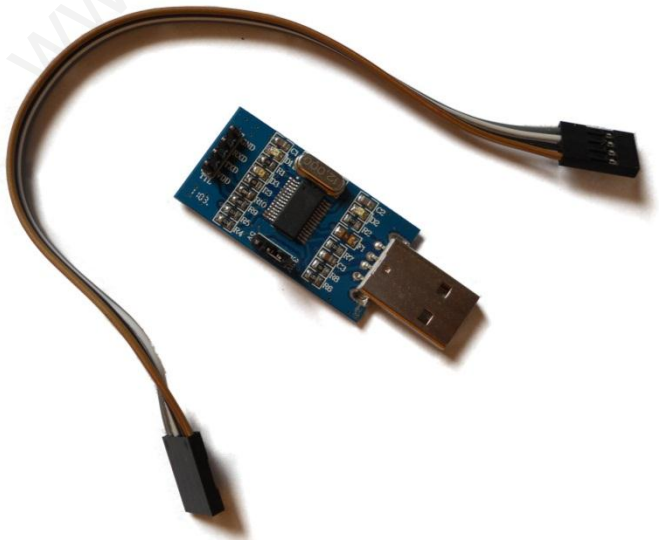
UART-WIFI Webserver MODULE TEST

We have another WIFI module in our shop. That WIFI module communicates via SPI interface, which is not easy for some beginners. But it might be a little hard to use this module. The code is long and complicate. Interpreting the code is always hard and boring, especially for those who don't want to waste much time on this module.

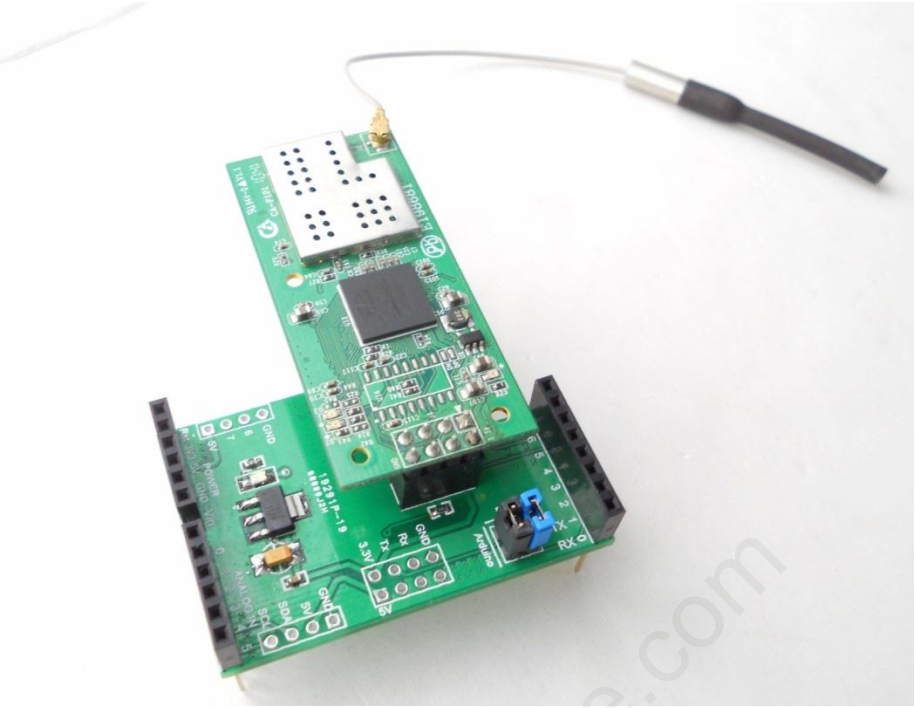
So we supply another WIFI module here. It has UART interface. And it is more powerful, with more functions.

According to the manual, here we show how to connect it to network.

Along this module, you will get an USB-TTL module.



