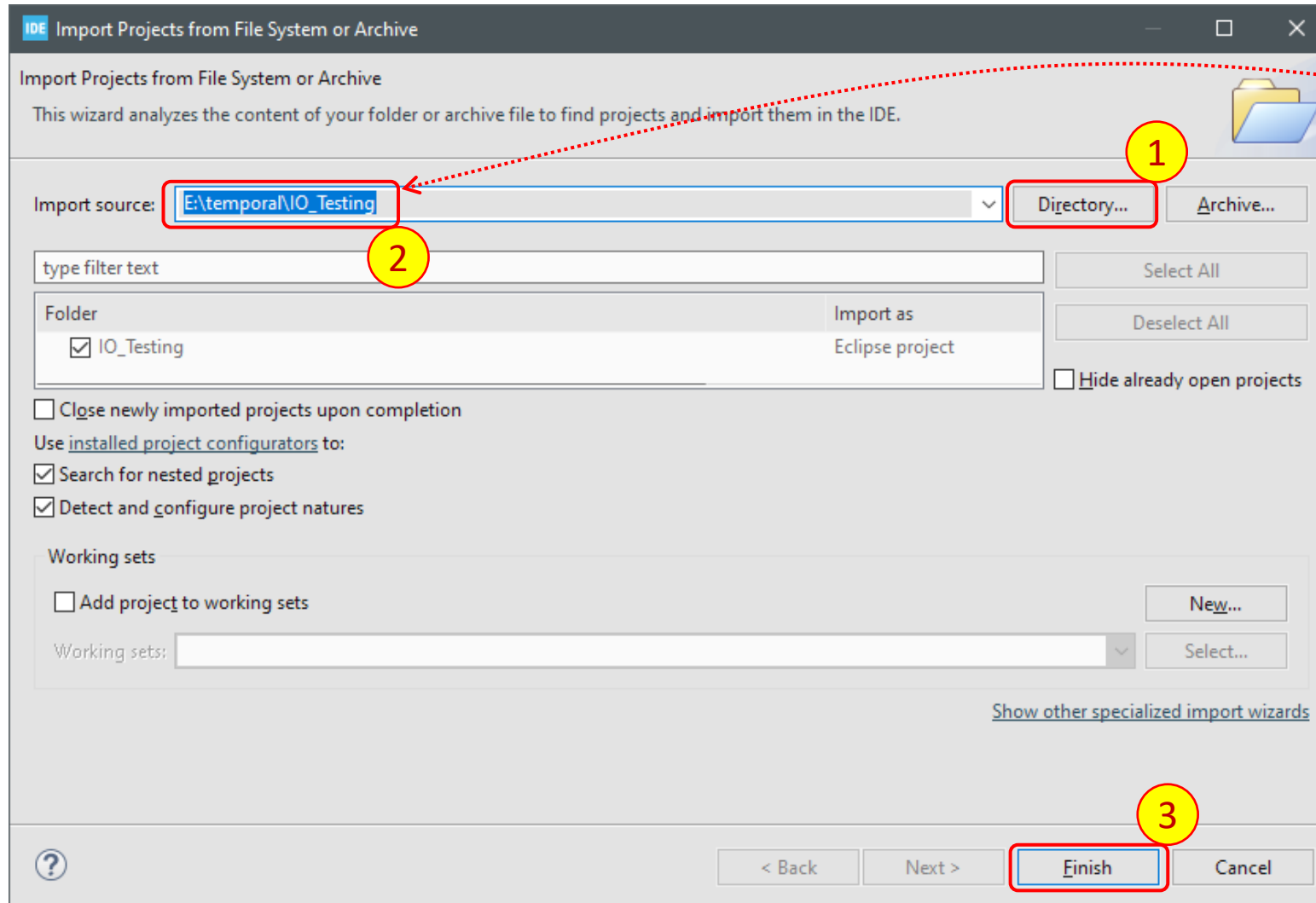
1) Download the **IO\_Testing.7z** and extract it ([download link](#))

