AWaDH
Agriculture and Water
Technology Development Hub

EXPERIMENT – 2.2

BLINK AN EXTERNAL LED USING BUTTON ON DEV BOARD/NODE

What will you learn from this module:

Blink an external LED using button on Development Board/Node.

Requirements:

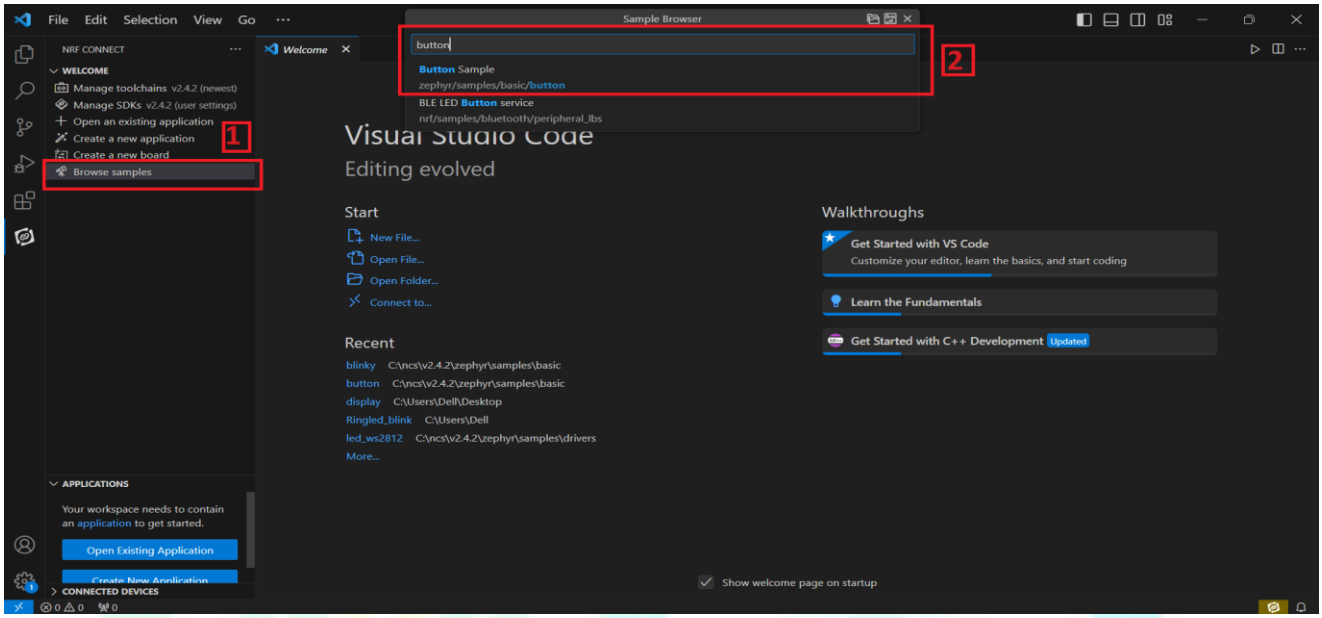
- nRF connect desktop software.
- nRF Command line tools.
- Visual studio code.
- USB cable.
- nRF52832 Development Board/Node.
- LED's.

Prerequisites:

