# How to program the MicroBit with the Arduino IDE

This setup guide is using two main reference guides as its source first the simple setup for the Arduino IDE:

<https://learn.adafruit.com/use-micro-bit-with-arduino/install-board-and-blink>

And then to use the I2C Seed Grove 4-channel relay board:

<https://wiki.seeedstudio.com/Grove-4-Channel_SPDT_Relay/>

## Add the nRF5 Library:

This library is the most important aspect of this guide and will allow for simple connectivity to the MicroBit.

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\*\***Note:**  Allow for this library to full download initially since the mistake was made where it seem to be frozen and the Arduino IDE was restarted it is a length process to remove all meta data for this library and will not be able to download until properly all meta data is fully deleted.

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In the Arduino IDE go to “File” 🡪 “Preferences”, and then paste the following in the “Additional Boards Manager URL’S”

https://sandeepmistry.github.io/arduino-nRF5/package\_nRF5\_boards\_index.json

This will allow for the nRF5 library to be found in the board manager. If you have any other URL’s in this field separate them with commas.

Graphical user interface, text, application, email

Description automatically generated

Next is to navigate to the board manager, “Tools” 🡪 “Board” 🡪 “Boards Manager”.

The board is called, Nordic Semiconductor nRF5 Boards. The version chosen is 0.7.0.

Click install when version selected, **let it install fully.**

Graphical user interface, text, application, email

Description automatically generated

This will then install a set of board that can be selected through the boards tab.

Text

Description automatically generated

It doesn’t state this in the guide link but the “BBC micro:bit V2” must be selected to be able to program the boards (Note was using V2 at the time of testing).

The “SoftDevice” parameter will need to be set within the “Tools” tab,

Graphical user interface, application

Description automatically generated

The above screenshot is from guide and states to use the “S110”, but this seen to change but will not harm the MicroBit so try ether of the options.

Next is to setup the port, where is the MicroBit is currently connected to the PC it will indicated which port to select.

Graphical user interface, application

Description automatically generated

The Arduino IDE is now able to program the MicroBit similar to how the Arduino would be programmed by clicking the “upload” button.

The features tried out using this method was the relay board, push button presses and radio comms. The receive radio information was found to only work for “send value” n=only not “send value with name”. The transmit was not fully fleshed out.

Example files are attached with this document and also if the radio features are tried the two library links below are need/helpful.

<https://github.com/adafruit/Adafruit_Microbit>

<https://www.arduinolibraries.info/libraries/microbit-v2-hhs>

Especially the Microbit-v2-hhs, once added to the Arduino IDE if you navigate to “File” 🡪 “Examples” 🡪 “MicrobitV2-HHS”. There are more example code that show how to use the radio comms (How the file “TestRadioCode” was made) and some basic microbit functions can be done in C++.

Happy Coding 😊.