

## **EXPERIMENT – 2.1**

### **DISPLAY LIS3DH SENSORS VALUE ON TFT LCD USING DEV BOARD**

**What will you learn from this module:**

Display the reading of Accelerometer using TFT LCD, SHT40 & Development Board.

#### **Requirements:**

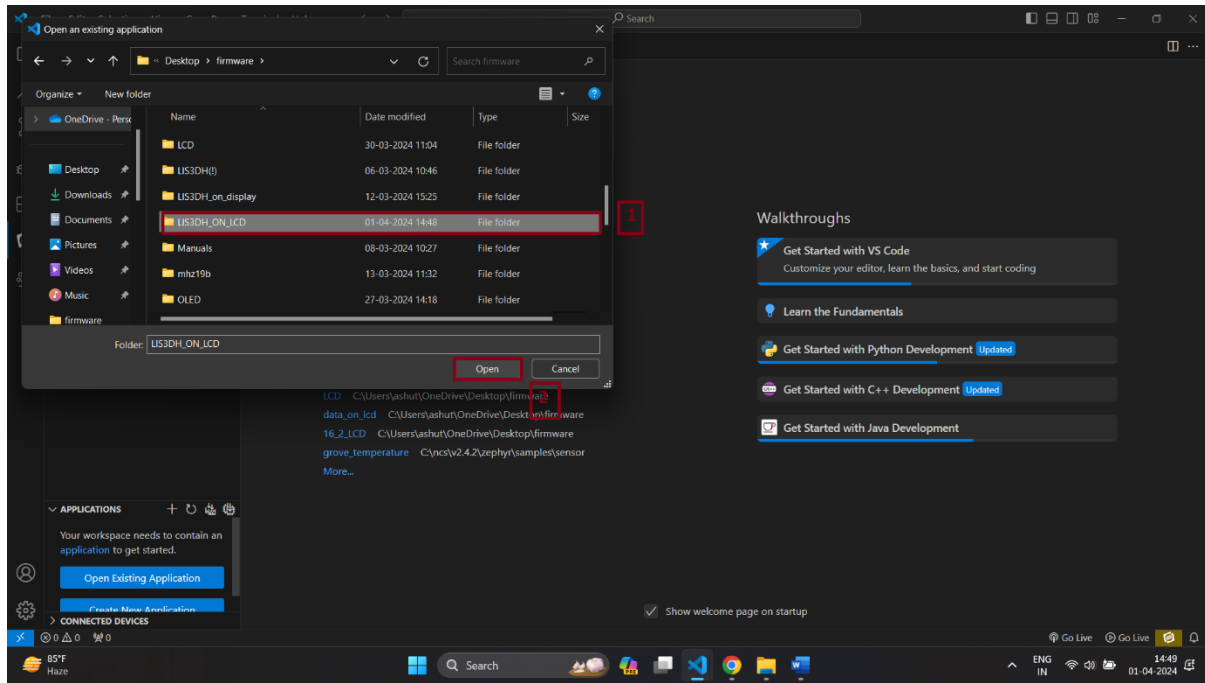
- nRF connect desktop software.
- nRF Command line tools.
- Visual studio code.
- USB cable.
- nRF52832 Development Board.
- LIS3DH sensor.
- 1.8" TFT Display.