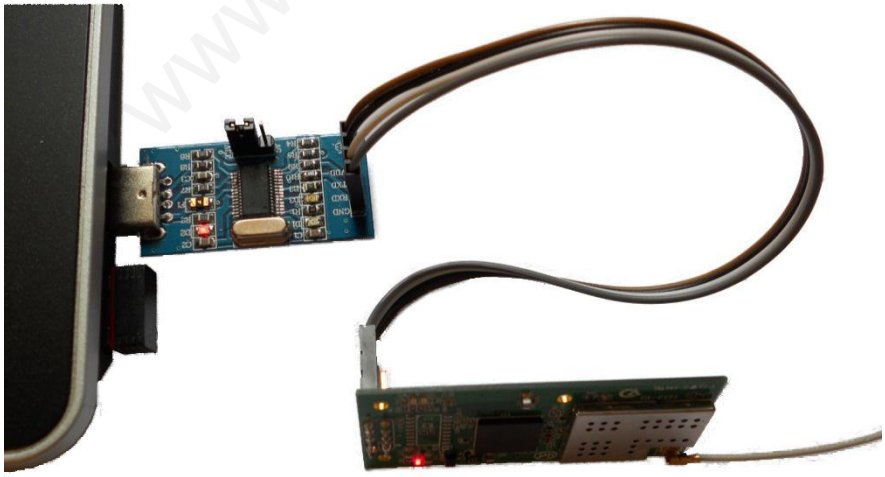
*If you are Arduino users, we strongly recommend **Arduino WiFi Module Shield**.*



Test Steps

Step 1

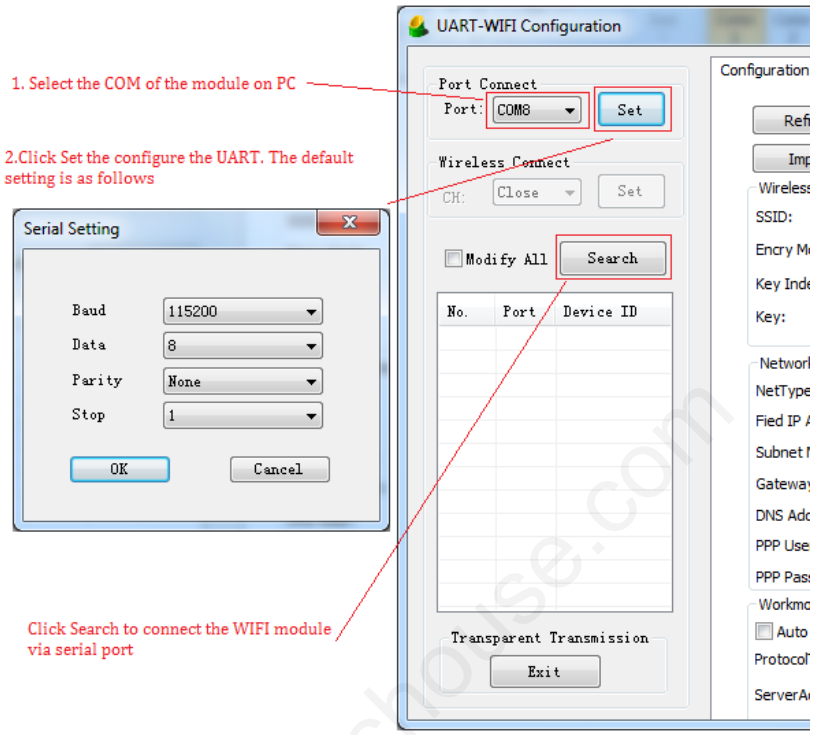
Connect WiFi module with PC via this module. Before you do it, make sure your WiFi module is connected to USB-TTL modules in the right way. Make sure you choose 3.3V on the USB-TTL board. Please be careful, do not reverse the wire connection, or the module might be damaged.



