

WiFi Router Setup using a Wireless Connection

Disclaimer: Generally, it is considered a best practice to use a secured connection such as SSL or a direct wired when possible to configure routers. In our case, we will be using the wireless connection on our laptops for convenience in class.

1. Connect power to the router
2. Connect the library's Ethernet cable to the WAN port
3. Using another Ethernet cable, connect the laptop to one of the Ethernet ports on the router
4. Open a web browser (internet explorer, Firefox, etc.) on the laptop.
 - a. Log in to the router by entering 192.168.10.1 into the address bar
5. With this router, the first time you log in you will see this box:

Authentication Required ✕

The server `http://192.168.10.1:80` requires a username and password. The server says: E1000.

User Name:

Password:

For this first login, leave the username empty and type in "admin" for the password.

Authentication Required ✕

The server `http://192.168.10.1:80` requires a username and password. The server says: E1000.

User Name:

Password:

6. This is the first screen you see—lots to look at but soon you will know right where to go.

CISCO
Firmware Version: 2.1.00
Linksys E1000 E1000

Setup
Setup | Wireless | Security | Access Restrictions | Applications & Gaming | Administration | Status
Basic Setup | DDNS | MAC Address Clone | Advanced Routing

Language
English

Internet Setup
Internet Connection Type: Automatic Configuration - DHCP

Optional Settings (required by some Internet Service Providers)

Host Name:
Domain Name:
MTU: Auto Size: 1500

Network Setup
Router Address

IP Address: 192 . 168 . 10 . 1
Subnet Mask: 255.255.255.0
Device name: Cisco43478

DHCP Server: Enabled Disabled DHCP Reservation

Start IP Address: 192 . 168 . 10 . 100
Maximum Number of Users: 50
IP Address Range: 192 . 168 . 10 . 100 to 149
Client Lease Time: 0 minutes (0 means one day)
Static DNS 1: 0 . 0 . 0 . 0
Static DNS 2: 0 . 0 . 0 . 0

[Help...](#)

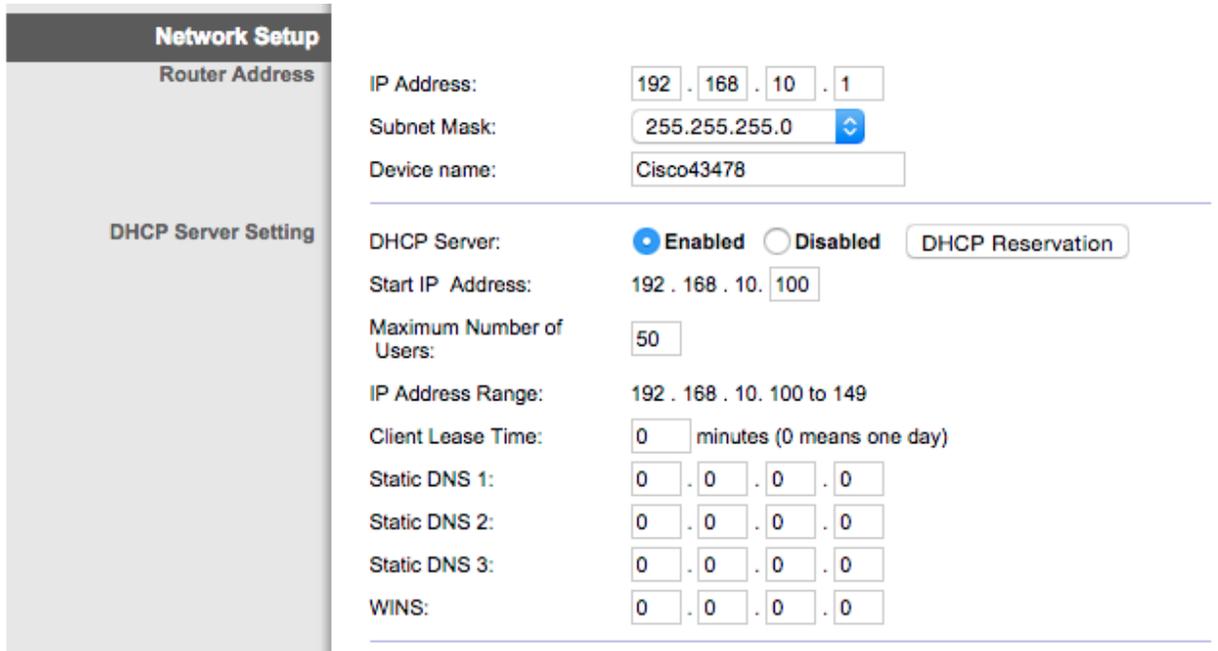
7. This section is where you tell your router how it will get its own IP address so that it can communicate to the network. We will leave it at DHCP (dynamic host control protocol), which will allow it to get its address from an upstream DHCP server.