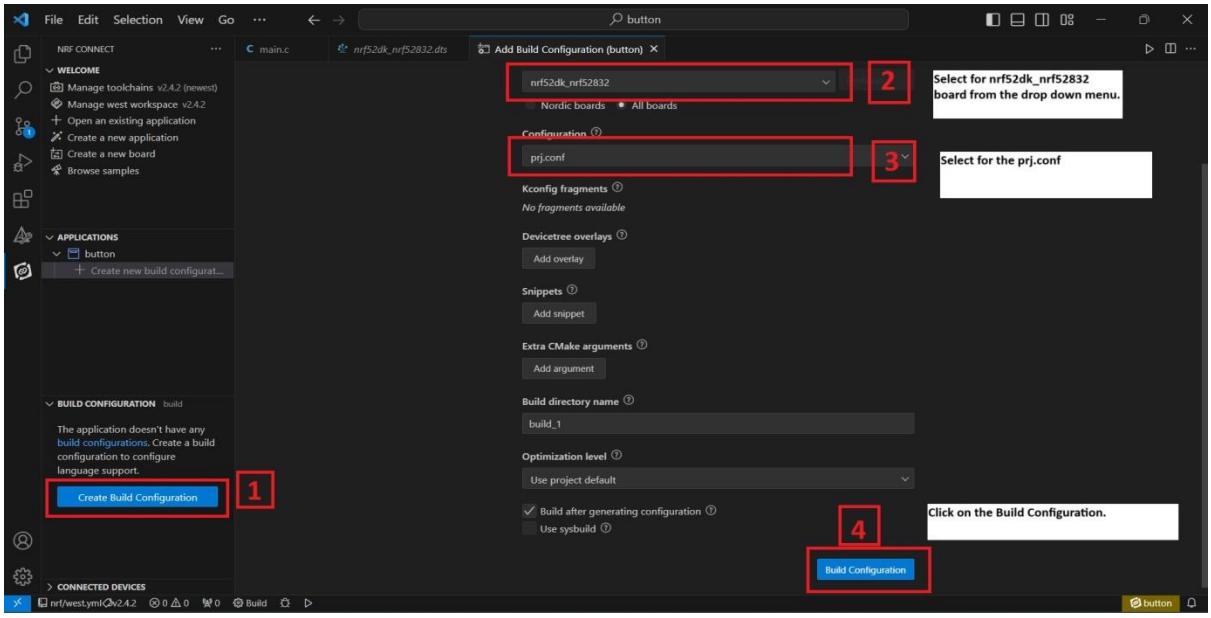
- Basic knowledge of C/C++
- Basic knowledge of communication protocol.
- Basic project setup.

Setup and Configuration:

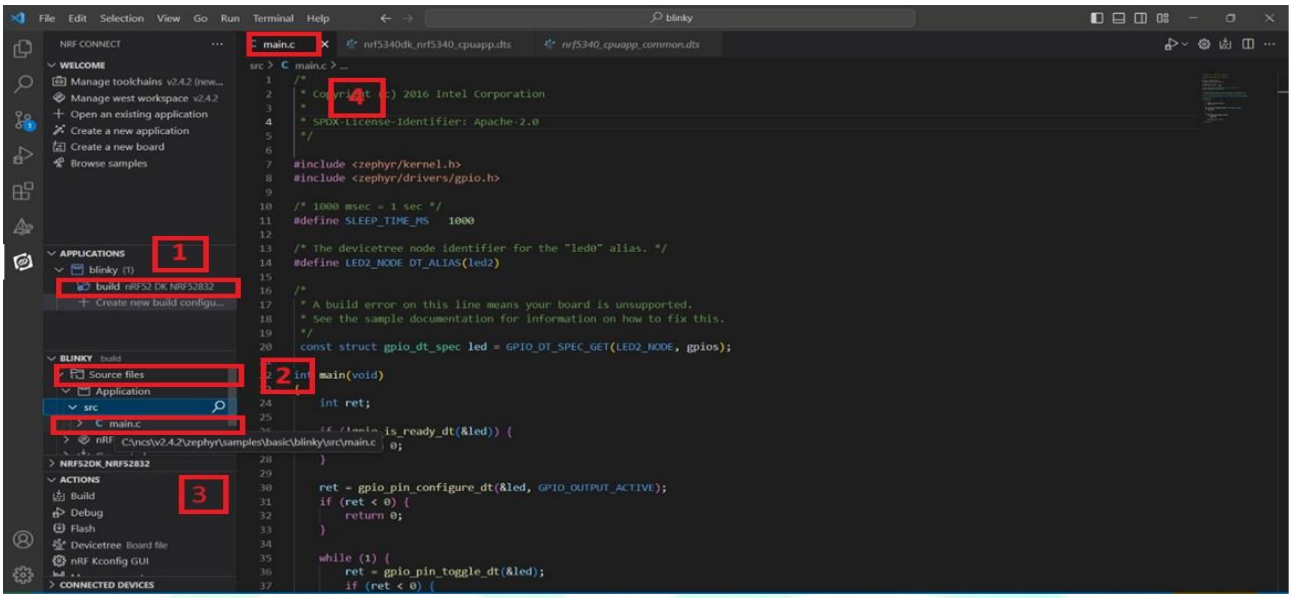
- Open VS Code and go to **Browse samples [1]** and search **Button [2]**.