2) Open the **STM32CubeIDE** and **File | Open Projects from File System...**



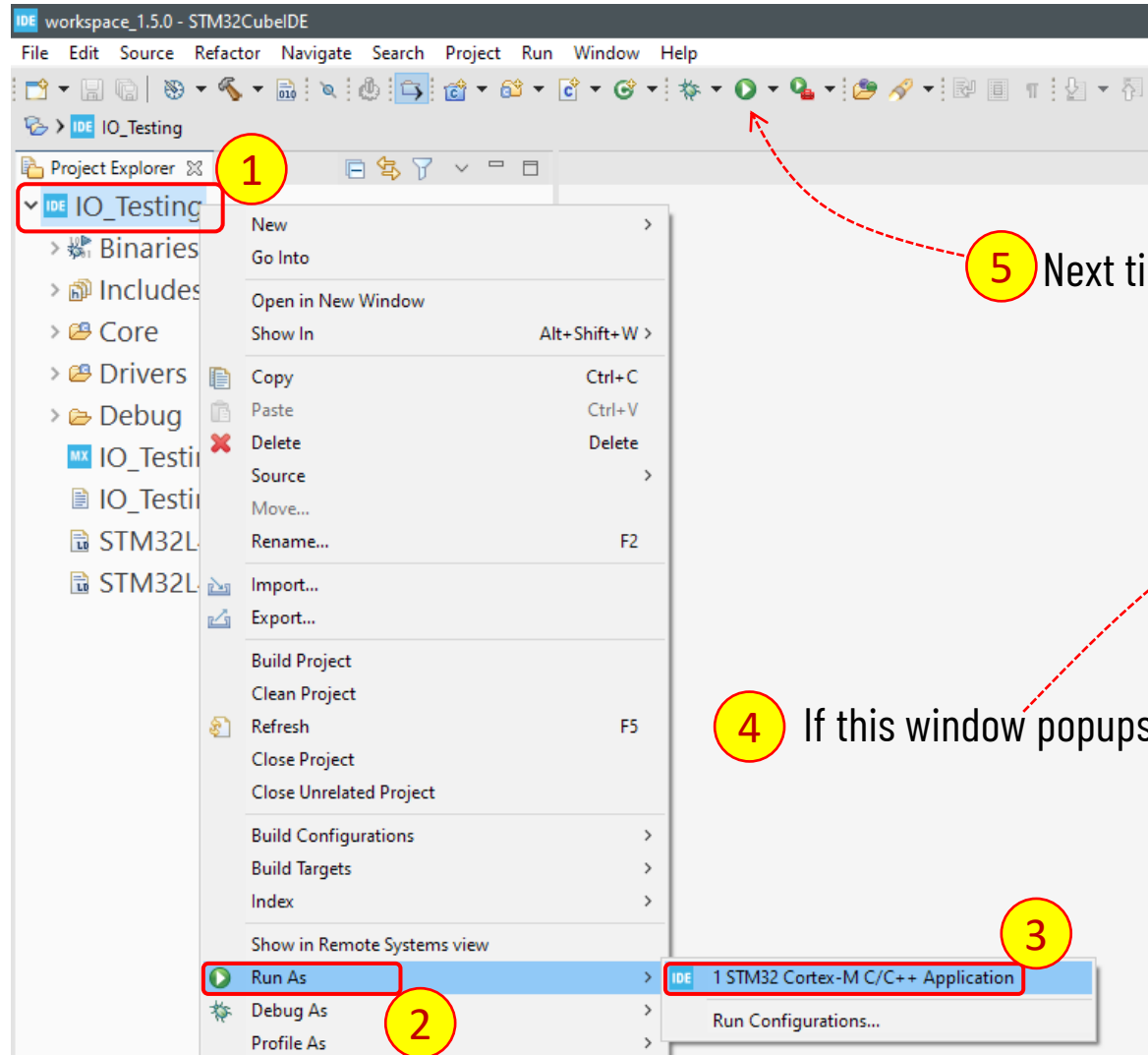
# Simple IO Testing

3) Open the project directory (extracted directory), e.g.; E:\temporal\IO\_Testing, and click Finish