#### **Prerequisites:**

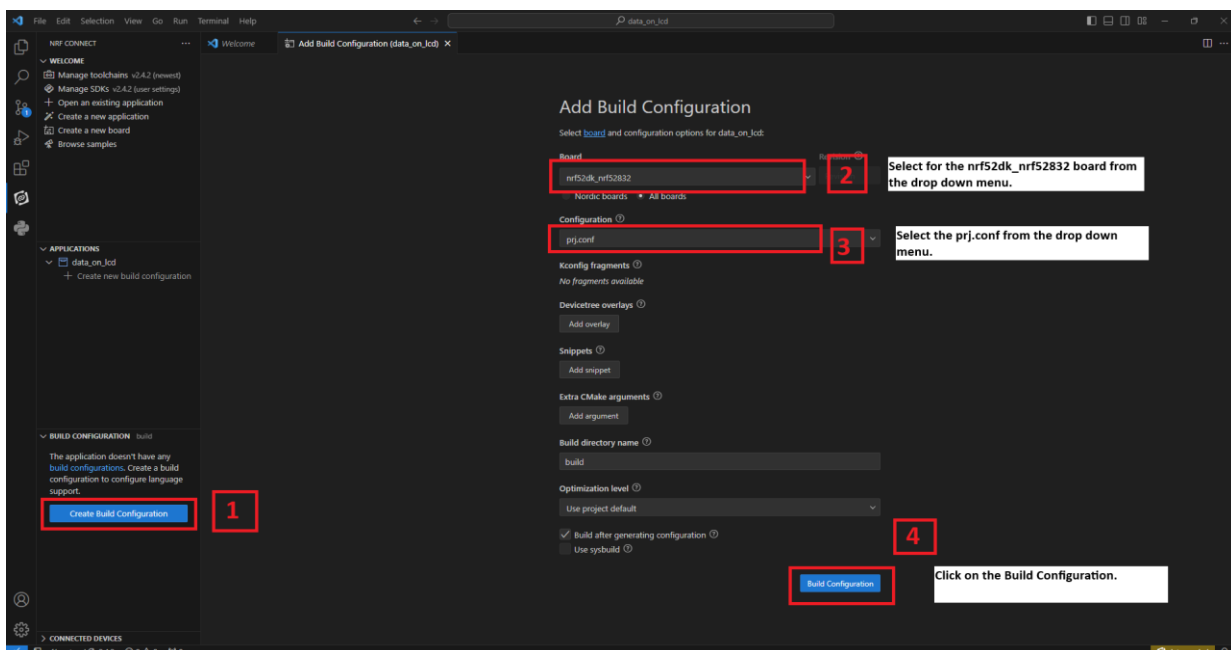
- Basic knowledge of C/C++
- Basic knowledge of communication protocol.
- Basic project setup.

## Setup and Configuration:

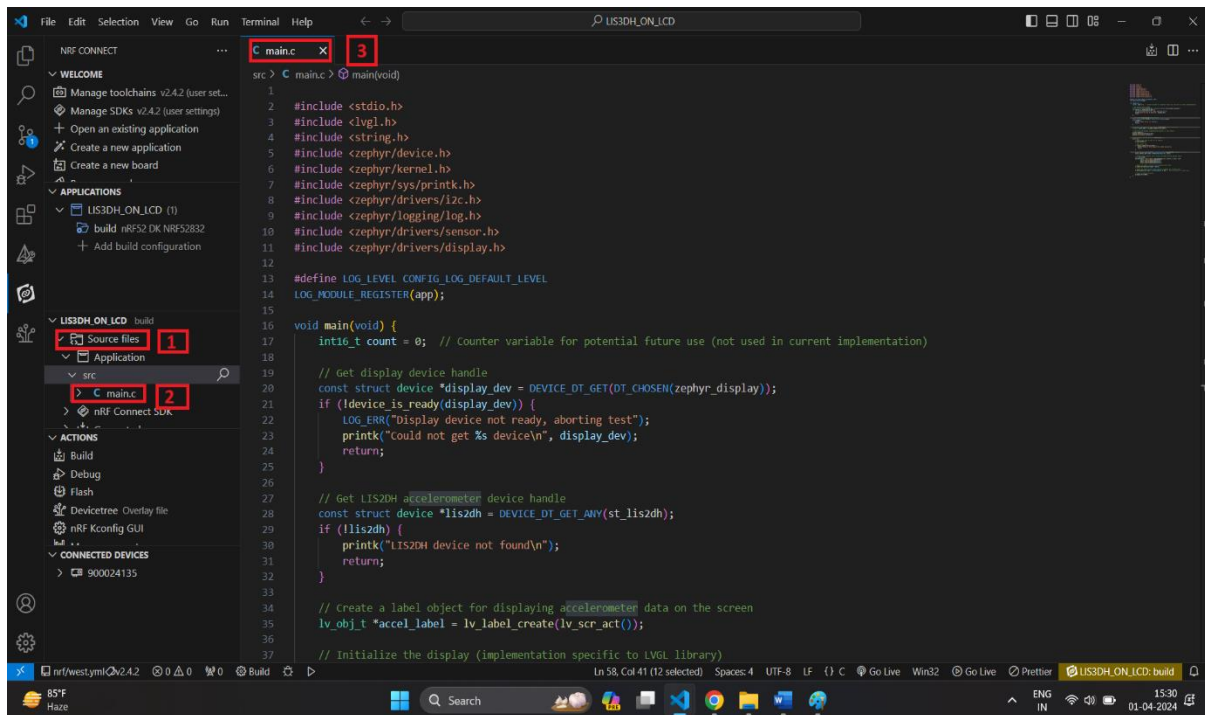
- Open VS Code and click on **Open Existing Application [1]** > click on **LIS3DH\_ON\_LCD [2]** > **Open [3]** as shown in the picture below.