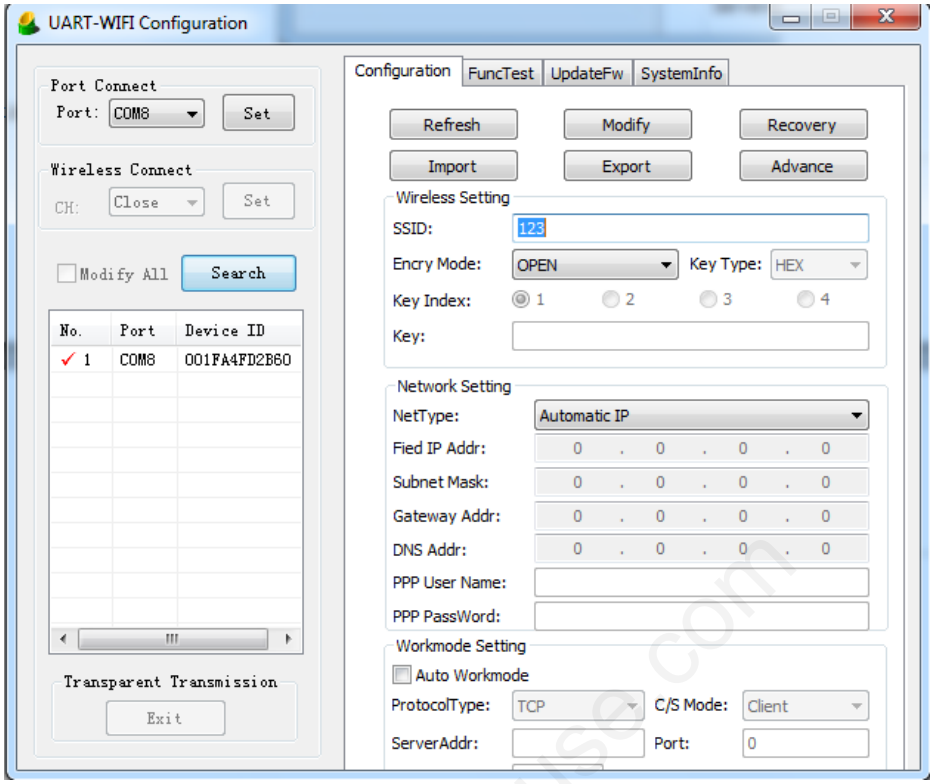
Step 2

If you use this module for the first time, please see Step 9 first.

Start the software UART-WIFI.exe and connect to the device.



If successful, you can get the following result:



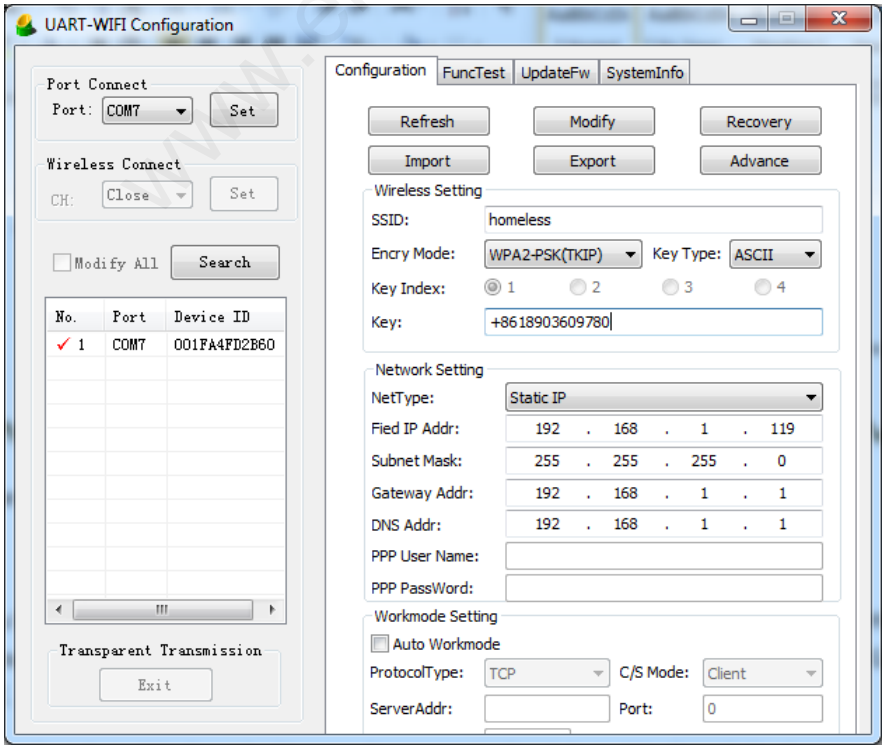
Sometimes the software will pop up a pomp reporting parameter error, please just ignore it.

If the software can't detect the device and you make sure your hardware connecting is right, this WiFi module might enter ***Auto Workmode*** *in which all the data entered into it via UART will be sent wirelessly directly. You have to exit this mode first. Please refer to the last optional step, then repeat step 2 again.*

Step 3

Enter the SSID, Encry Mode, Key Type and Key parameters. Those parameters much match your wireless router. Here is the configuration of my wireless router:

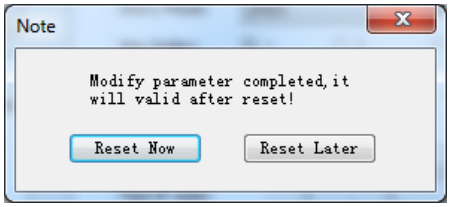
Enter the Parameter:



Also you have to enter you're the NetType parameter. If you wireless router supports DHCP (most routers do), you can choose "Automatic IP". Or else you have to enter the IP and Gateway yourself. Here we enter a fixed IP.