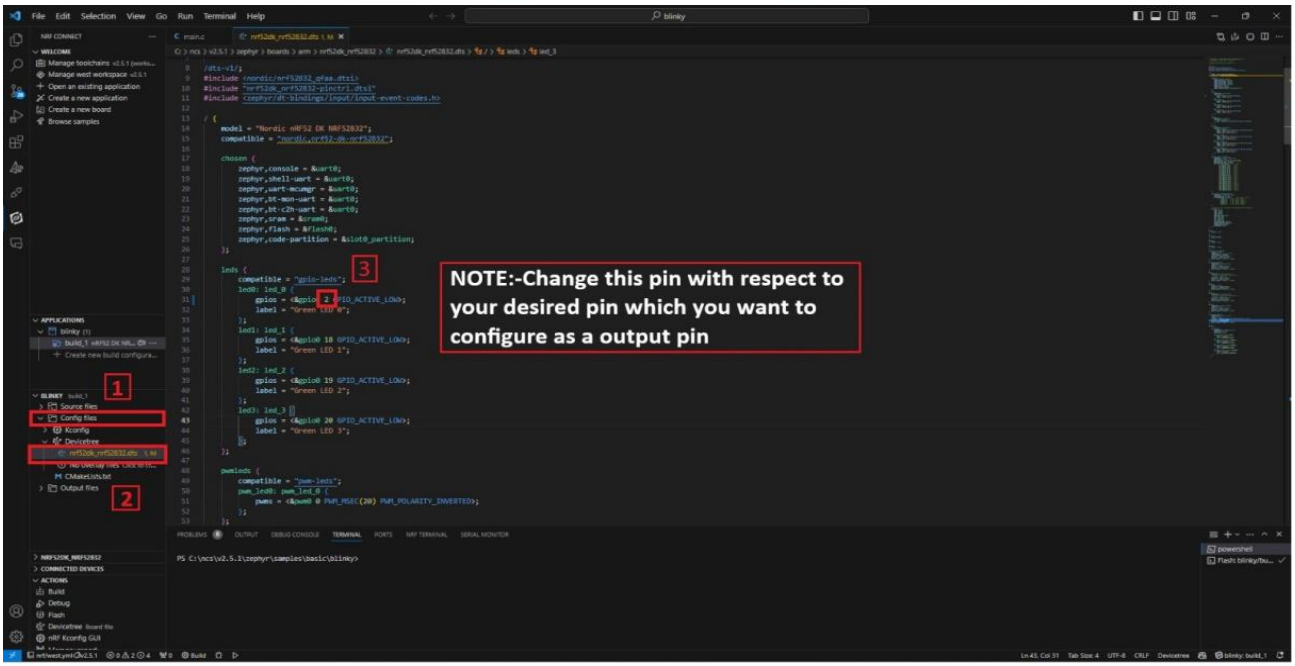
- Click on **Create new build configuration [1]**. Here you can change the board version, if you are using nRF52832, then select **nrf52dk_nrf52832 [2]** or you can change from dropdown menu for another version like nRF52833 etc.
- After that click on the Configuration and select **prj.config [3]** from dropdown menu and then **click on the Build Configuration [4]**.



