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

Thid is a DFRobot WiFi Shield V2.1 tutorial. In this tutorial we will show you how to use the software 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: Barry
Date: 11-10-2011

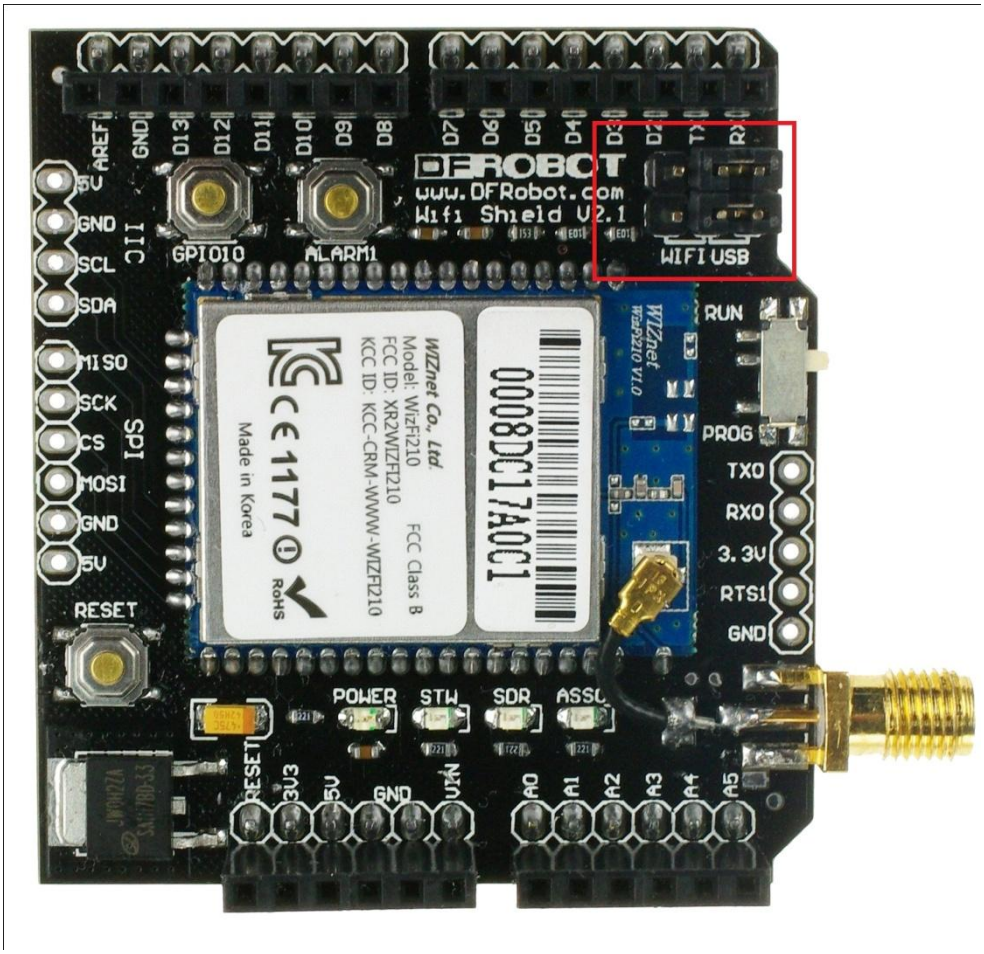
Software needed:

Setting configuration: WIZSmartScript.exe
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

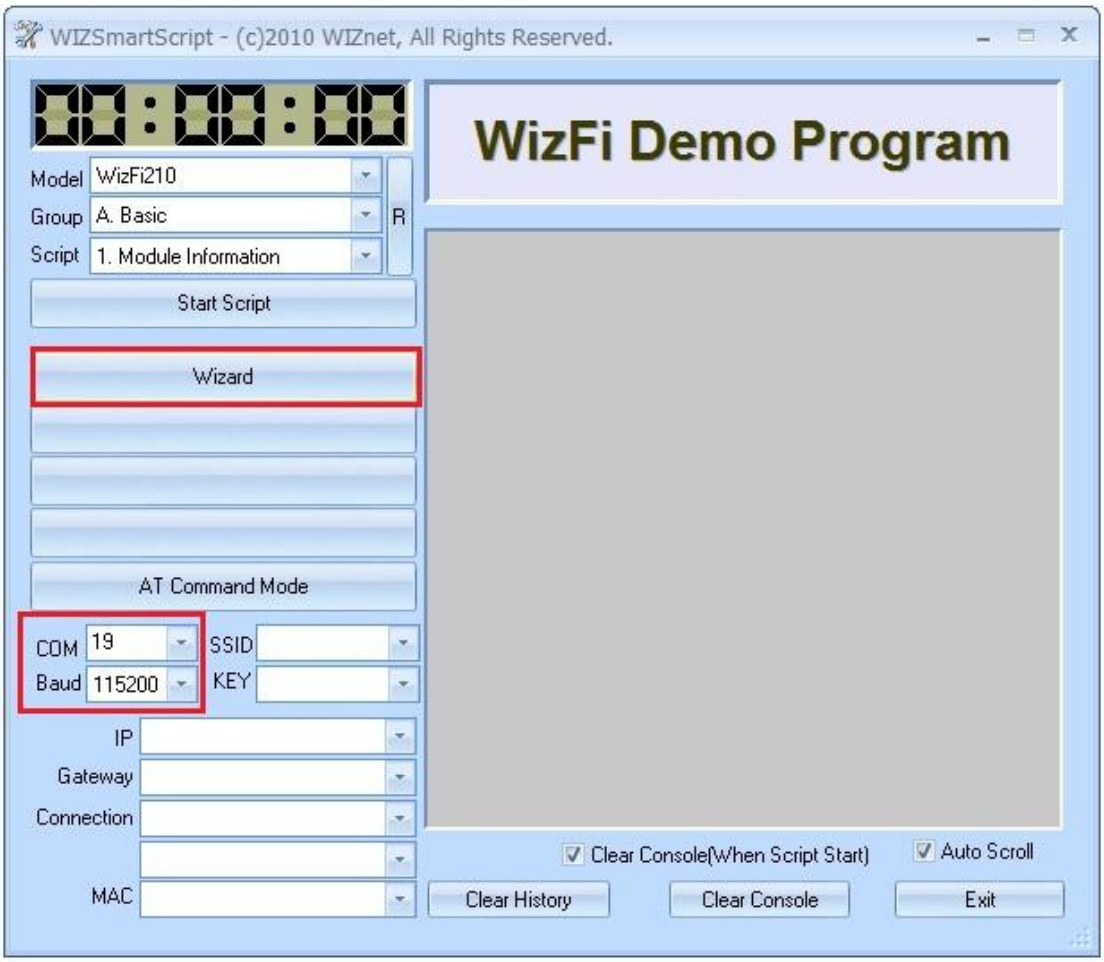
**Setting up your WiFi shield for serial communication:**

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.