*Do not select **Auto Workmode**. You can learn more about **Auto Workmode** in the manual.*

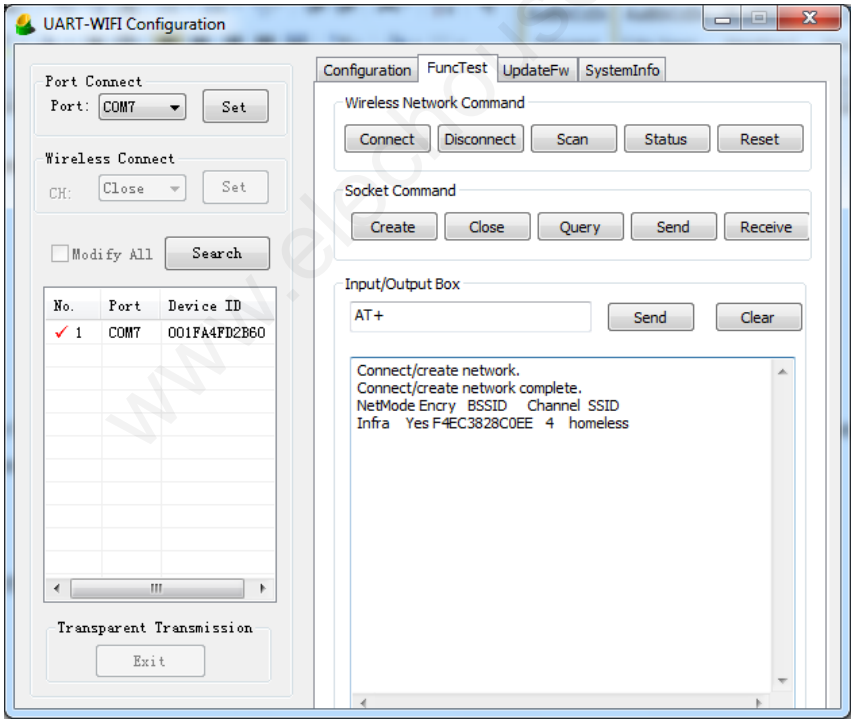
*Click **Modify** the save the configuration:*



*Click the **Reset Now** to reset the module. Then close the software and restart it again. Search and connect to the device as descripted above.*

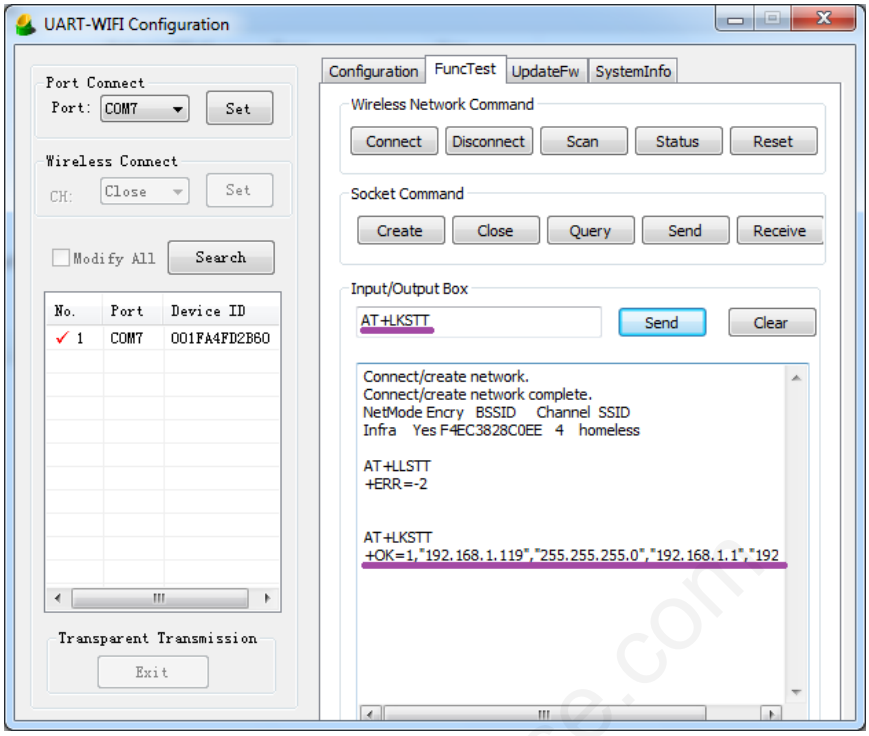
Step 4

*Choose the **FuncTest** in the top menu, and click Connect. If successful, you will get:*