Internet Setup
Internet Connection Type: Automatic Configuration - DHCP

Optional Settings (required by some Internet Service Providers)

Host Name:
Domain Name:
MTU: Auto Size: 1500

8. This section is where you set up your local area network (LAN).



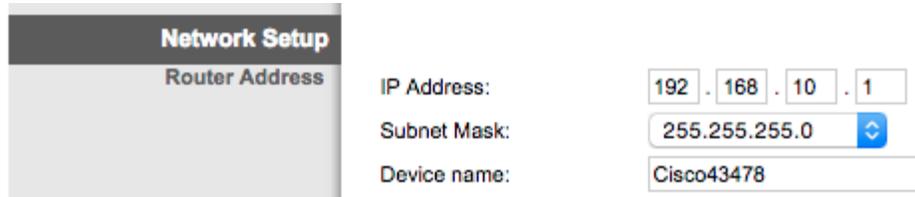
The screenshot shows a web interface for network configuration. On the left is a sidebar with two sections: "Network Setup" (highlighted) and "DHCP Server Setting". The "Network Setup" section contains the following fields:

- IP Address: 192 . 168 . 10 . 1
- Subnet Mask: 255.255.255.0
- Device name: Cisco43478

The "DHCP Server Setting" section contains the following fields:

- DHCP Server: Enabled Disabled
- Start IP Address: 192 . 168 . 10 . 100
- Maximum Number of Users: 50
- IP Address Range: 192 . 168 . 10 . 100 to 149
- Client Lease Time: 0 minutes (0 means one day)
- Static DNS 1: 0 . 0 . 0 . 0
- Static DNS 2: 0 . 0 . 0 . 0
- Static DNS 3: 0 . 0 . 0 . 0
- WINS: 0 . 0 . 0 . 0

9. This is a very important part of the setup:
It shows the address of the router (also called the gateway) and you will notice that it is the same address you see in the location bar of your web browser! This area also contains the subnet mask and the name of the device.



This screenshot is a zoomed-in view of the "Network Setup" section from the previous image. It shows the following fields:

- IP Address: 192 . 168 . 10 . 1
- Subnet Mask: 255.255.255.0
- Device name: Cisco43478

10. Next is the **DHCP server** settings—this is the section that allows your router to create a **local area network (LAN)** using **DHCP**. For our purposes today, we will use the **default settings**, which allow us a **DHCP pool** of 50 addresses, starting with 192.168.10.100 and ending with 192.168.10.149. This section would also allow us to enter static **DNS Servers**. Since we are getting out DNS information automatically from an **“upstream server”** we can leave those blank for now.

DHCP Server Setting

DHCP Server: Enabled Disabled DHCP Reservation

Start IP Address: 192 . 168 . 10 . 100

Maximum Number of Users: 50

IP Address Range: 192 . 168 . 10 . 100 to 149

Client Lease Time: 0 minutes (0 means one day)

Static DNS 1: 0 . 0 . 0 . 0

Static DNS 2: 0 . 0 . 0 . 0

Static DNS 3: 0 . 0 . 0 . 0

WINS: 0 . 0 . 0 . 0

11. Time settings—do you see anything wrong with this picture?

Time Settings

Time Zone: (GMT-07:00) Mountain Time (USA & Canada)

Automatically adjust clock for daylight saving changes.