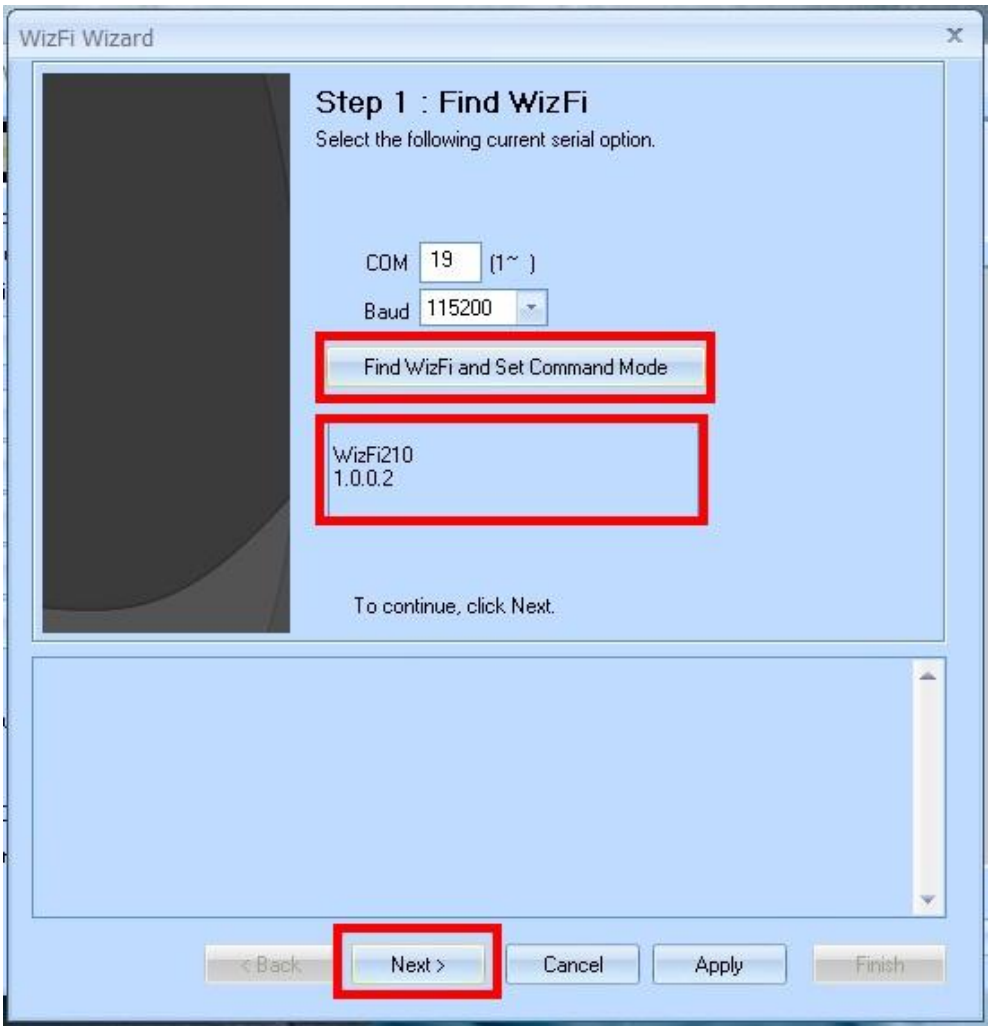



1. Once all the hardware settings done, let's run the software "WIZSmartScript" to set the configuration of the Wifi module. You can download the software from the Wiznet website.

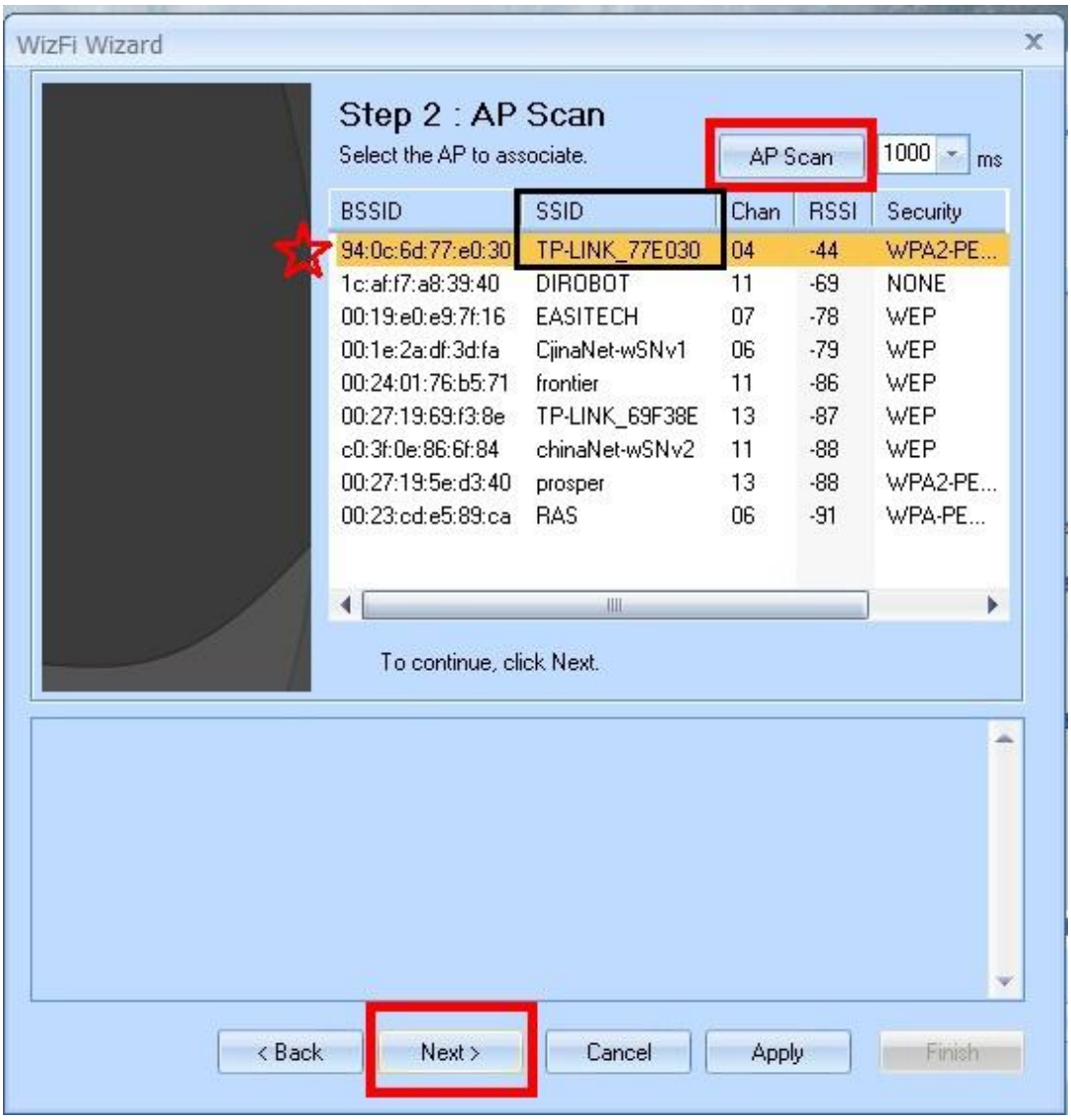
Run "WIZSmartScript.exe", you should get an interface that looks like this:



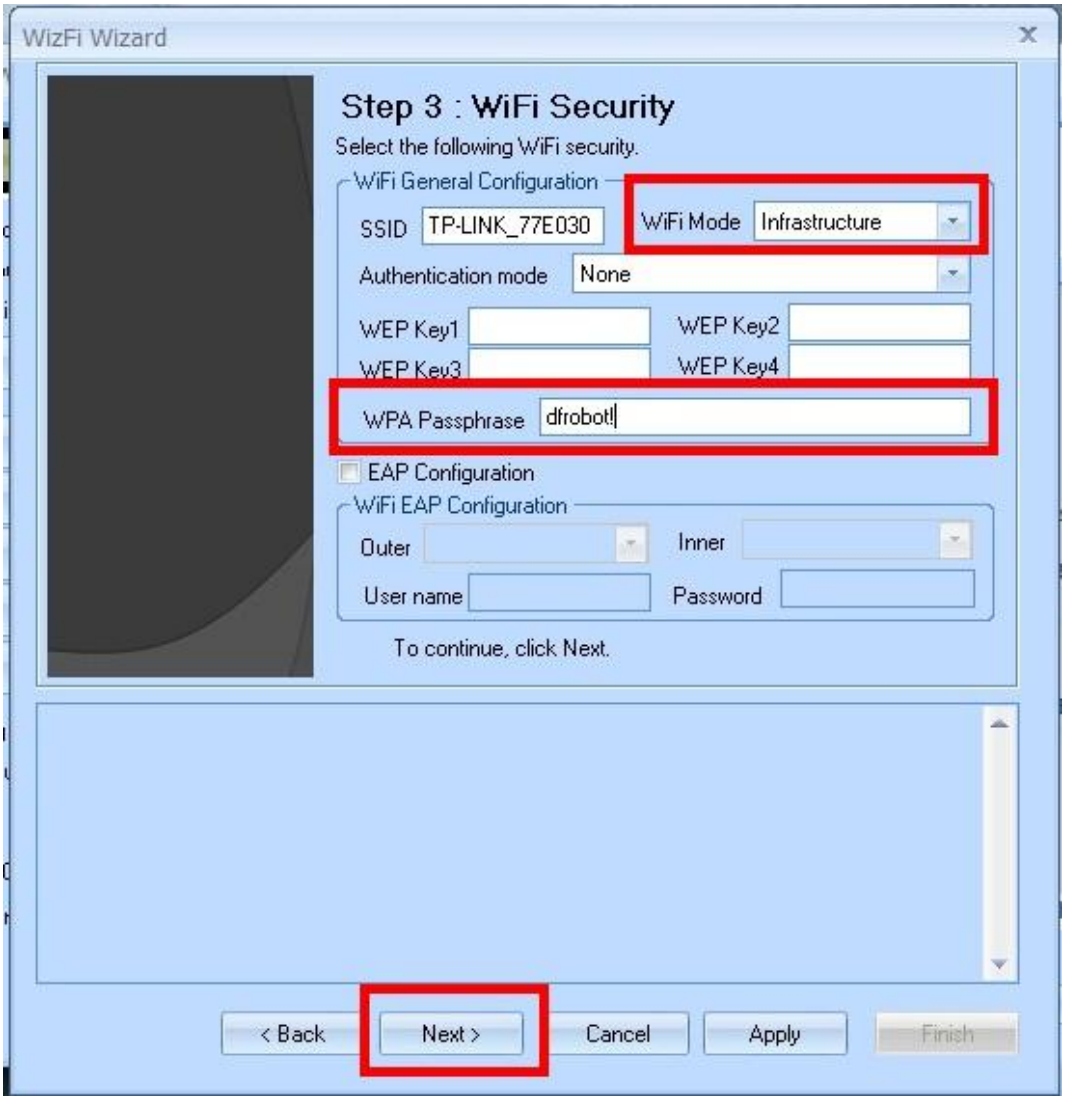

Input the correct serial port number and the default baud rate “115200” in the bottom left and click on “Wizard” in the middle left. Then we come into this page to start setup:



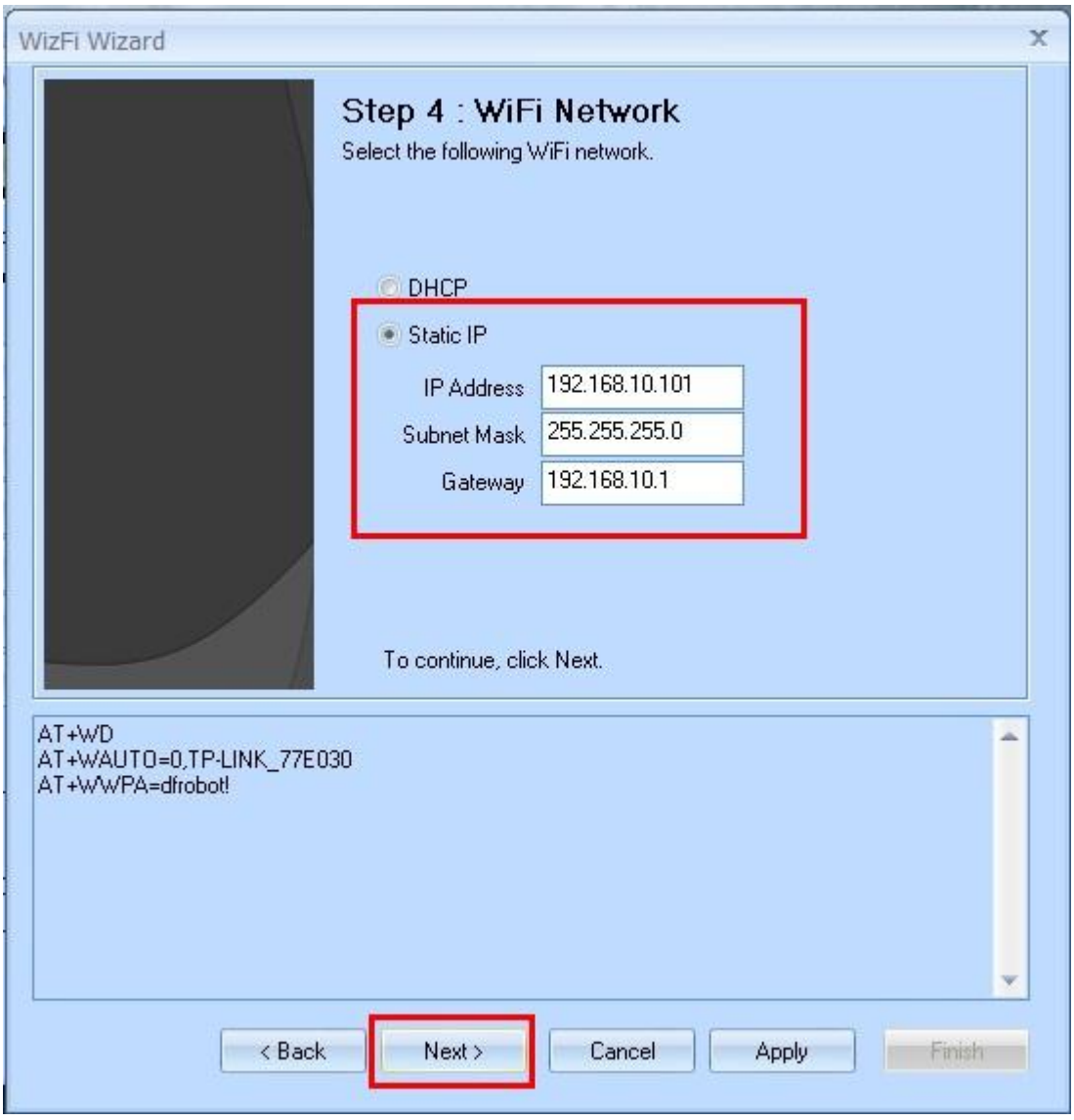

Click “Find WizFi and Set Command Mode” in the middle, and if the connection is ok, there will be the right information of the Wifi chip shown below the button. And click “Next”.



