Using Laptop Screen and Keyboard with Raspberry Pi

Xiaoyang Zhong

12/4/2015

This tutorial describes how to work with Raspberry Pi using your laptop's screen and keyboard. The basic idea is to connect the Raspberry Pi to your laptop through the Ethernet port, then play with it using remote desktop.

What you need:

> Raspberry Pi
>
> Ethernet cable
>
> Laptop

You will need WiFi connection for the first configuration.

1. install xrdp for remote desktop

Run the following command on Raspberry Pi:

```
~$ sudo apt-get install xrdp
```

2. connect your laptop and Raspberry Pi using the Ethernet cable

You will need to wait for several minutes for the Raspberry Pi and Laptop to assign IP addresses by themselves.

3. get the Ethernet address of your Raspberry Pi

Run the following command in Raspberry Pi to get the Ethernet address:

```
~$ ifconfig
```

The Ethernet address is similar as in the following figure:

Remember this address for future use.

```
pi@xy-pi ~ $ ifconfig
eth0      Link encap:Ethernet  HWaddr b8:27:eb:46:67:d0
          inet addr:169.254.213.125  Bcast:169.254.255.255  Mask:255.255.0.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:2170 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1825 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:194503 (189.9 KiB)  TX bytes:1215504 (1.1 MiB)
```
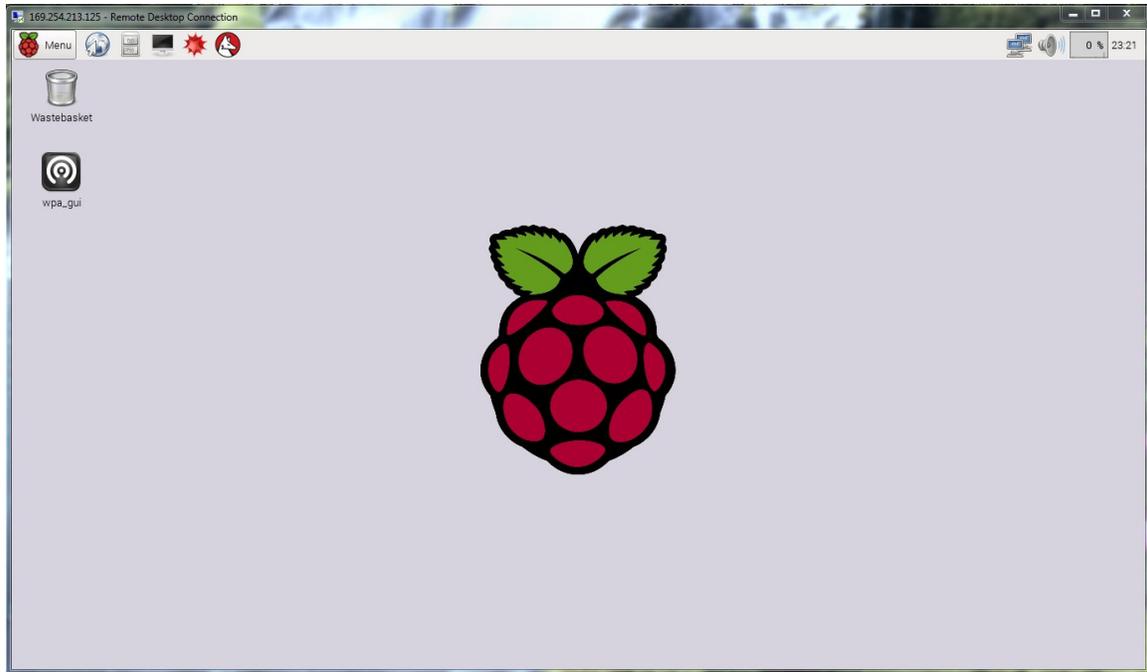
4. connect to Raspberry Pi through remote desktop

In Windows system, open the **Remote Desktop Connection**, and type in the Ethernet IP address of the Raspberry Pi:

Click ***Connect***, type in the user name and password in the prompt window, you will see the Raspberry Pi desktop as an application window in Windows system.
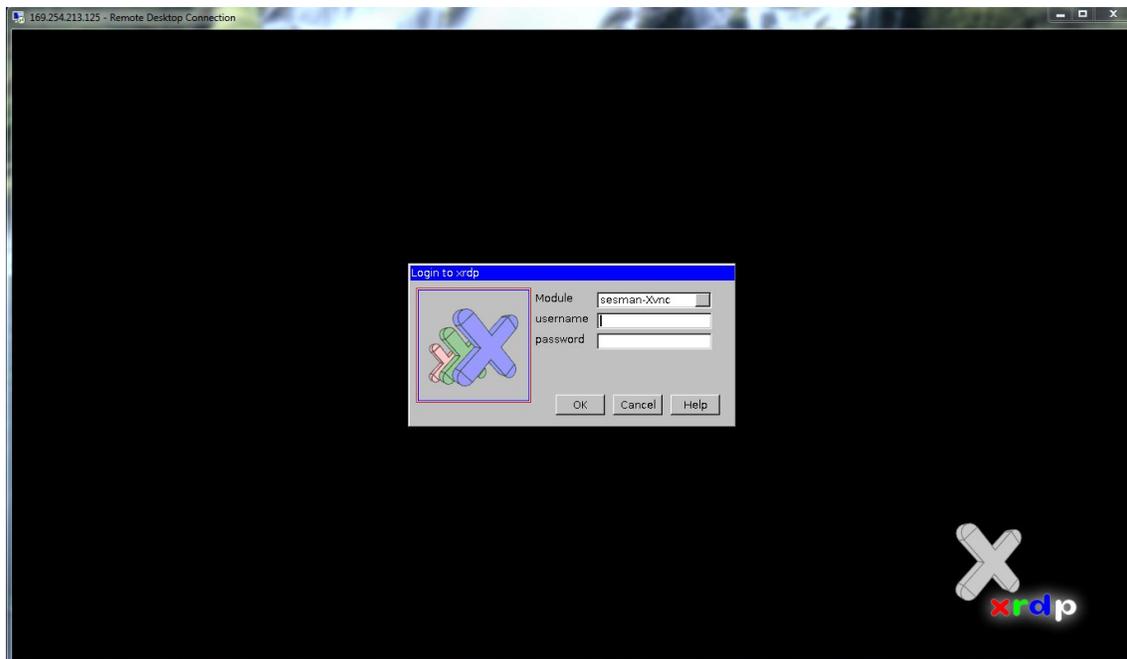
5. Tips to work smoothly with the WiFi adapter

It turns out that sometimes Raspberry Pi cannot work well when both the Ethernet and WiFi adapter are attached at the boot time. In order to use the above method smoothly, especially when you are trying to connect to *IU Secure*, the following tips may help:

5.1. Ethernet IP addresses of your laptop and Raspberry Pi usually do not change after the first connection.

For example, at the first connection, your laptop's Ethernet IP address is **169.254.22.33**, Raspberry Pi's Ethernet IP address is *169.254.44.55*. Then after you disconnect them, and reconnect them in the future, the IP addresses do not change. So you don't need to setup the static IP addresses for them.

5.2. Before the Raspberry Pi start, connect the Ethernet cable, detach the WiFi adapter. After you remotely connect to it, attach the WiFi adapter.

In my test, this way works smoothly. If the WiFi adapter is attached earlier, there may be some problem with the Ethernet connection.