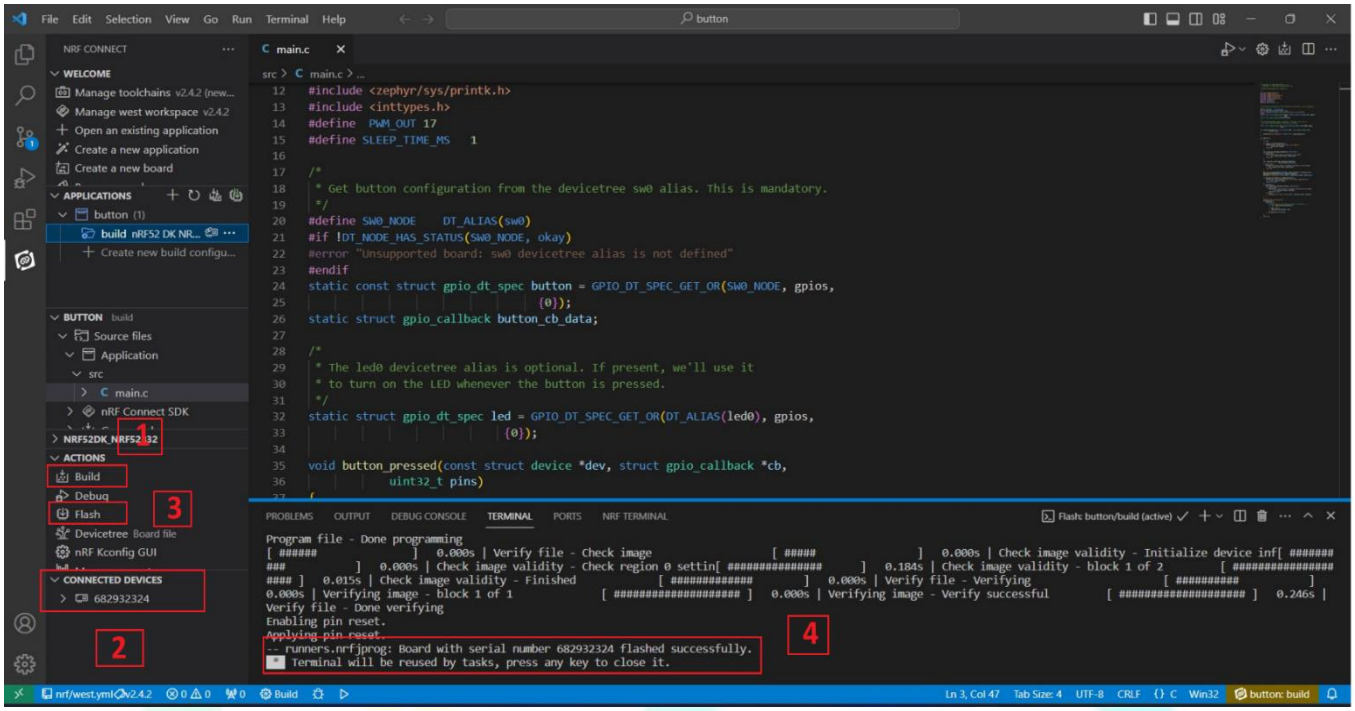
- Go to **source file [2]**,click **source file** > click on **Application** > click on **src [3]** > click on **main.c [4]** .
- After Click on **main.c** file and you will see the code on your screen.



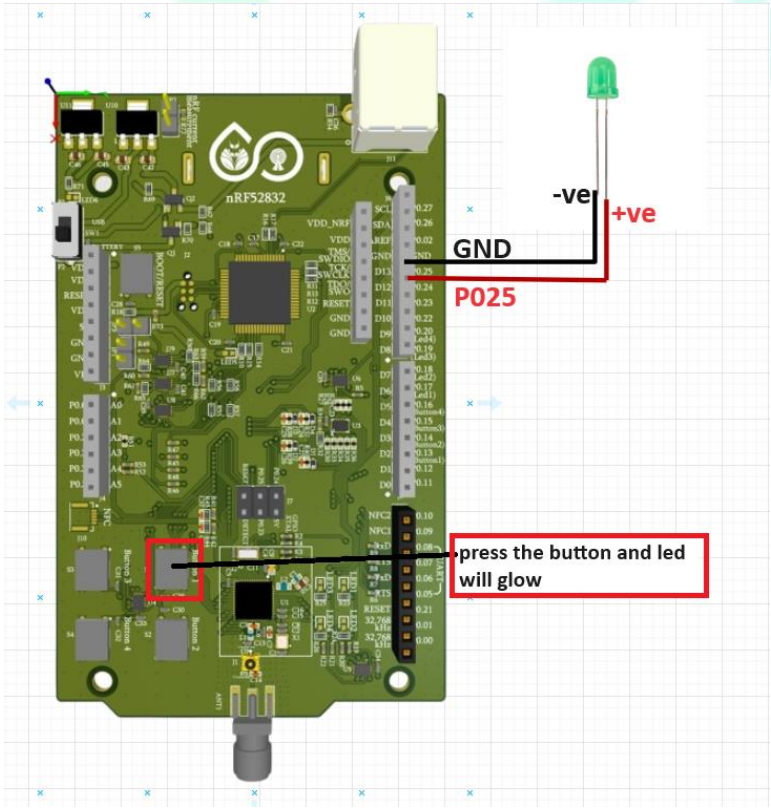
- Click on the **Config files [1]** > **Devicetree** > **.dts file [2]**.
- After that **change the gpio pin no. [3]** with the pin that is used by the external led on the nRF board. (for example, if led's +ve terminal is connected to P0.25 on the development board & -ve terminal to GND, then change the gpio pin no. to 25 in the dts as shown in the figure.