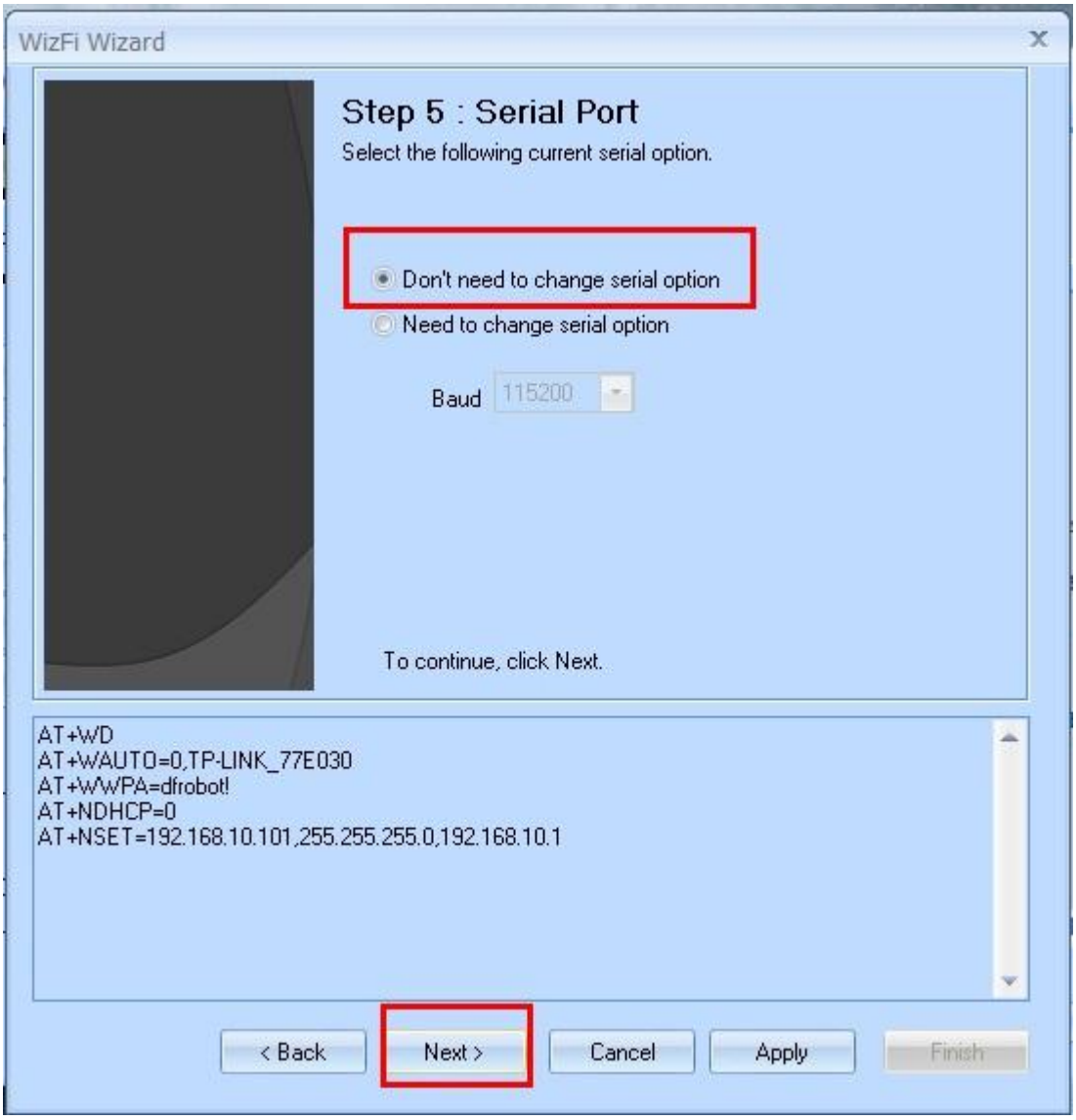

For this page, we click “AP Scan” to scan the available APs around, if your wireless router works fine, it will exist in the list below. As the picture shown above, our wireless device is the first. Click to choose it and then click “Next”.



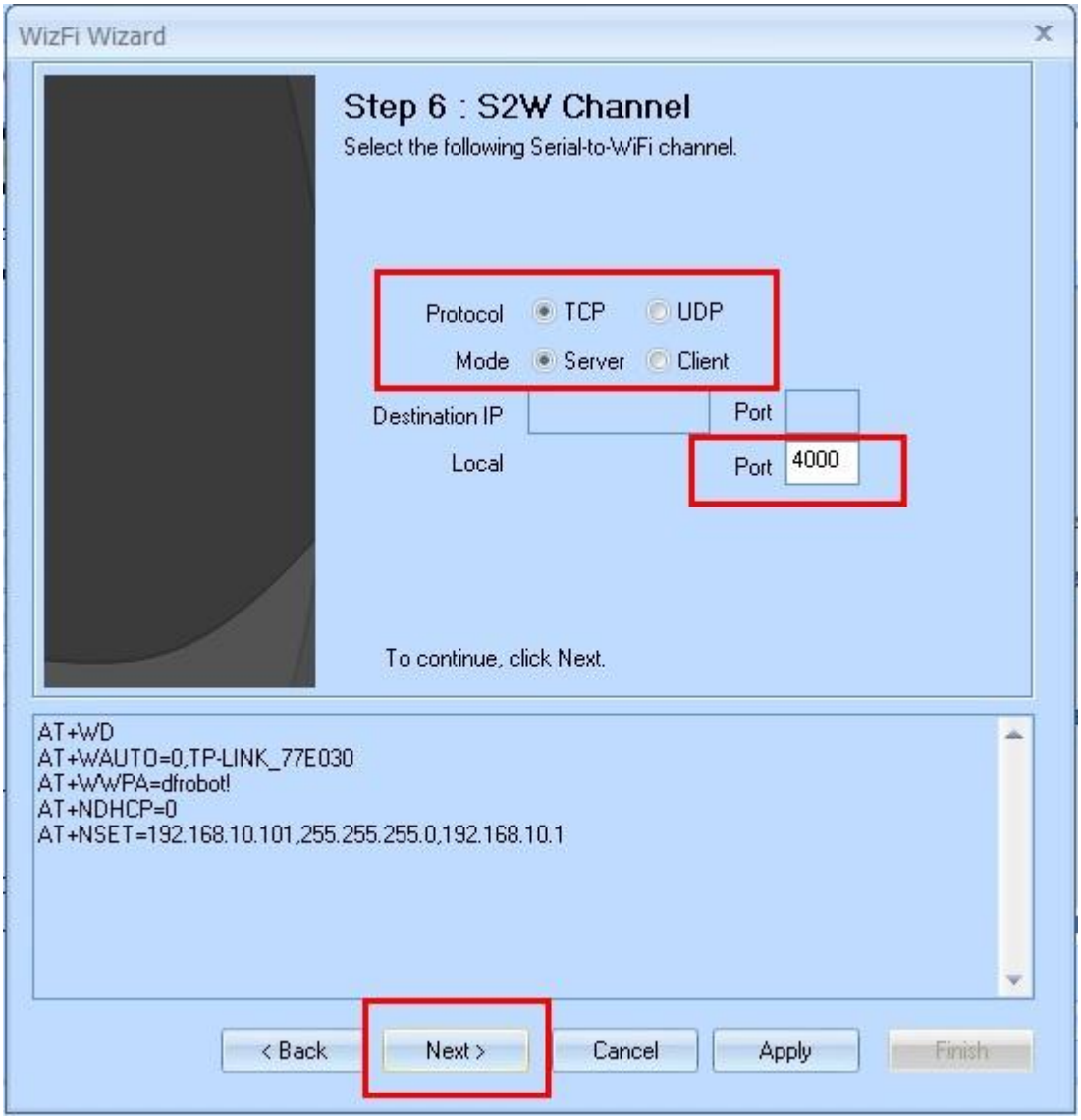

This step is for the security. The name of your wireless device will shown in the form of SSID, and choose “infrastructure” for WiFi mode. And you also need to input the password in the form called WPA Passphrase to get your wireless router access. The password we set in our router is “dfrobot!”. Click “Next.”