12. With our basic setup complete, we will now set up our wireless network.

Setup Linksys E1000 E1000

Setup | Wireless | Security | Access Restrictions | Applications & Gaming | Administration | Status

Basic Setup | DDNS | MAC Address Clone | Advanced Routing

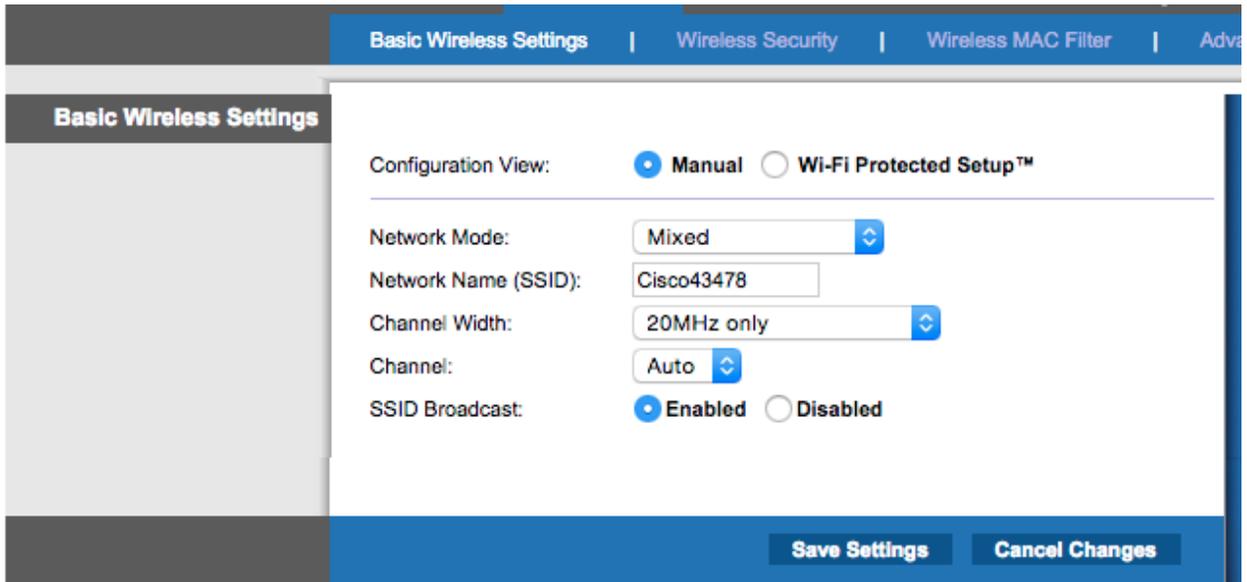
Please notice: for each tab, there is a sub-menu of options. Under the wireless tab, we have several options.

Wireless Linksys E1000 E1000

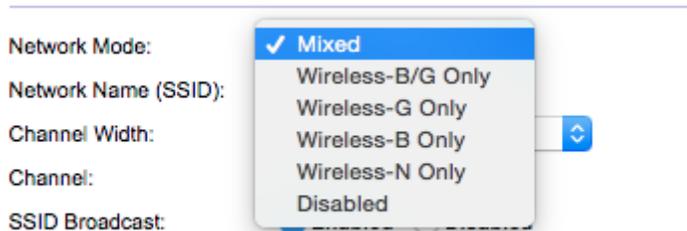
Setup | Wireless | Security | Access Restrictions | Applications & Gaming | Administration | Status

Basic Wireless Settings | Wireless Security | Wireless MAC Filter | Advanced Wireless Settings

13. Some routers, like this one, have a simplified setup (called “WiFi Protected Setup”) that includes simplified security and other settings. For the purpose of our class, we will use **manual** settings.



14. Under Network Mode, we can see that this router supports several flavors of 802.11x WiFi: we want to allow all possible choices here—so we will leave it at “mixed,” which will support B, G, and N.



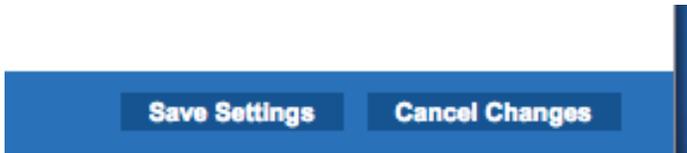
15. These are the default **SSID**s—also known as the name of the wireless network. How boring!