Step 5 (optional)

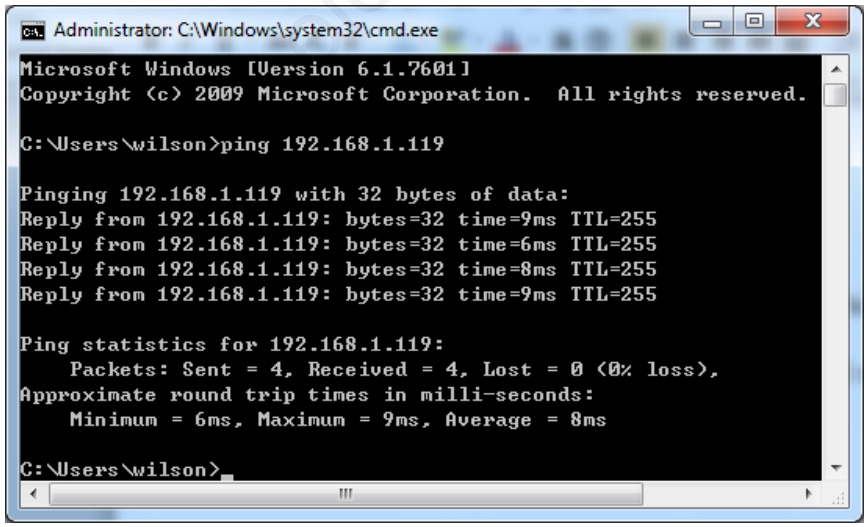
If you set a fixed IP for this module as we did above, you can skip this step. Or if you use DHCP, you have to do this step to get the IP information.



Please refer to AT+LKSTT command in the manual for more information.

Step 6

Verify the connection. We will ping this module from PC and also visit the web-congif page of this module.

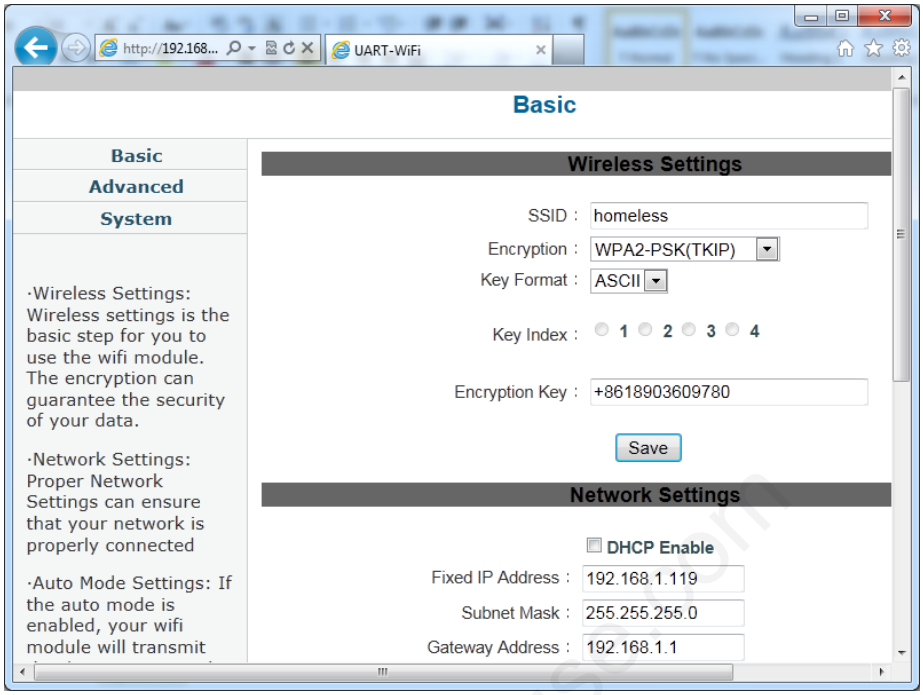


In your browser, visit http://192.168.1.119

In the windows, enter the following information:

User name: admin

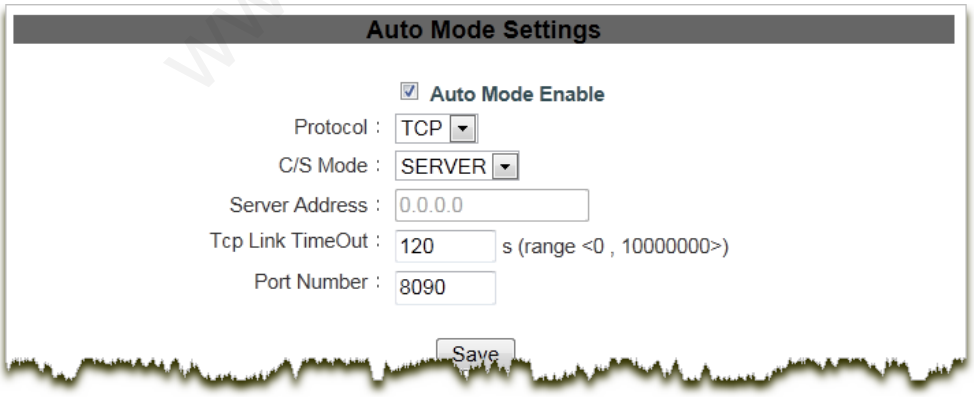
Password: 000000



Step 7

To do further test, we have to change some configuration. We will enable Auto Mode. In Auto Mode, all the data sent to serial interface will be transmitted wirelessly, and all the data (above TCP) received from wireless network will be sent back via serial interface. If you want to configure the module via serial port, you have to exit Auto Mode first. Please refer to the last step to know how to exit Auto Mode.

At the end of the web-config page, do the following configuration.