- Click on **Build [1]** configuration again and check the **CONNECTED DEVICES [2].**
- If device id is visible, then **Flash** the code in Development Kit.
- If **flashed successfully** message is displayed on serial terminal, then flash process is complete.



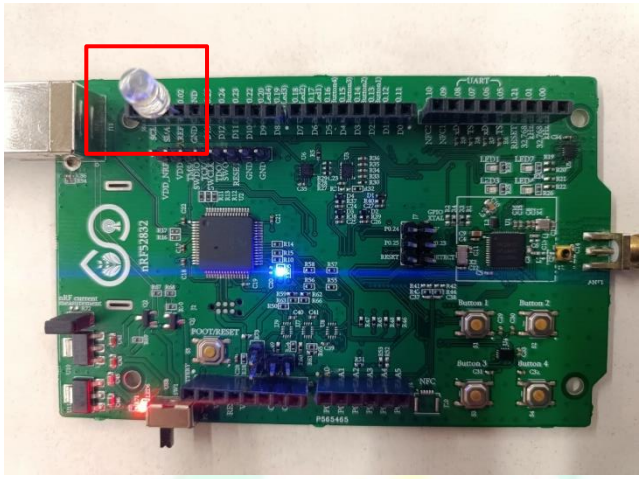
❖ PIN CONFIGURATION



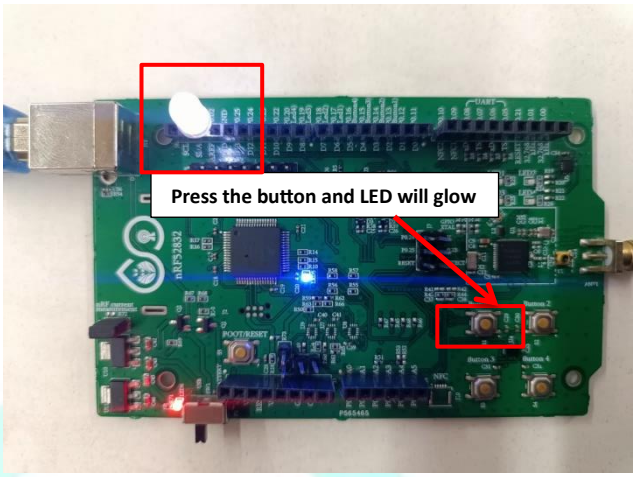
Board Pins -> LED Pins
PO.25V -> +ve terminal
GND -> -ve terminal

❖ OUTPUT

- nRF52832 board before press the button.

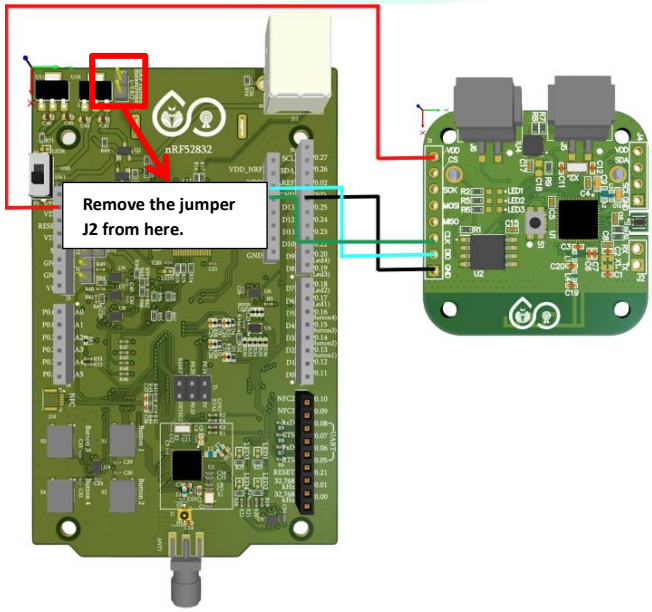


- nRF52832 board after press the button.



❖ WITH THE HELP OF NODE

- For Node programing remove the jumper **J2** from the development board.
- Now flash the code with the help of nRF52832 development board as shown below in the figure.



Board Pins -> NODE Pins
VDD -> VDD
GND -> GND
CLK -> CLK
DIO -> DIO

- NODE before flash the code.

- NODE after flash the code.