

Tutorial(AT Command Version): DFRobot WiFi Shield V2.1(SKU: TEL0047)

This is a DFRobot WiFi Shield V2.1 tutorial. In this tutorial we will show you how to use the AT commands to set the configuration of your WiFi shield V2.1, and how to get basic serial communication up and running between your PC and the WiFi shield V2.1.

Scope: This is a tutorial for setting up the DFRobot WiFi Shield V2.1 by using AT commands.

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Date: 12-09-2011

Software needed:

Input: Terminal interface like Putty

Output: Arduino IDE

Hardware needed:

1. Arduino
2. DFRobot WiFi shield V2.1
3. Wireless router
4. a spare CAT5 cable
5. Arduino standard USB cable

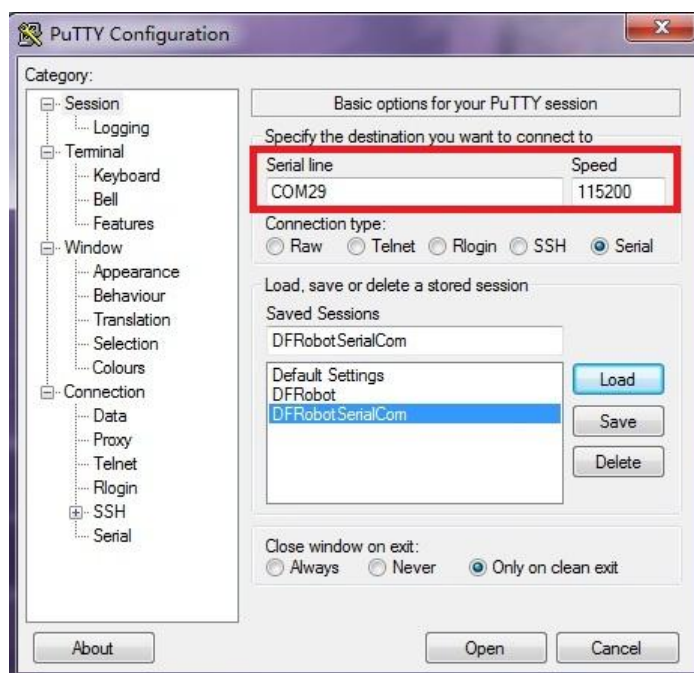
Setting up your WiFi shield for serial communication:

1. Upload programming codes in which serial ports will not be used like “Blink”, for we have to make sure serial ports are available for Wifi communication.

Switch jumpers on the Wifi shield to the USB mode and plug the Wifi shield into your Arduino.

Supply power (7V-12V 1000mA is the recommended) to arduino and connect your PC to the Arduino USB port.

1. Once all the hardware settings done, let’ s run a Terminal interface like Putty to send AT commands to Wifi module in order to set its configuration.



Set the configuration of Putty with the baudrate of 115200 and choose the serial port 29.



Then you can send AT commands to Wifi module through your serial terminal according to the command list below.

```
AT-----Testing whether the module is connected to serial port;
[OK] -----The module is ready to receive commands;
AT+WD-----Disconnected from the current network;
[OK]
AT+WWPA=dfrobot!-----Set AP the code as dfrobot!;
[OK]
AT+NDHCP=0----- DHCP is forbidden;
[OK]
AT+NSET=192.168.10.101,255.255.255.0,192.168.10.1
-----Default settings: Static IP, Subnet Mask, Gateway
[OK]
AT+WAUTO=0,dfrobot,,0-----Set as AP mode and connected to AP
(dfrobot) through channel 0;
[OK]
AT+NAUTO=1,1,,5001-----Set as TCP server through port 4000
[OK]
ATC1-----Connected automatically when restarted;
[OK]
AT&WO-----Save the settings;
```

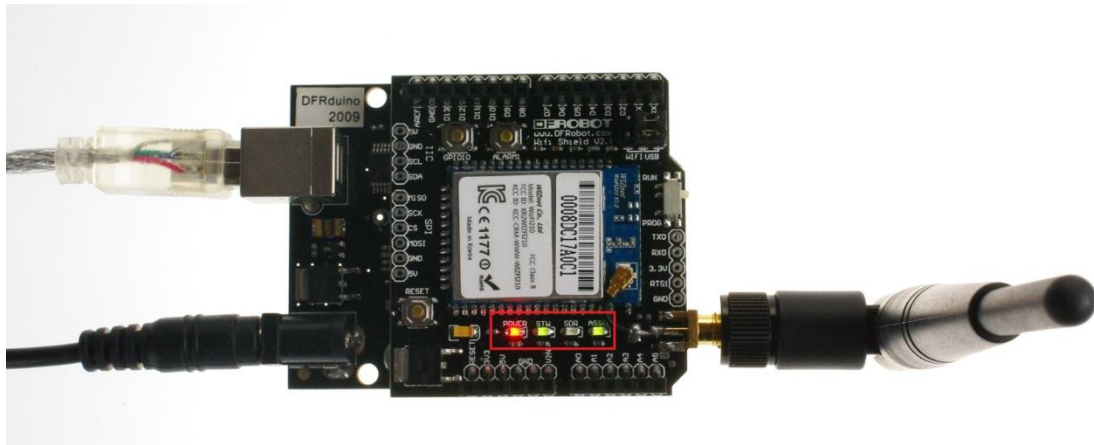
[OK]