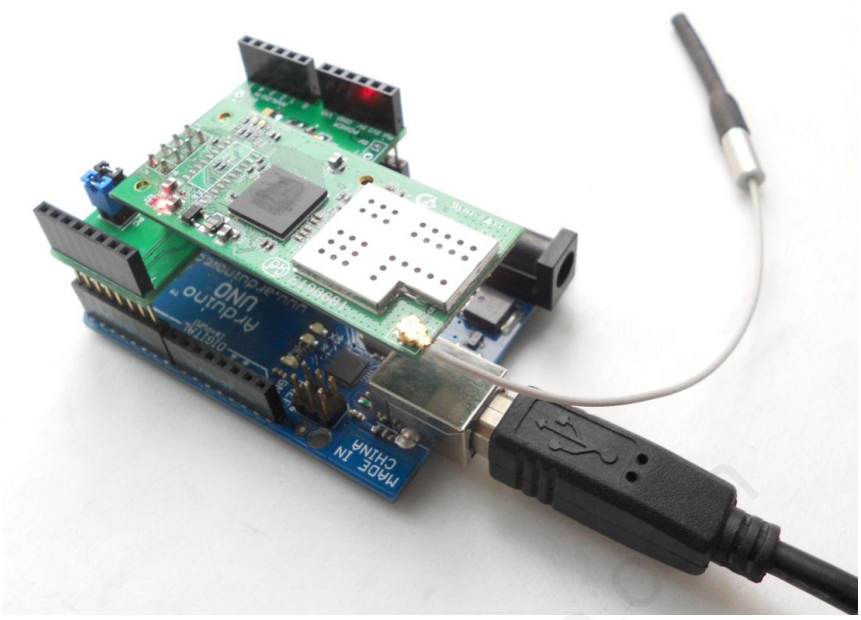


*Click **Save** and the module will restart.*

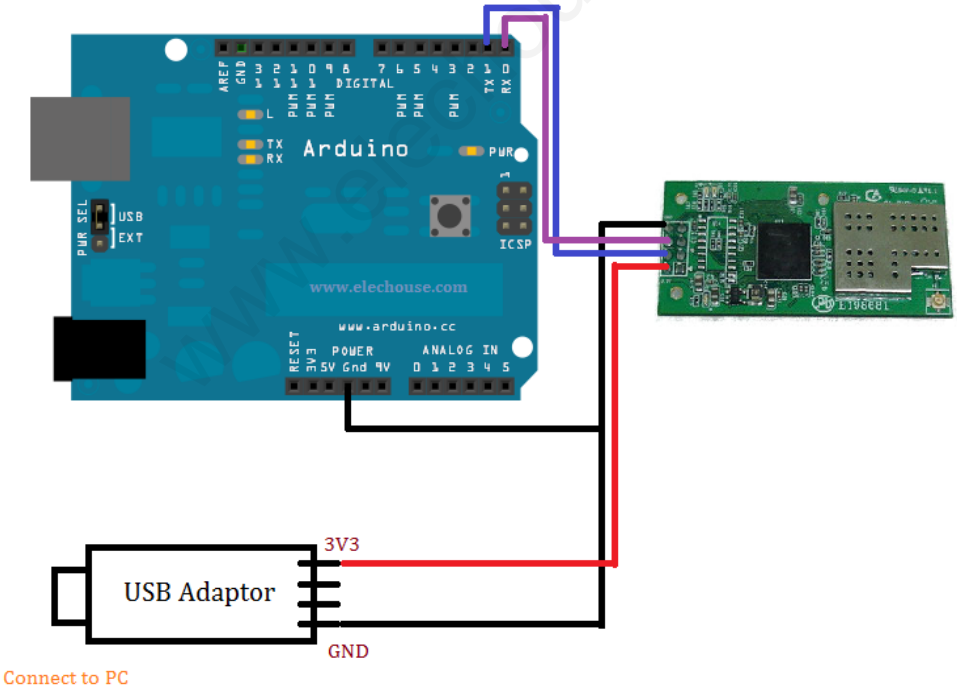
Step 8

Connect this module with Arduino.

If you got an Arduino WiFi Module Shield, connection will be easier:



If you don't have the shield, you can connect with wires, as follows:



Note: you can't connect WiFi module's VCC pin to Arduino 3.3V pin. Because Arduino 3.3V pin can't supply enough current for WiFi module.

Please wait for some time. It will connect to network automatically. The read LED will flash if it gets into network.

Then upload the following code to Arduino:

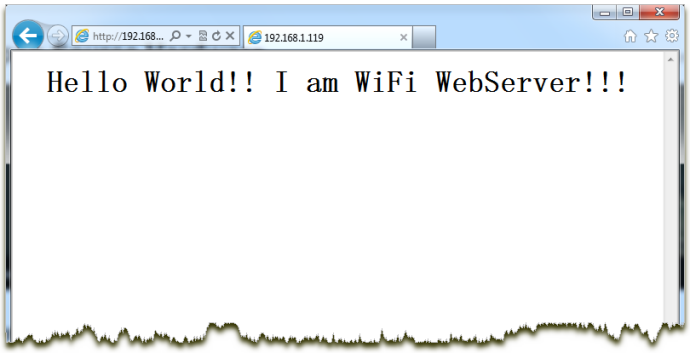
```
void setup()
{
        Serial.begin(115200);
}
void loop()
{
        boolean currentLineIsBlank = true;
    while(1){
     if (Serial.available()) {
     char c = Serial.read();
     // if you've gotten to the end of the line (received a newline
     // character) and the line is blank, the http request has ended,
     // so you can send a reply
     if (c == '\n' && currentLineIsBlank) {
      // send the webpage
       Serial.println("HTTP/1.1 200 OK\r\nContent-Type: text/html\r\n\r\n<center><h1>Hello World!! I am WiFi
WebServer!!!</h1></center>");
       break;

     }
     if (c == '\n') {
      // you're starting a new line
      currentLineIsBlank = true;
     }
     else if (c != '\r') {
      // you've gotten a character on the current line
      currentLineIsBlank = false;
     }
    }
    }
}
```

Note: in the code above, we initial serial interface at 115200bps. If you connect WiFi module with wires, we recommend you configure the interface at 9600bps. Of course you should modify the serial baud rate on WiFi module too. Please refer to latter information for more details.

From the code above, we can see that there is nothing with network thing (such as TCP/IP), which make much easier for those who know little about networks.

Visit http://192.168.1.119:8090 in your browser.