SSID	Gateway
CiscoRED	192.168.10.1
CiscoGREEN	192.168.20.1
CiscoYELLOW	192.168.30.1
CiscoBLUE	192.168.40.1

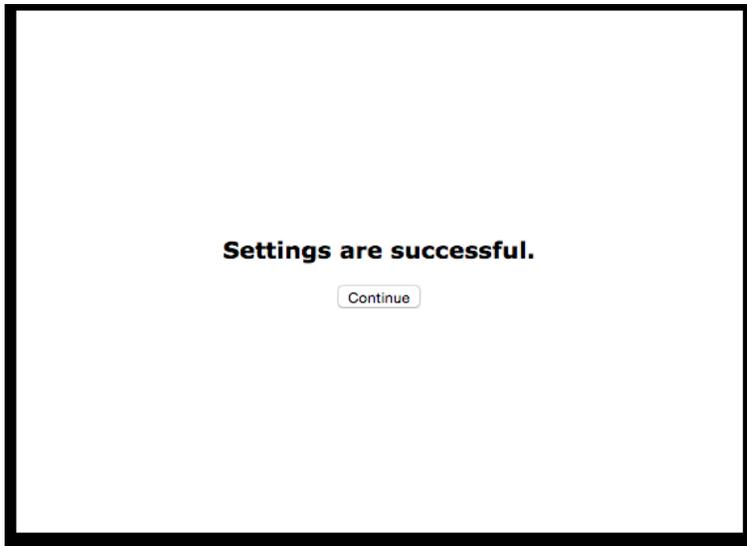
Action Step: Let's change it to something better!

Network Name (SSID):

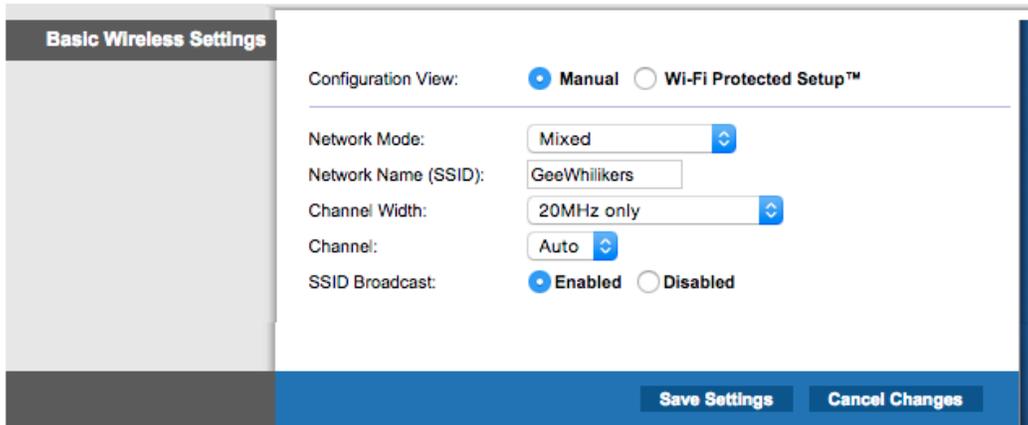
16. Whenever you make a change to the router, you always have to “save” for the new settings to take effect. Here, the save button is at the bottom of the page.



17. Since we are configuring this using the router's wireless connection, we will be disconnected after making a major change like this.

