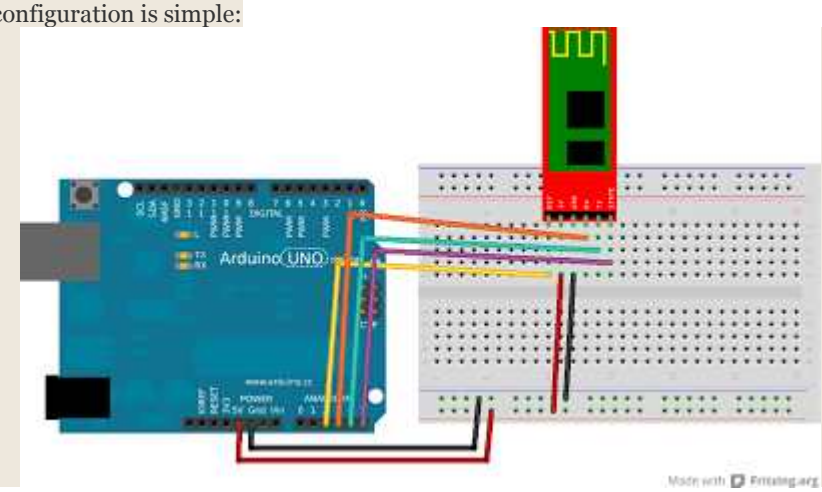
Setup

The breadboard configuration is simple:



This is the recommended connection and matches the default HC05 library configuration:

- HC05:Key to UNO:A2
- HC05:State to UNO:A5
- HC05:TX to UNO:A4
- HC05:RX to UNO:A3
- HC05:GND to UNO:Gnd
- HC05:5V to UNO:5V

Look at line 14 of `echo.ino` to see how the library is initialized for this wiring configuration:

```
HC05 btSerial = HC05(A2, A5, A3, A4);  // cmd, state, rx, tx
```

Procedure

Install

To install the library on a Linux system, use `git` to clone the repository. The following example steps assume that you have already installed and run the Arduino IDE at least once:

```
$ cd ~/sketchbook/libraries
$ git clone https://github.com/jdunmire/HC05.git
```

Open and upload

Now start up the Arduino IDE and open the `echo` example. It is found in the `File->Sketchbook->libraries->HC05->Examples` menu. Upload the sketch.

Observe Debug Output

When you have the `echo` example uploaded, open the Arduino Serial Monitor (`Tools->Serial Monitor`). Set the serial speed to `57600 baud`. You should see messages like these displayed:

```
findBaud
Trying 9600... x
Trying 19200... x
Trying 57600... x
Trying 115200... x
Trying 38400... Found.
No Connection. waiting...
```

The `findBaud` function tries different serial speeds until it gets a response from the HC05. It prints an '`x`' if HC05 does not respond and '`Found`' when it does. It stops testing after it detects a response.

The `No Connection. waiting...` message comes from the `btSerial.println()` function called at line 27 of `echo.ino`.

At this point the `echo` example is waiting for a BT connection to be established.

BT Connection

Now use your BT terminal to connect to the HC05. There are so many different ways to do this that I have to leave it to you to figure out.

Once the connection has been established you should see this message on the terminal:

```
Echo Server- type something
```

If you don't see it, try pressing the reset button on the Arduino UNO.

Back on the Arduino Serial Monitor you will find that 'OK' has been printed at the end of the 'No Connection' line. This indicates that a connection has been established and that the `echo` sketch is ready to echo back any characters it receives over the BT interface.

```
No Connection. waiting... OK
```

At this point anything you type at the BT terminal should be echoed back a character at a time.

BT Disconnect

When you turn off or disconnect the BT connection from the BT terminal, the Arduino Serial Monitor will show that the echo sketch has gone back to waiting for a connection:

```
No Connection. waiting... OK
```

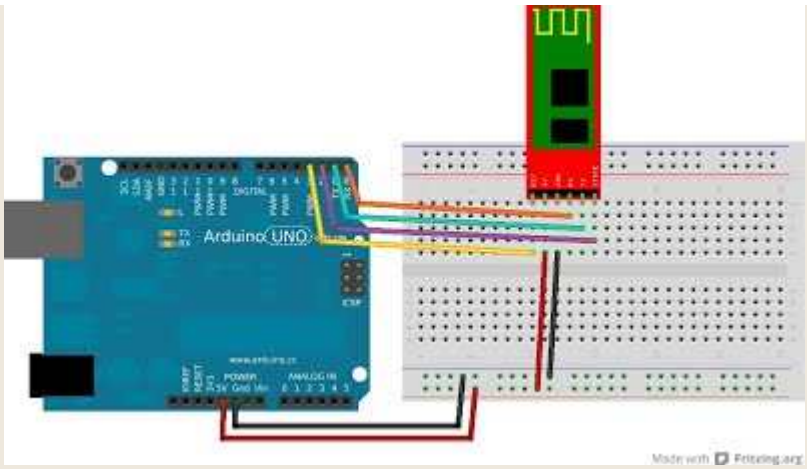
```
No Connection. waiting...
```

Wrap-up
The echo sketch doesn't do much, but it is always a good starting point for confirming that the library configuration matches your wiring.

Exercises

Here are some things you can try on your own:

- Try using the hardware serial port. Comment out line 38 of `HC05.h` and use this wiring diagram:



You can't get debugging messages on the Arduino Serial Monitor with this configuration, and the HC05 must be disconnected while you upload the sketch.

- Use the nameChange example sketch included with the library to change the name the HC05 broadcasts. If you are going to use multiple HC05s in your project, this makes it much easier to identify them.