ATA-----Connected automatically;

IP                    SubNet            Gateway  
192.168.10.101: 255.255.255.0: 192.168.10.1

[OK]

Note: you can change more settings according to the commands list on the WizFi210 datasheet V1.01. Once all the settings above done, the LEDs marked as “STW” and “ASSOC” on the WiFi shield, will be on.



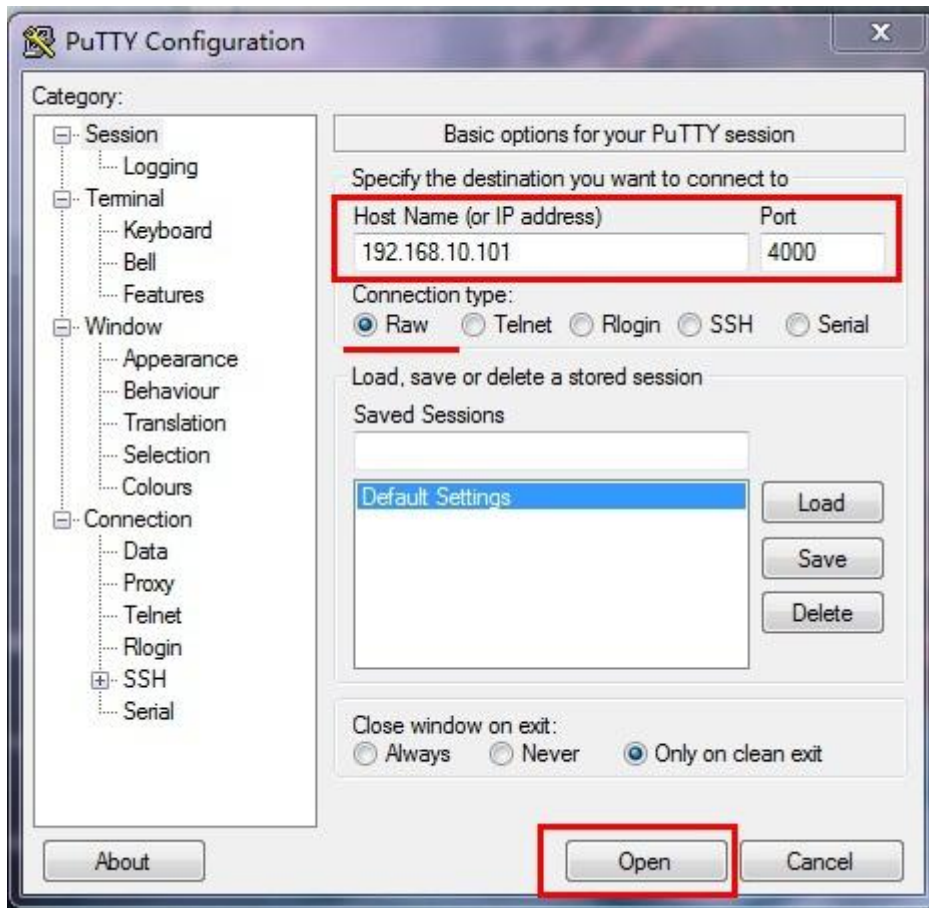
And there also will be a device connected shown on the main page of the router like this:

Wireless Statistics					
Current Connected Wireless Stations numbers: 1 <input type="button" value="Refresh"/>					
ID	MAC Address	Current Status	Received Packets	Sent Packets	
1	00-08-DC-17-A0-C1	WPA2-PSK	2	0	
<input type="button" value="Previous"/>		<input type="button" value="Next"/>			

WiFi Serial mode

Now open a terminal. You can use PuTTY, or if you have a Windows XP machine you can use the Hyperterminal included. and connect to the WiFi shield’ s IP address. Don’ t forget to indicate the server port. In our example we are using port “4000” .

Settings in Putty



Settings to allow you to see what you are typing in PuTTY

Once connected to the WiFi shield you should be able to send data to Arduino through WiFi. Just input data into Putty's input blank, and the serial monitor of arduino which connected with arduino will show the data arduino receives.