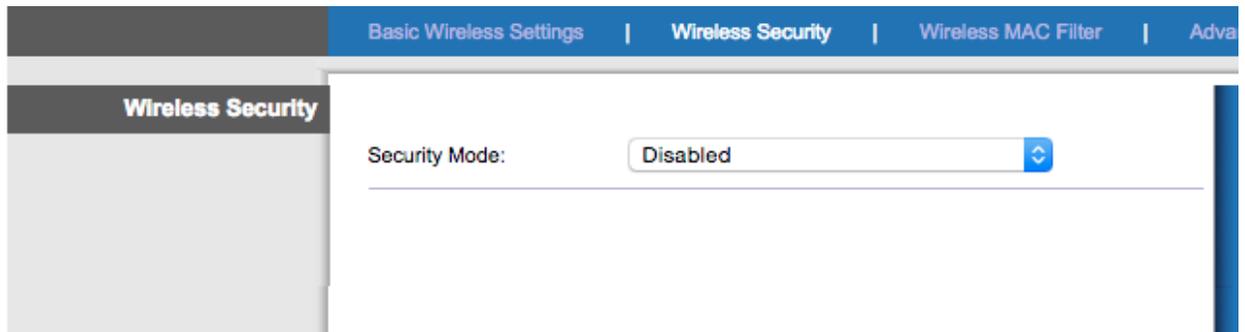


18. We will leave the rest of these settings just as they are for now.



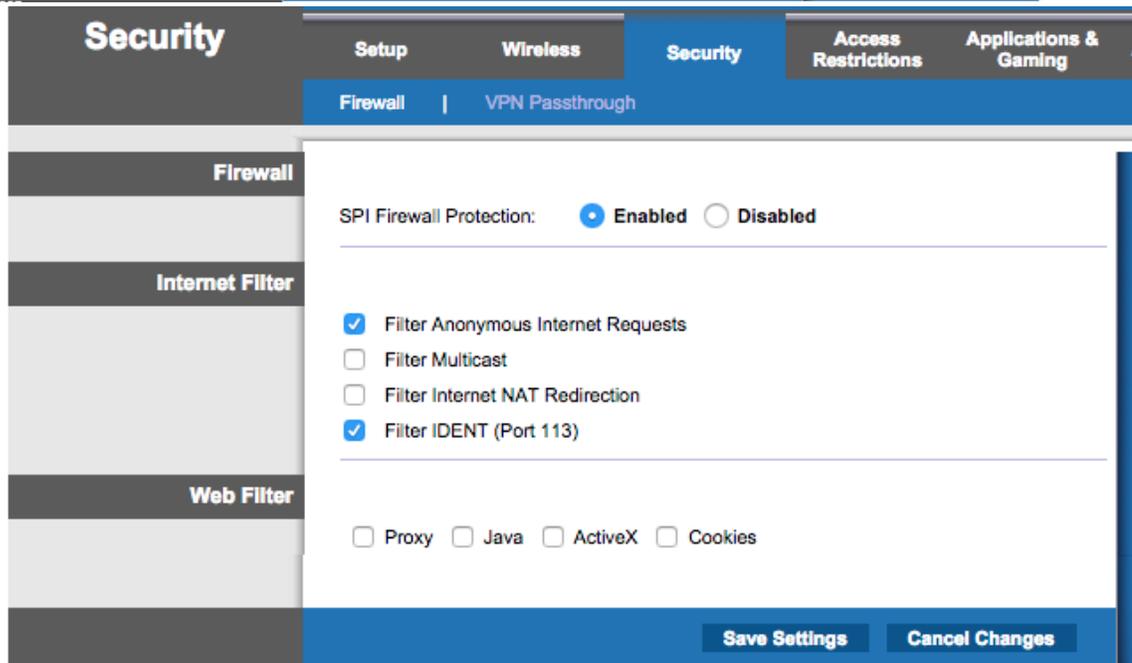
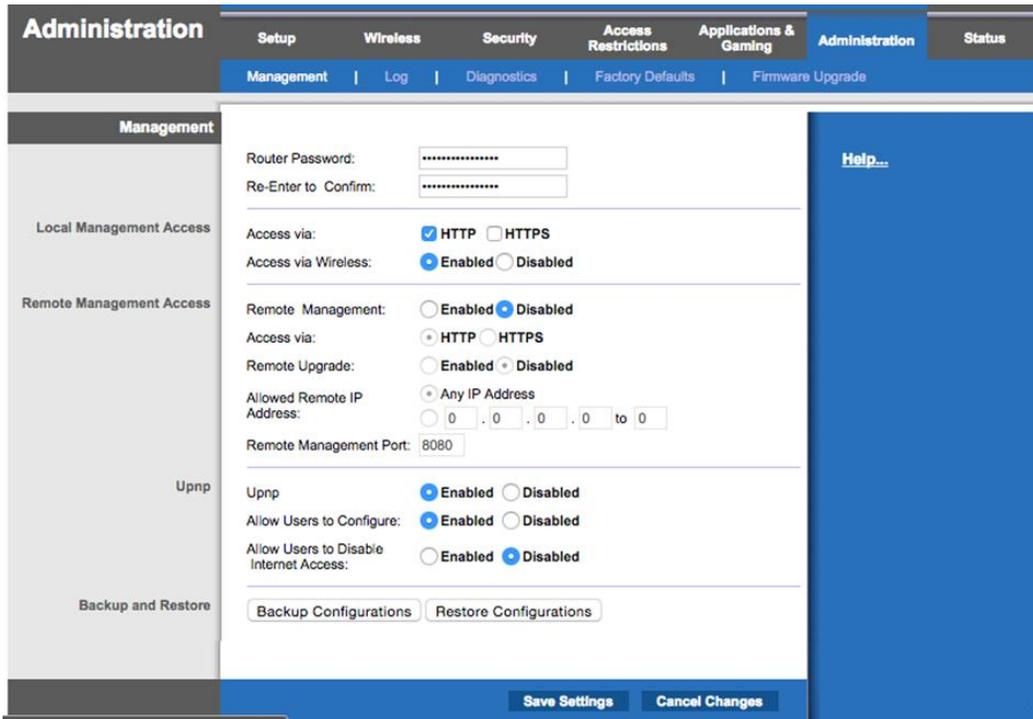
The screenshot shows the 'Basic Wireless Settings' configuration page. On the left is a sidebar with the title 'Basic Wireless Settings'. The main content area has a 'Configuration View' section with two radio buttons: 'Manual' (selected) and 'Wi-Fi Protected Setup™'. Below this are several settings: 'Network Mode' is set to 'Mixed'; 'Network Name (SSID)' is 'GeeWhillikers'; 'Channel Width' is '20MHz only'; 'Channel' is 'Auto'; and 'SSID Broadcast' is 'Enabled'. At the bottom right, there are two buttons: 'Save Settings' and 'Cancel Changes'.