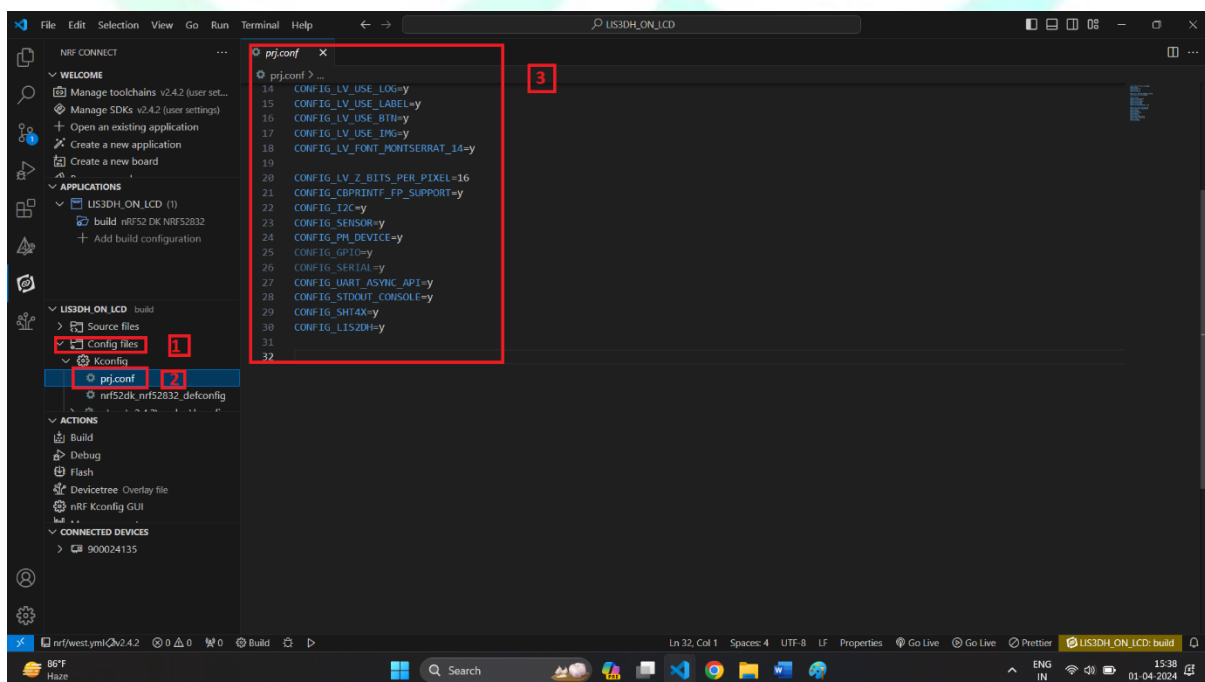
- Click on **Create new build configuration [1]**. Here you can change the board version, if you are using nRF52832, then select **nrf52dk\_nrf52832 [2]** or you can change from dropdown menu for another version like nRF52833 etc.
- Click on the Configuration and select **prj.conf [3]** from dropdown menu and then click on the **Build Configuration [4]** as shown below in the picture.