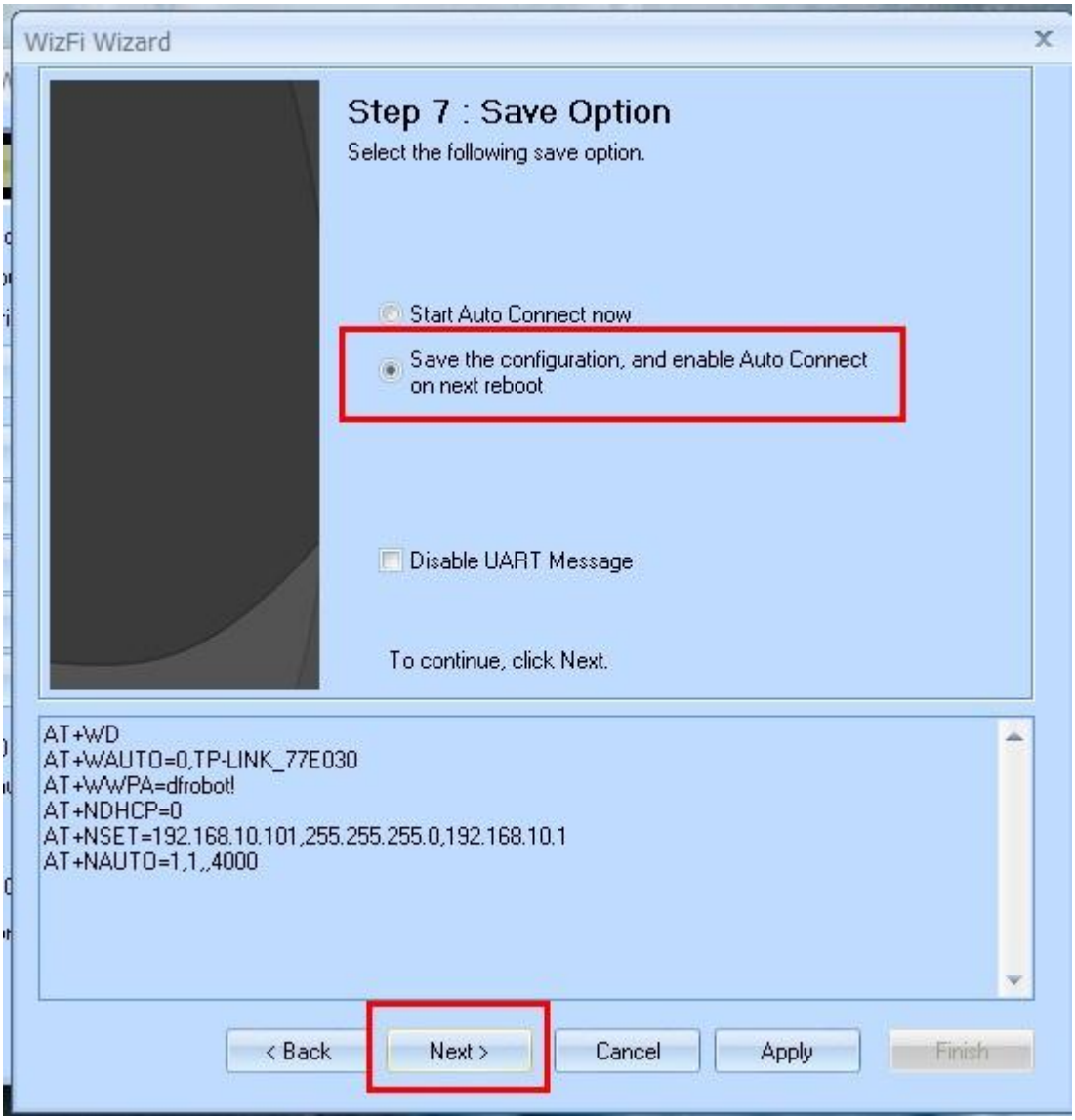

In this tutorial we tried the static IP connection, so we chose the static IP option and input the followings according to your router settings. Click “Next.”



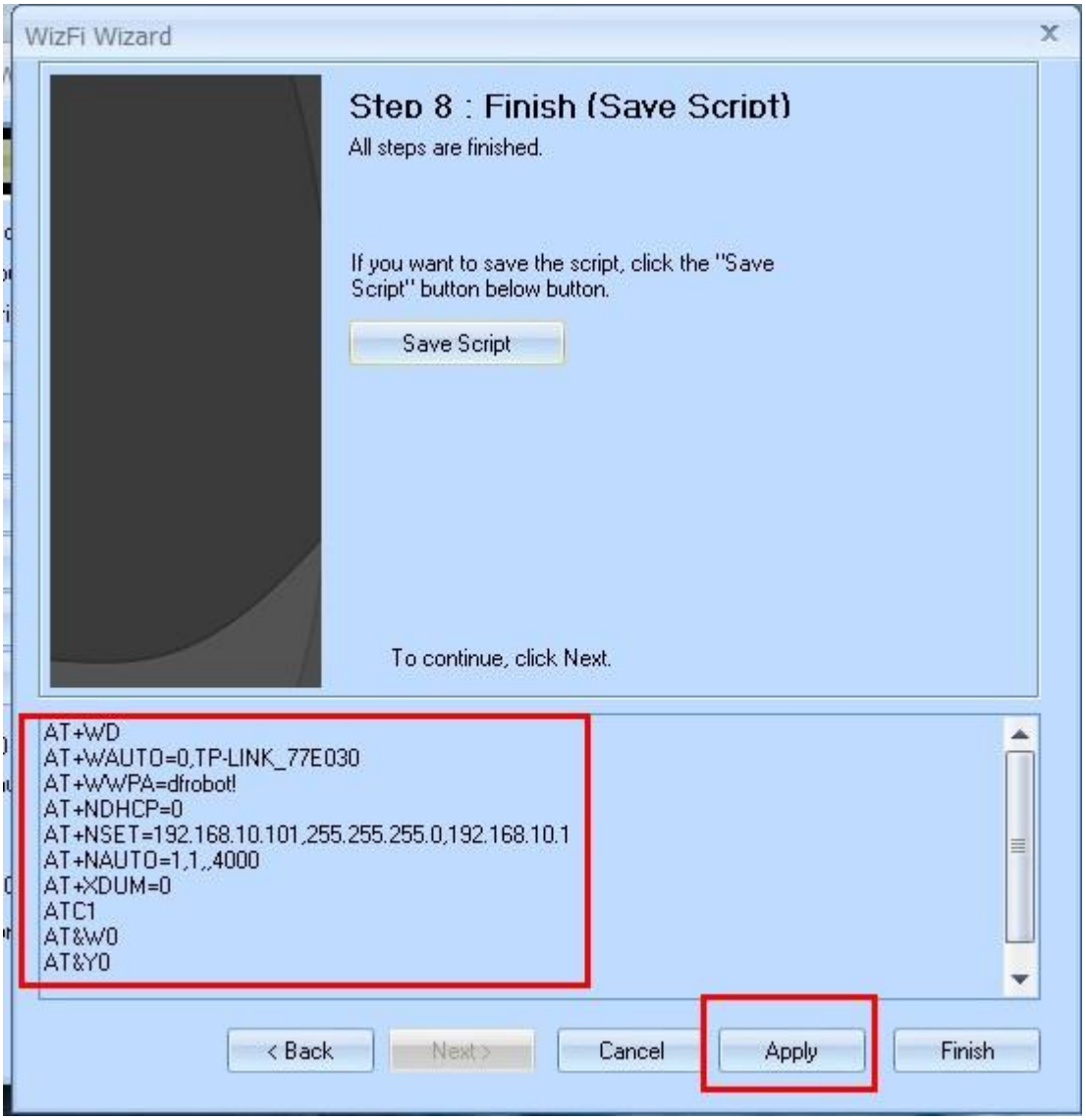

If you do not want to change the baud rate of the serial communication for the WiFi module, just leave it alone and click “Next”.