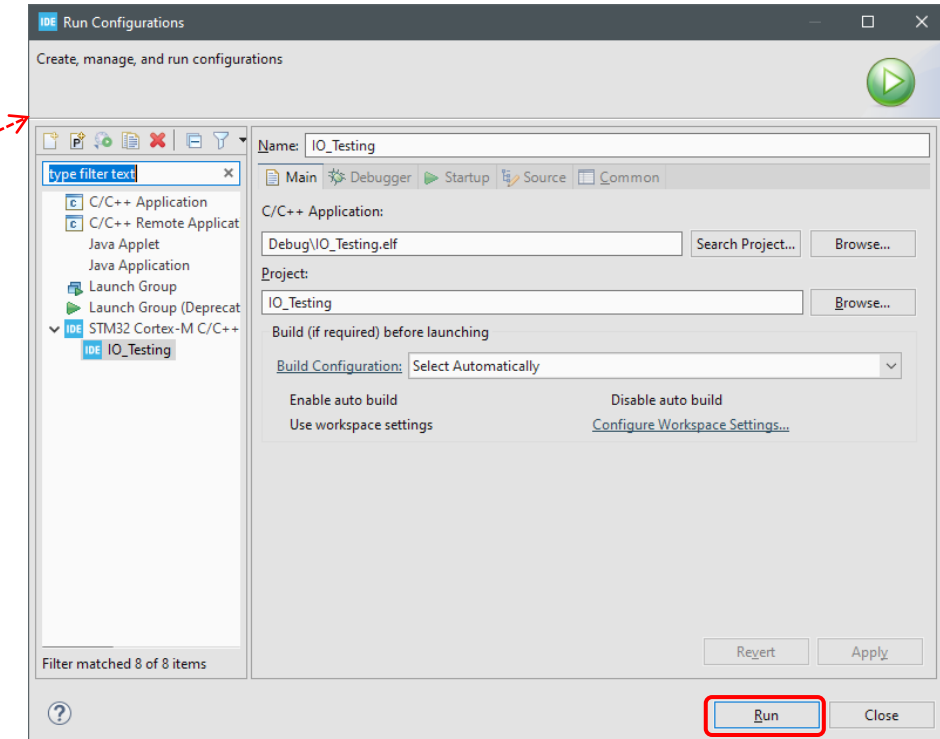
# Simple IO Testing

4) Right-Click on the project name (IO\_Testing) and click Run As | STM32 Cortex-M C/C++ Application



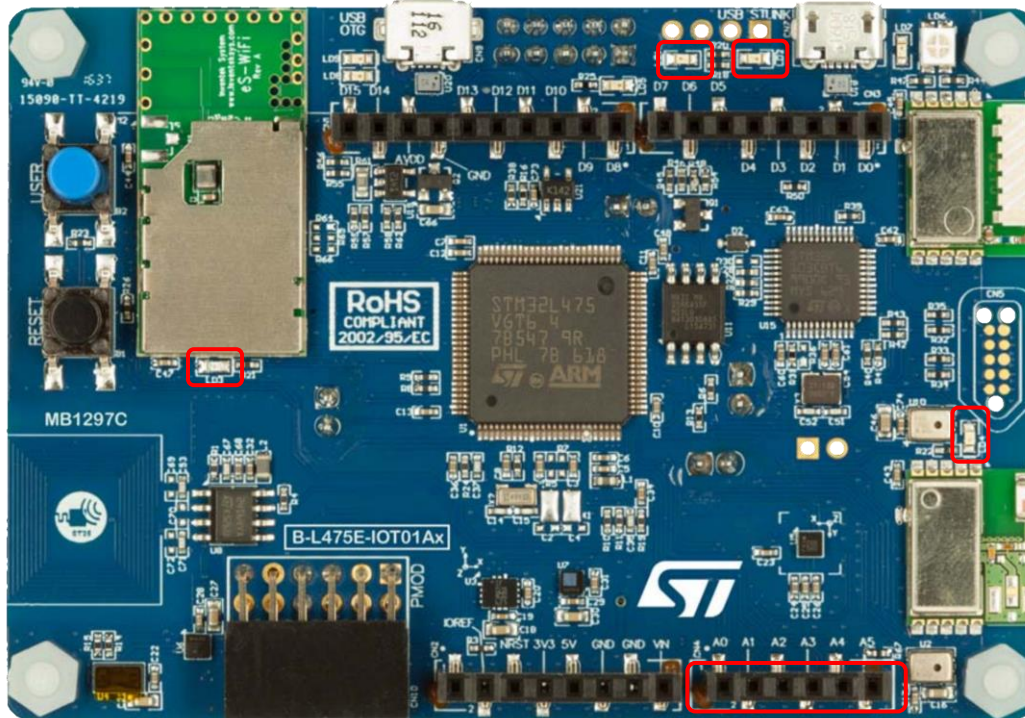
Next time, click this button

If this window pops up, click Run



# Simple I/O Testing

5) Check the LEDs status and Logic state of the A0-A5 of the board. They will change every 2 seconds (ON 2 seconds and OFF 2 seconds)