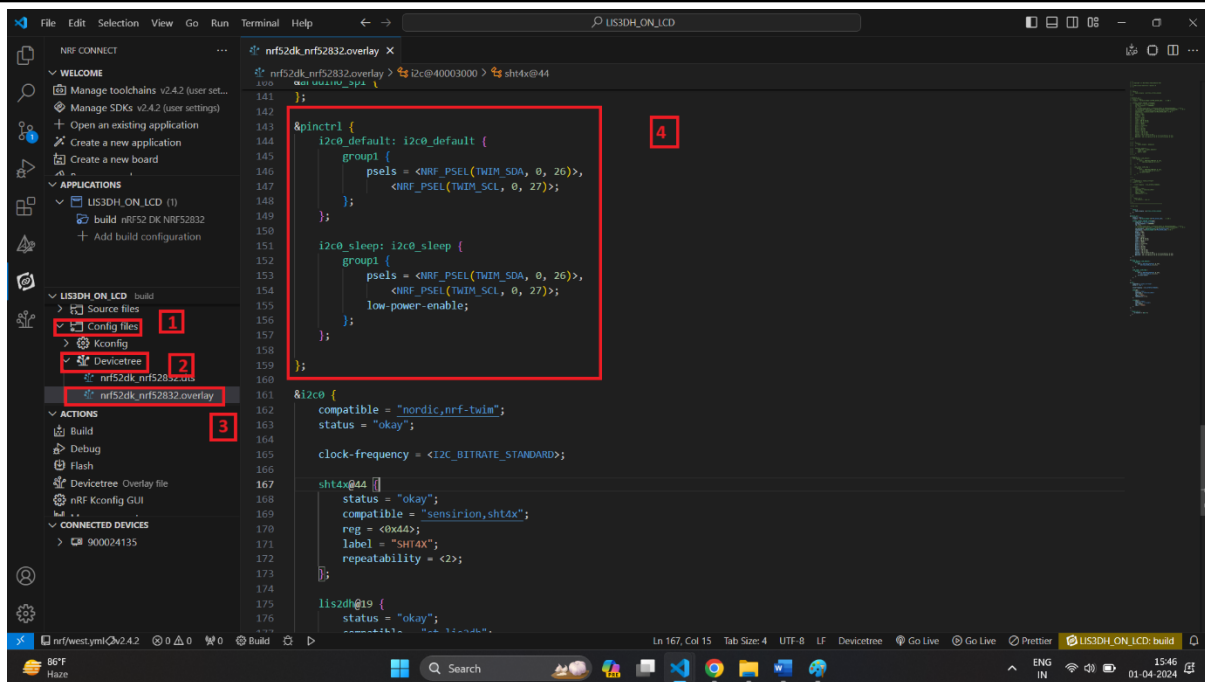
- Go to source file, click **source file [1]** > click on **Application** > click on **src** > click on **main.c [2]**.
- By clicking on **main.c** file and you will see the code on your screen [3].



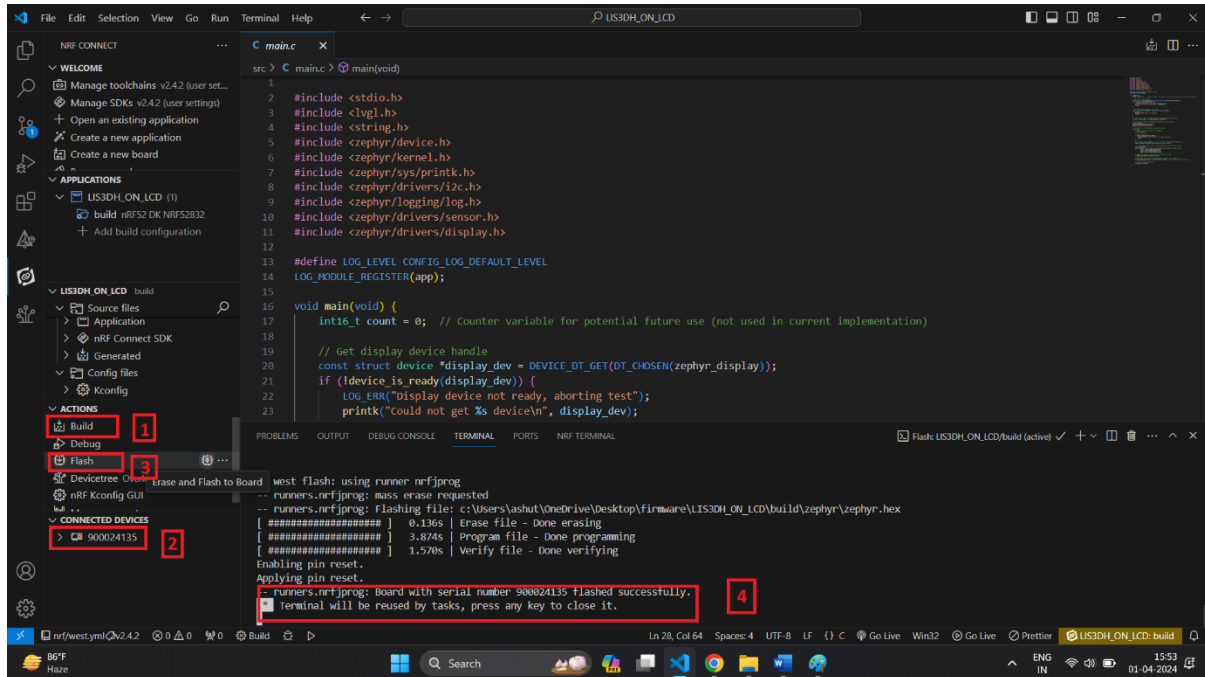
- To configure the prj configuration, click on **Config files [1]** > click on **Kconfig** > click on **prj.conf [2]**.
- The prj configuration will appear on your screen [3] as shown in the picture below.