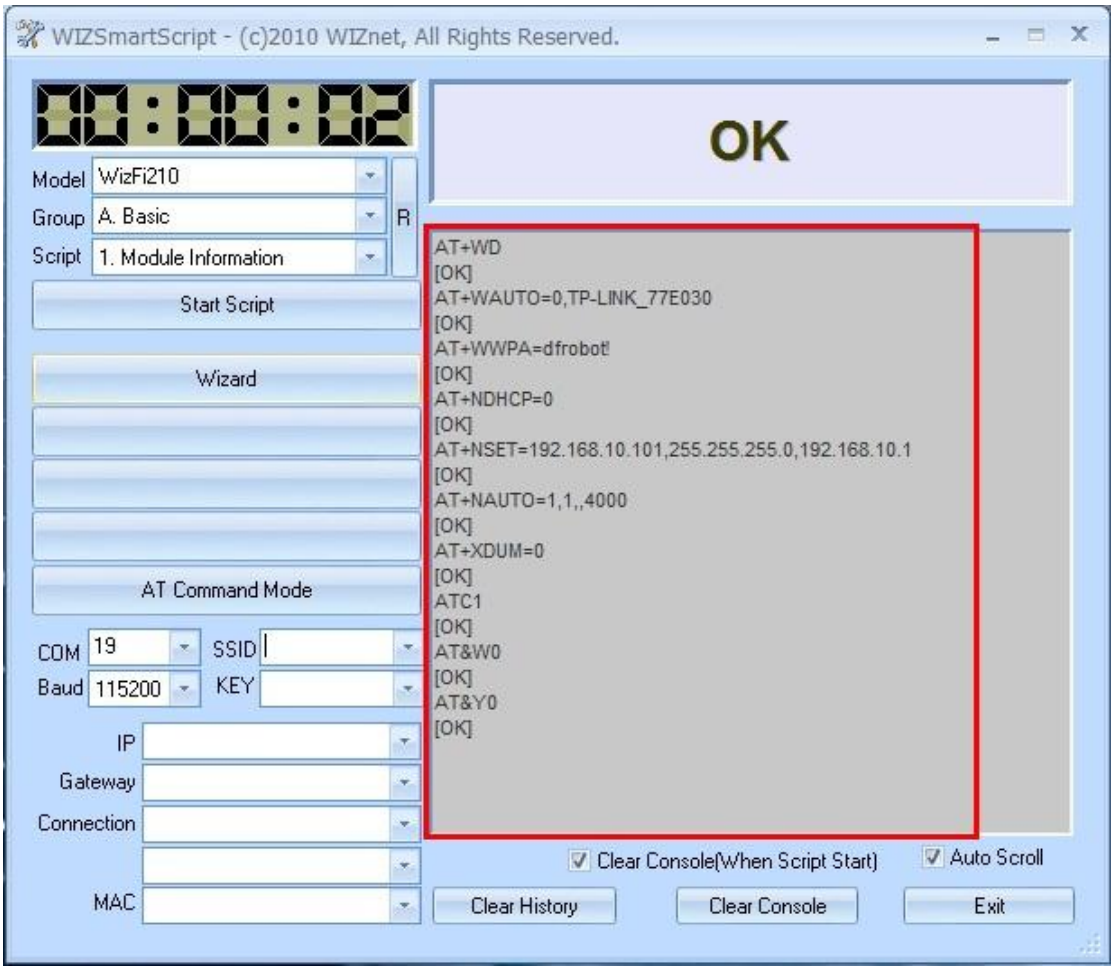

Choose TCP as the protocol and Server as the mode. And you need to input a port number like we input 4000. Click “Next.”



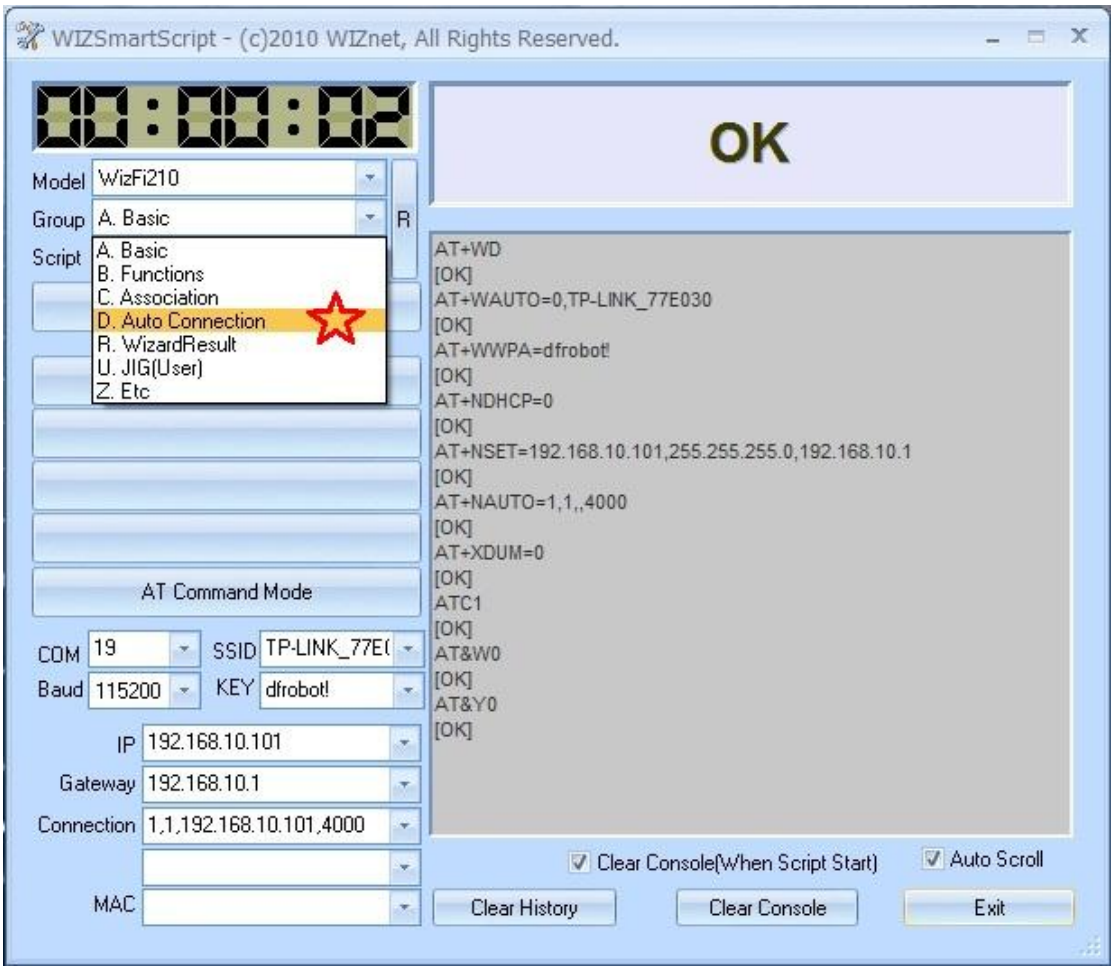

We choose the second option to save the changes in configuration, since we want to use this configuration in our following projects. Then Click “Next.”



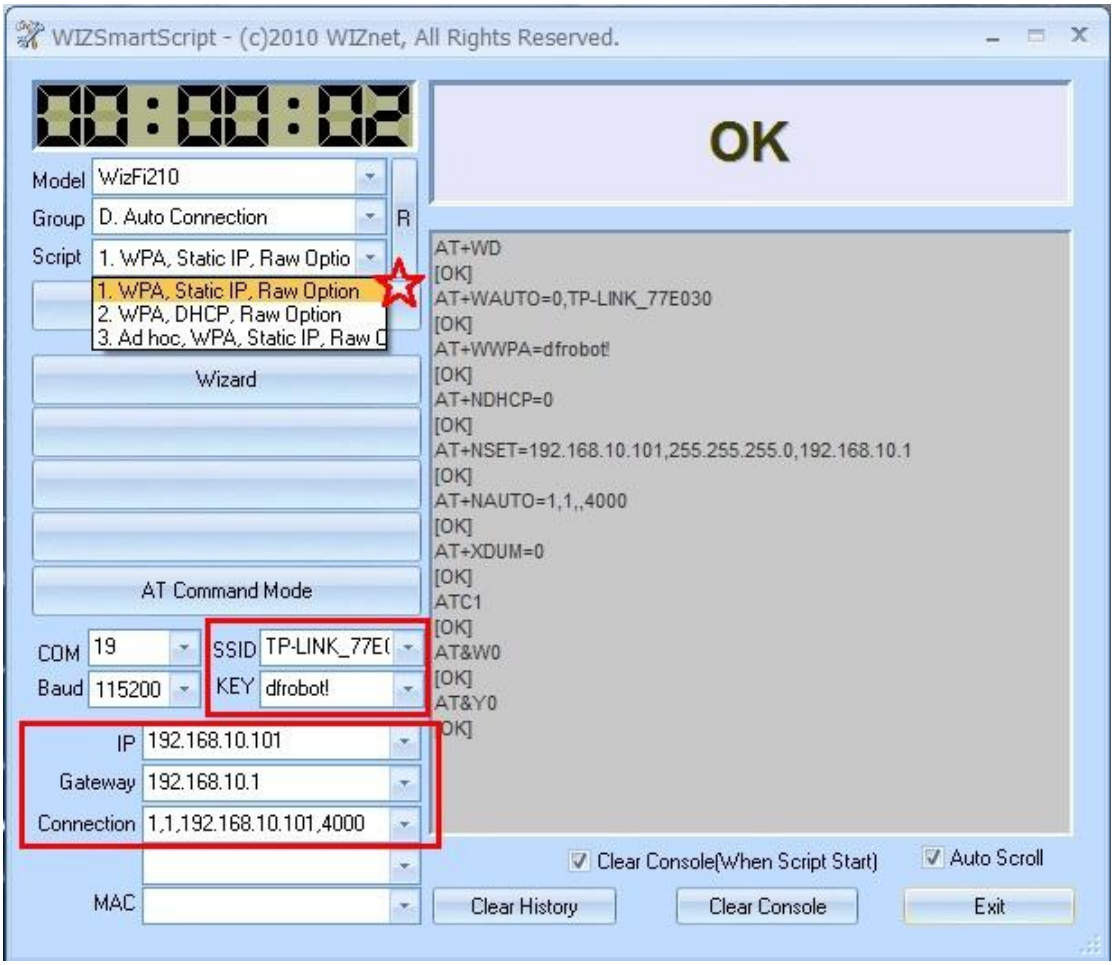

All the settings and the corresponding commands will be shown in the list and if everything is ok, click “Next”.