19. In this tab, we would have the opportunity to require a password to allow use of the WiFi systems. Since we want to have user-friendly services, we will not require a password for this router. **Please note: if you have wireless access for staff, it is strongly recommended that those connections be encrypted and secured.**

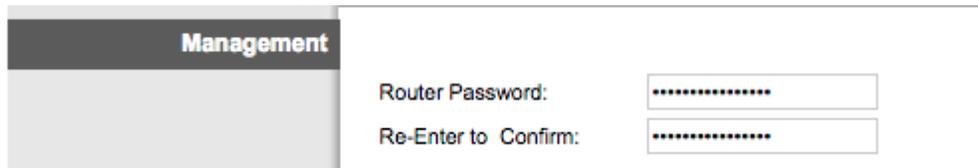


The screenshot shows the 'Wireless Security' configuration page. At the top, there is a navigation bar with tabs: 'Basic Wireless Settings', 'Wireless Security' (active), 'Wireless MAC Filter', and 'Advanced'. The sidebar on the left is titled 'Wireless Security'. The main content area shows 'Security Mode' set to 'Disabled' in a dropdown menu.

20. Even consumer routers have a simple firewall to help protect devices on your LAN. On this router, the administration panel is a key piece of basic security.



21. This is a place where you can set a password for your router. *******It is essential for you to change the default password******* Default passwords for common routers are easy to find on the Internet, which is why you must change yours!



The image shows a screenshot of a router's web interface. On the left, there is a dark grey header with the word "Management" in white. Below the header is a light grey area. To the right of this area, there are two rows of text and input fields. The first row is labeled "Router Password:" followed by a white input box containing ten black dots. The second row is labeled "Re-Enter to Confirm:" followed by another white input box containing ten black dots.

22. What if you get stuck or make a mistake? The “reset” button will help you start again! It will erase all settings and bring you back to the factory defaults.

23. Now, let’s set up our laptops to connect!

24. Let’s do a quick test—can we connect to the internet?