

# Tutorial

This tutorial is to teach you how to use the provided code to communicate between two Arduino devices.

1. Prepare two Arduino Devices A and B (for example Arduino Nano 33 BLE).
2. Download [ArduinoBLE library](#) in your *Manage Libraries* of Arduino IDE.
3. Modify the ArduinoBLE Library (refer to this [link](#)):

3.1 For BLEDevice.h: add this code

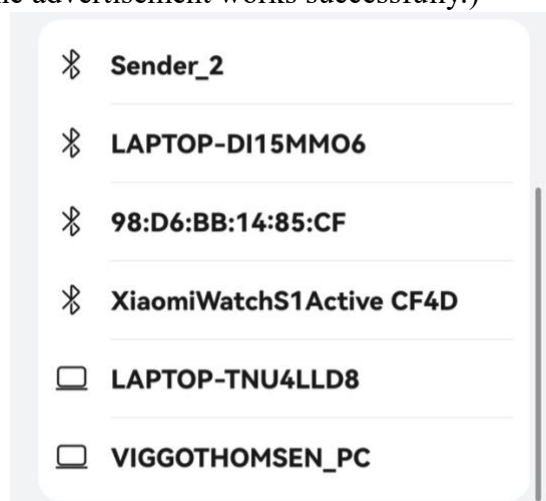
```
int getAdvertisement(uint8_t value[], int length);
```

3.2 For BLEDevice.cpp: add this code

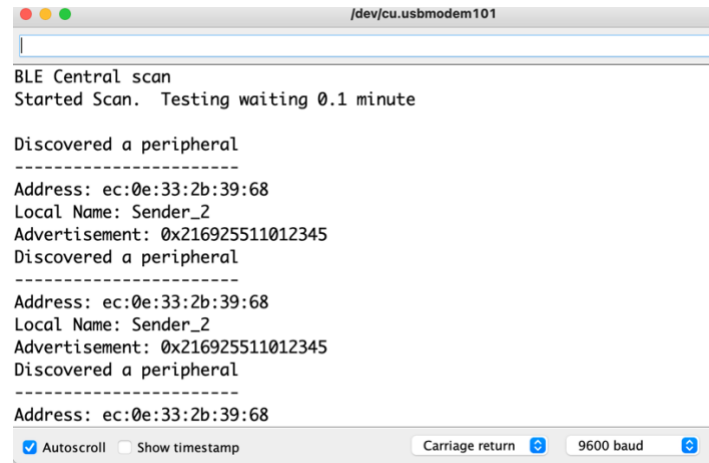
```
int BLEDevice::getAdvertisement(uint8_t value[], int length)
{
    if (_eirDataLength > length) return 0; // Check that buffer size is sufficient
    if (_eirDataLength) {
        memcpy(value, _eirData, _eirDataLength);
    }
    return _eirDataLength;
}
```

4. Upload the *Sender* project to Arduino A (as a Peripheral Device). We set the name of this BLE as "Sender\_2", and the advertised data is 216925511012345.

(If you use the smartphone to scan, then you can see Sender\_2 in the Bluetooth list, which means the advertisement works successfully.)



5. Upload the *Receiver* project to Arduino B (as a central device). We search name of BLE started with "Sender" and print out the received customized data. The figure shows that the advertisement is 216925511012345, which is exactly same as the data we advertised.



The screenshot shows a terminal window titled "/dev/cu.usbmodem101". The output text is as follows:

```
BLE Central scan
Started Scan. Testing waiting 0.1 minute

Discovered a peripheral
-----
Address: ec:0e:33:2b:39:68
Local Name: Sender_2
Advertisement: 0x216925511012345
Discovered a peripheral
-----
Address: ec:0e:33:2b:39:68
Local Name: Sender_2
Advertisement: 0x216925511012345
Discovered a peripheral
-----
Address: ec:0e:33:2b:39:68
```

At the bottom of the terminal window, there are controls: a checked "Autoscroll" checkbox, an unchecked "Show timestamp" checkbox, a "Carriage return" button with a circular arrow icon, and a "9600 baud" dropdown menu with a circular arrow icon.

6. For more information about Arduino BLE, please see this [link](#). For more examples using Arduino BLE, please see this [link](#).
7. Have fun!