All the settings and the corresponding commands will be there on the right side.




It is time to connect the WiFi shield with the router. Choose “Auto Connection” in the “Group”.




Choose the first option for the Script.

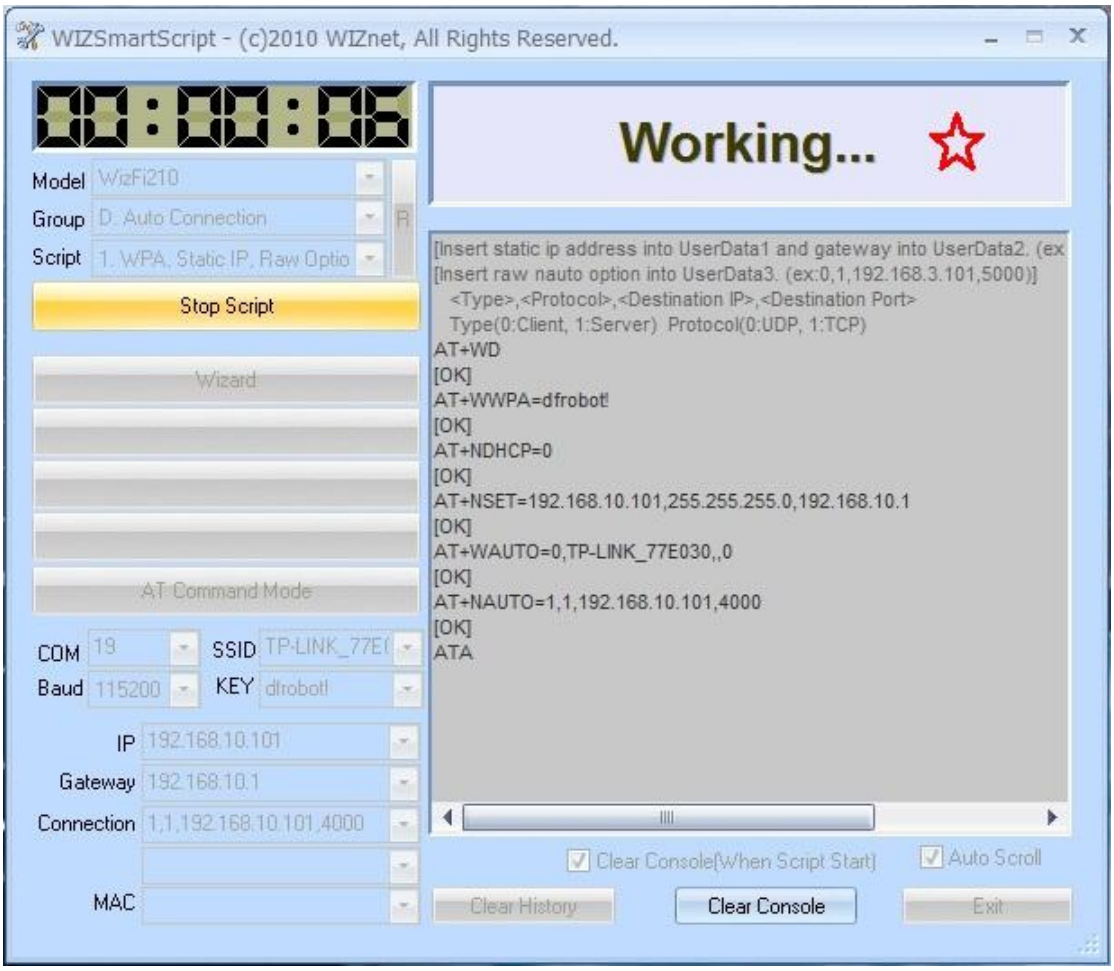
Input the router's SSID, the password, IP address, gateway and Connection information into the corresponding forms.

Note:

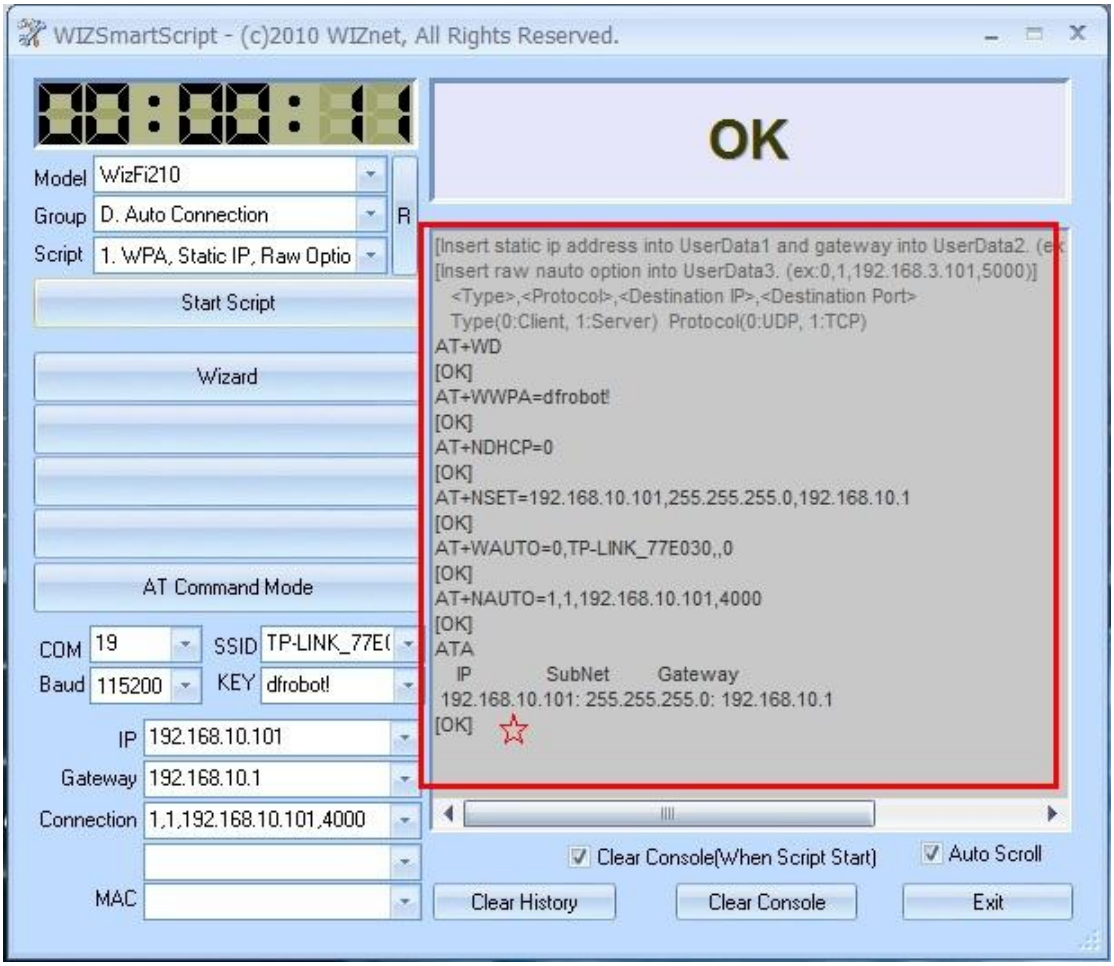
The format of connection information is shown like this:

<Type>,<Protocol>,<Destination IP >,< Destination Port >.