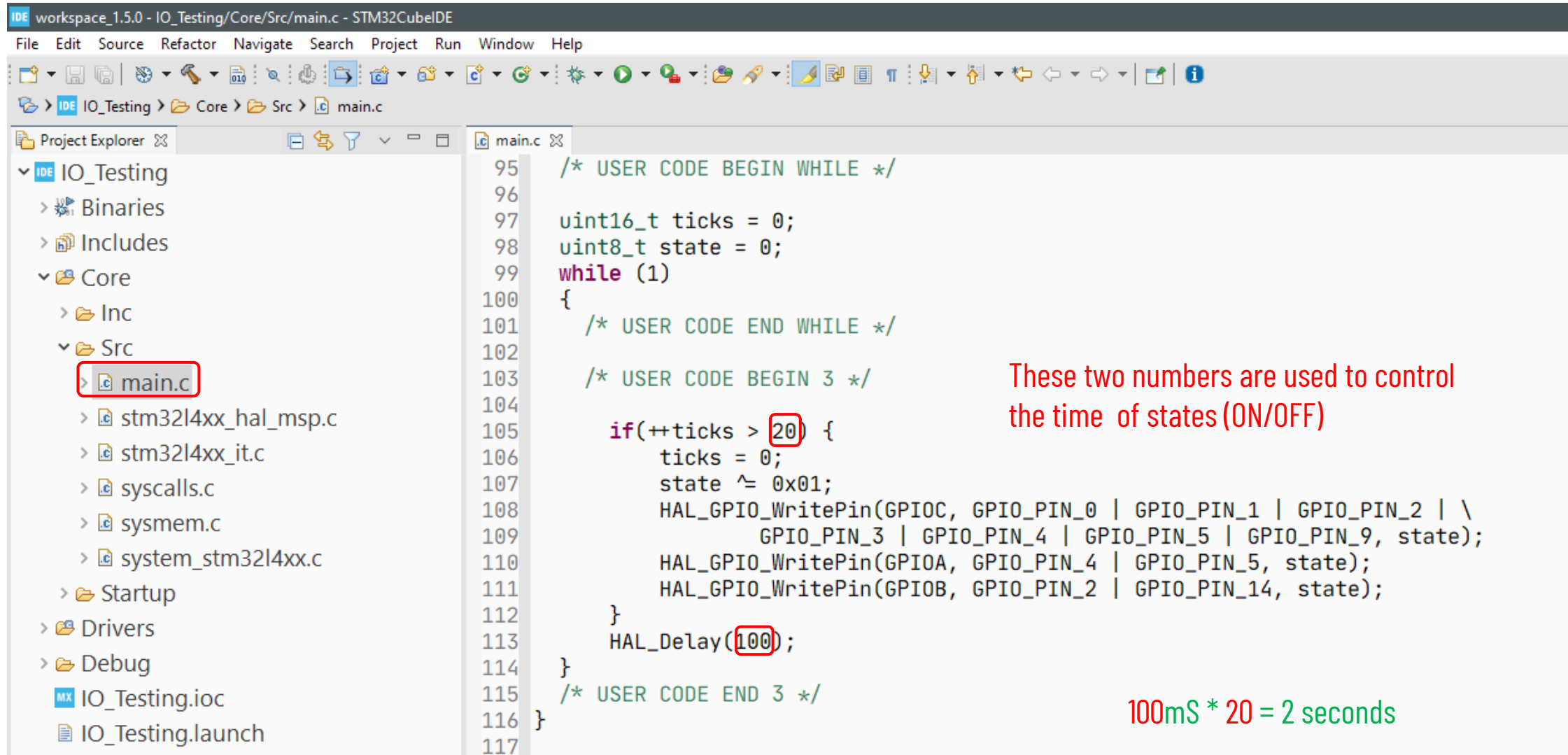


A0-A5

Can be used to control external devices

# Simple IO Testing

6) Open the main.c and modify the code, then perform step 4 and 5



```
95  /* USER CODE BEGIN WHILE */
96
97  uint16_t ticks = 0;
98  uint8_t state = 0;
99  while (1)
100 {
101     /* USER CODE END WHILE */
102
103     /* USER CODE BEGIN 3 */
104
105     if(++ticks > 20) {
106         ticks = 0;
107         state ^= 0x01;
108         HAL_GPIO_WritePin(GPIOC, GPIO_PIN_0 | GPIO_PIN_1 | GPIO_PIN_2 | \
109             GPIO_PIN_3 | GPIO_PIN_4 | GPIO_PIN_5 | GPIO_PIN_9, state);
110         HAL_GPIO_WritePin(GPIOA, GPIO_PIN_4 | GPIO_PIN_5, state);
111         HAL_GPIO_WritePin(GPIOB, GPIO_PIN_2 | GPIO_PIN_14, state);
112     }
113     HAL_Delay(100);
114 }
115 /* USER CODE END 3 */
116 }
117
```

These two numbers are used to control the time of states (ON/OFF)

100ms \* 20 = 2 seconds



# THANK YOU!

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