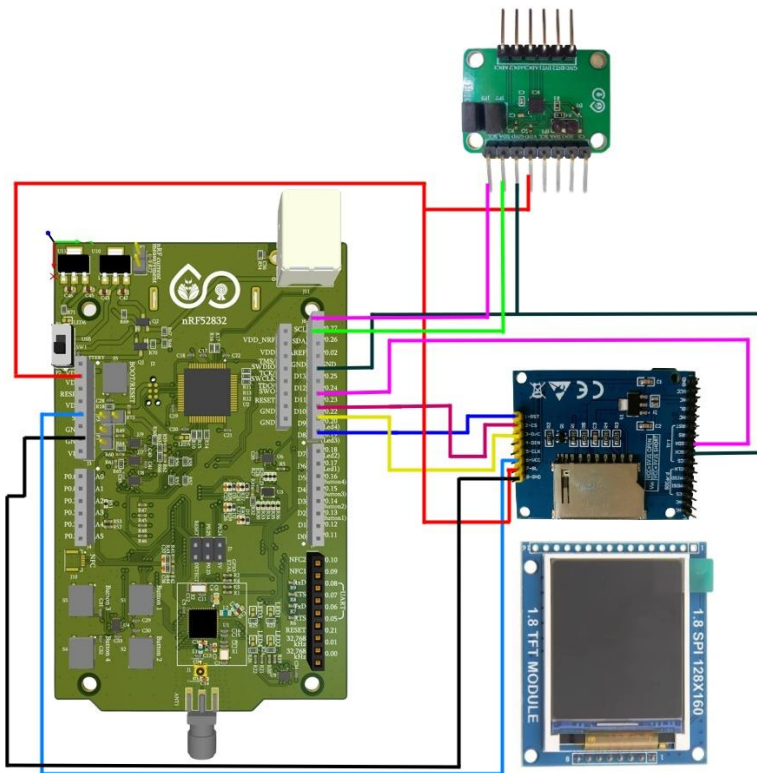
- To configure the i2c protocol, you have to enable it in the **.overlay file**.
- Click on the **Config files [1]** > click on **Kconfig** > click on **Devicetree [2]** > click on **nrf52dk\_nrf52832.overlay [3]**.
- The .overlay file will appear on your screen and add the given code to the .overlay file as shown in the picture given below [4].



- Click on **Build [1]** configuration again and check the **CONNECTED DEVICES [2]**.
- If device id is visible, then **Flash [3]** the code in Dev Kit.
- If **flashed successfully [4]** message is displayed on serial terminal, then flash process is complete.



## ❖ PIN CONFIGURATION



**Board Pins -> Sensor Pins**

**VDD(3.3V) -> VDD**

**GND -> GND**

**SDA -> P0.26**

**SCL -> P0.27**

**Board Pins -> LCD Pins**

**P0.19 -> RST**

**P0.22 -> CS**

**P0.20 -> D/C**

**P0.25 -> SCK**

**P0.23 -> SDA**

**VDD(3.3V) -> BL**

**5V -> VCC**

**GND -> GND**

## ❖ OUTPUT