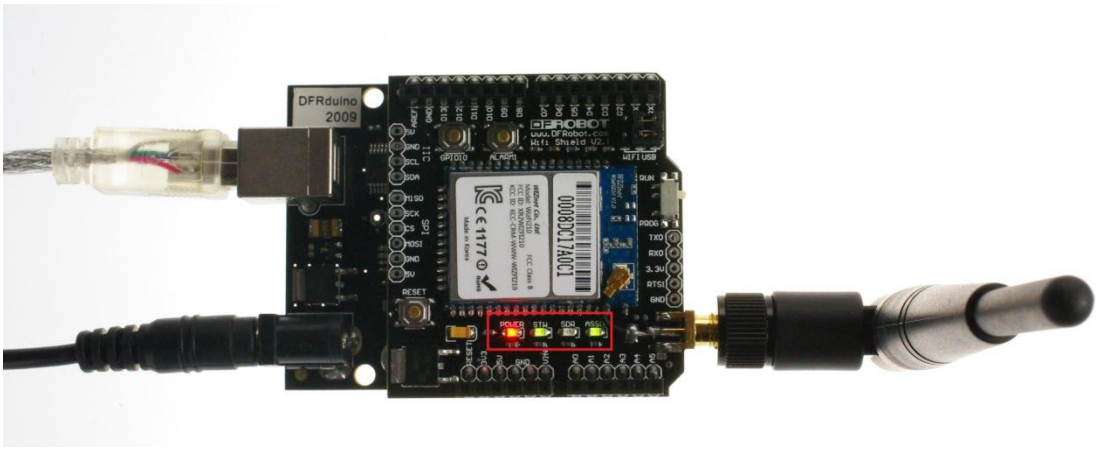
Type(0: Client, 1: Server ) Protocol(0: UDP, 1: TCP)



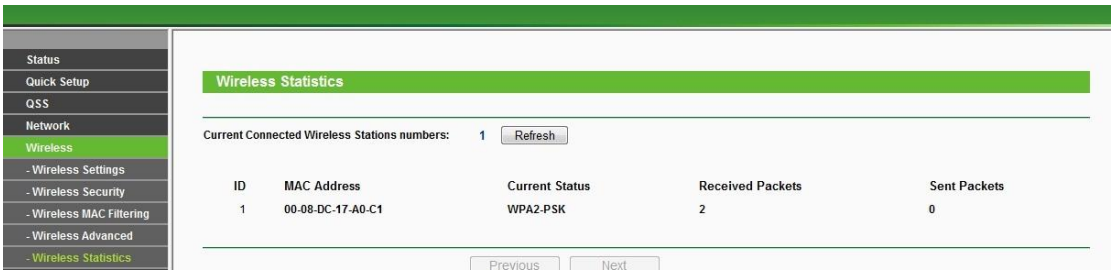

Click “Start Script”, then the connecting page will be shown. After soon, if the process succeeds, the following page will come.




Now check the LEDs marked as “STW” and “ASSOC” on the WiFi shield, they will be on:



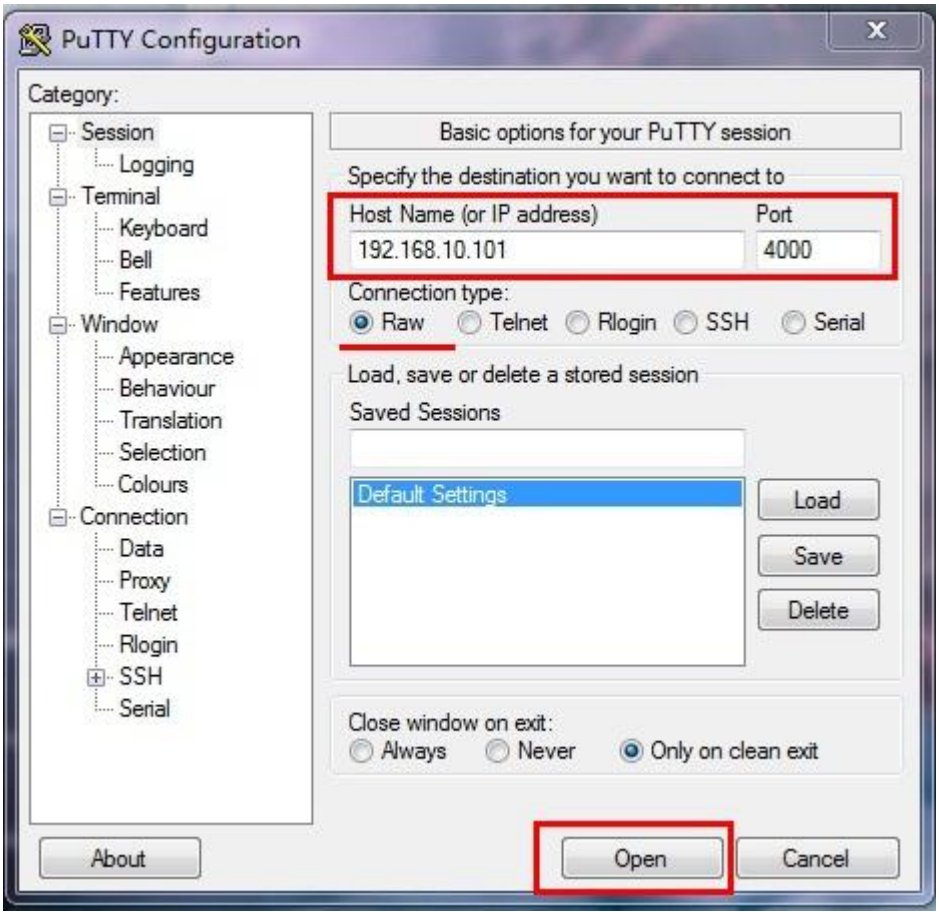

And there also will be a device connected shown on the main page of the router like this:



WiFi Serial mode

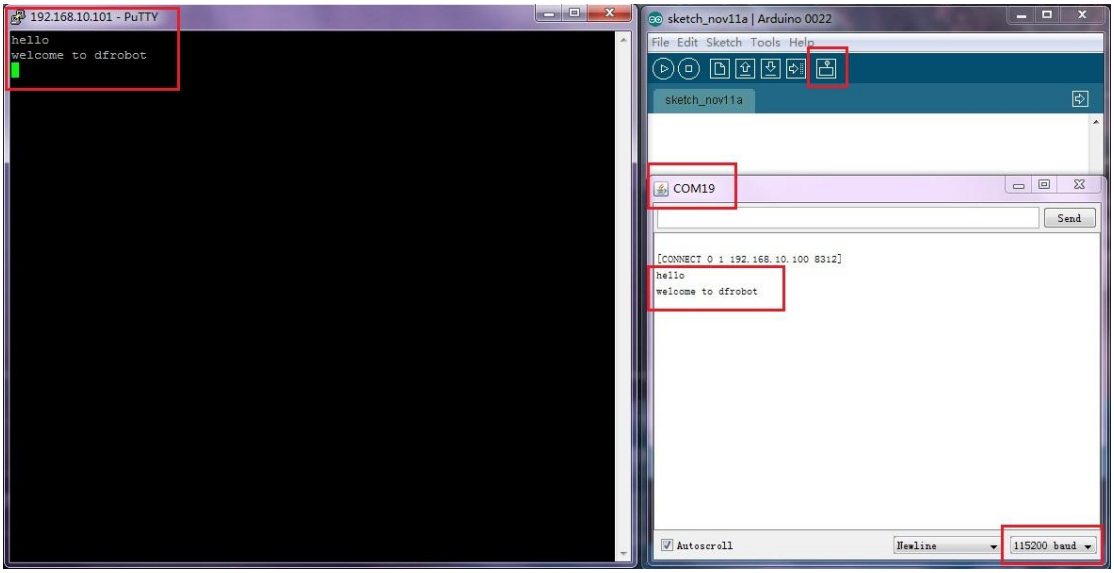
Now open a terminal. You can use PuTTy, or if you have a Windows XP machine you can use the Hyperterminal included. and connect to the WiFi shield's IP address. Don't forget to indicate the server port. In our example we are using port "4000".

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.


192.168.10.101 - PuTTY
hello
welcome to dfrobot
sketch_nov11a | Arduino 0022
File Edit Sketch Tools Help
sketch_nov11a
COM19
Send
[CONNECT 0 1 192.168.10.100 8312]
hello
welcome to dfrobot
Autoscroll
Newline
115200 baud