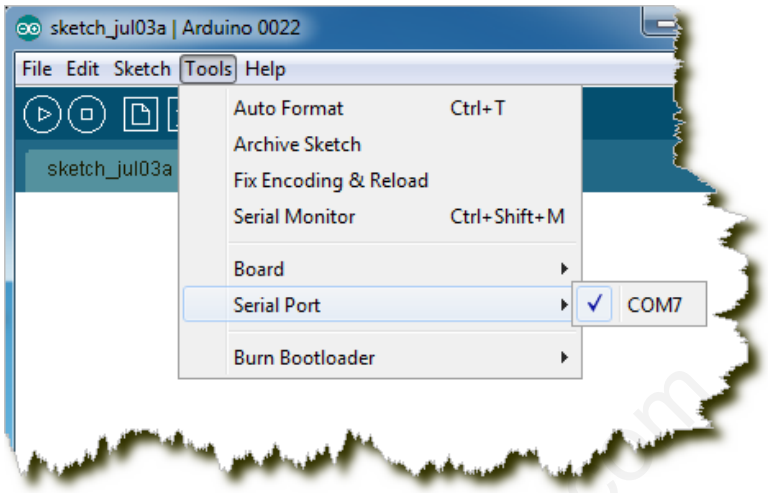


Step 9 (optional)

*If you can't access this module by UART-WIFI.exe, you may have to exit **Auto Workmode**.*

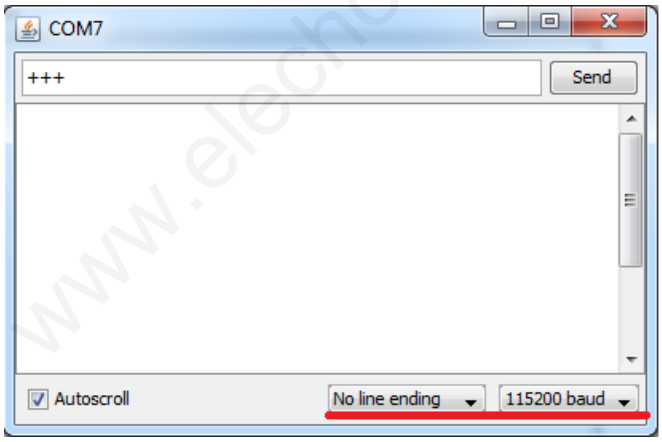
Please close the UART-WIFI.exe first and start some COM-config software. Here I use Arduino IDE serial monitor.

1. *Select the COM first*



*Please go to **Hardware Manager** in your PC if you do not know the COM number.*

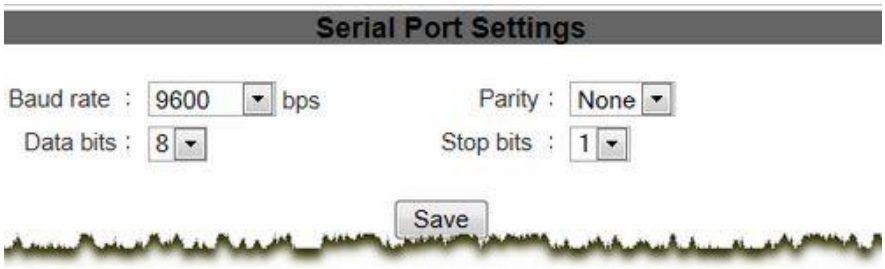
2. *Open serial monitor and configure it*



*Please note that choose **No line ending** and the baud rate 115200.*

3. *Send "+++". If return "+OK", it means successful.*

*If you need to modify baud rate of WiFi module, In the Web-config page, click **Advanced** in the left-top menu, change the Baud rate in the **Serial Port Settings**:*



*Click **Save** and the module will restart.*

Known problems and Solution

1. *If you use our **Arduino WiFi Module Shield**, please use external power supply. Because the working module might be over 300mA, which might cause damage to your USB if your power supply comes from your USB adaptor.*
2. *If you use our **Arduino WiFi Module Shield**, and the wifi module doesn't work while you connect it to Arduino and power it up, please erase the program in your Arduino. You can do it by burning the Blink example.*
3. *The power regulator chip might become very hot. This is because the current is large, over 300ma, and the drop voltage on the chip is large too if your external power is 9V. One solution is replacing 9V adaptor with 7V adaptor. Then the heat will reduce much.*

Disclaimer and Revisions

The information in this document may change without notice.
Revision History

Rev.	Date	Author	Description
A	May. 12th, 2011	Wilson Shen	Initial version
B	Oct. 22nd, 2011	Wilson Shen	Add WiFi shield part
C	Dec.12th,2011	Wilson Shen	Add "Known problems and Solution"

Please visit www.elechouse.com for any updated information.