

Advanced Router Configuration – D-Link



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This presentation shows how to do some of the advanced configuration using a D-Link router as an example. These techniques apply to any brand of router, although the screens and techniques may be different

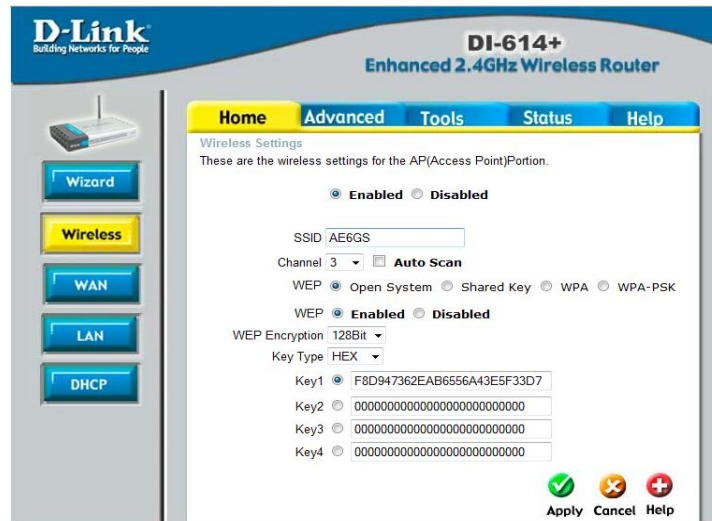
Part 1: Turn off wireless



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First, we'll turn off the wireless feature in the router. This will turn off the router's wireless access point. You can also choose to just change the channel and leave the wireless access point on.

On the router web interface, press the “Wireless” button



First, on a computer that is connected to the router (either via Ethernet or wireless connection), start a browser and go to the router's address (usually at 192.168.0.1 for D-Link routers). Select the “Wireless” button.

Select “Disabled” and Apply

The screenshot shows the configuration interface for a D-Link DI-614+ Enhanced 2.4GHz Wireless Router. The page is titled "DI-614+ Enhanced 2.4GHz Wireless Router" and has a navigation menu with "Home", "Advanced", "Tools", "Status", and "Help". The "Advanced" tab is selected, and the "Wireless" sub-tab is active. The "Wireless Settings" section is displayed, with the following options:

- Enabled Disabled
- SSID: AE6GS
- Channel: 3 Auto Scan
- WEP: Open System Shared Key WPA WPA-PSK
- WEP: Enabled Disabled
- WEP Encryption: 128Bit
- Key Type: HEX
- Key1: F8D947362EAB6556A43E5F33D7
- Key2: 00000000000000000000000000000000
- Key3: 00000000000000000000000000000000
- Key4: 00000000000000000000000000000000

At the bottom right of the configuration area, there are three buttons: "Apply" (with a green checkmark icon), "Cancel" (with a red X icon), and "Help" (with a red plus icon).

Select the “Disabled” option, then press the “Apply” button.

Part 2: Set up a static DHCP address for the AyrMesh Hub



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The AyrMesh Hub gets an IP address on the network via Dynamic Host Configuration Protocol (DHCP). On D-Link routers, you can ensure that the Hub always gets the same IP address by setting a “Static” DHCP address.

Press the “DHCP” button

The screenshot shows the web interface of a D-Link DI-614+ Enhanced 2.4GHz Wireless Router. The interface is titled "D-Link Building Networks for People" and "DI-614+ Enhanced 2.4GHz Wireless Router". On the left side, there is a navigation menu with buttons for "Wizard", "Wireless", "WAN", "LAN", and "DHCP". The "DHCP" button is highlighted in yellow. The main content area is titled "DHCP Server" and contains the following configuration options:

- DHCP Server:** Enabled (radio button selected), Disabled (radio button unselected).
 - Starting IP Address: 192 . 168 . 0 . 100
 - Ending IP Address: 192 . 168 . 0 . 199
 - Lease Time: 1 Week
- Static DHCP:** Enabled (radio button selected), Disabled (radio button unselected).
 - Name: [Empty field]
 - IP: 192 . 168 . 0 . [Empty field]
 - MAC Address: [Empty field] - [Empty field] - [Empty field] - [Empty field] - [Empty field] - [Empty field]
 - DHCP Client: LilPunkin.88-AE-1D-4A-CA-6C [Clone button]

At the bottom right of the interface, there are three status icons: a green checkmark, a yellow 'X', and a red plus sign.

First, click on the “DHCP” button in the router's web interface.

Click on the “DHCP Client” list and select the AyrMesh Hub

D-Link Building Networks for People

DI-614+ Enhanced 2.4GHz Wireless Router

Home Advanced Tools Status Help

DHCP Server

The DI-614+ can be setup as a DHCP Server to distribute IP addresses to the LAN network.

DHCP Server Enabled Disabled

Starting IP Address 192 . 168 . 0 . 100

Ending IP Address 192 . 168 . 0 . 199

Lease Time 1 Week

Static DHCP

Static DHCP is used to allow DHCP server to assign same IP address to specific MAC address.

Static DHCP Enabled Disabled

Name Lily

IP 192 . 168 . 0 . 192

MAC Address 08 - 00 - 46 - 2E - 5F - BE

DHCP Client

unknown.00-15-6D-D8-D2-13

LilPunkin.88-AE-1D-4A-CA-6C

unknown.00-15-6D-D8-D2-13

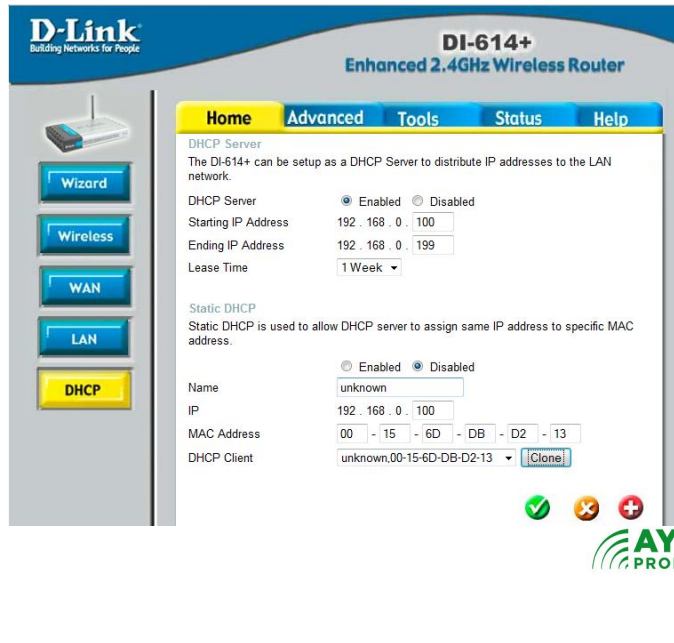
Clone

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Where it says, “DHCP Client”, click on the arrow to the right of the MAC address shown and select the MAC address for the AyrMesh Hub (which you wrote down when you were installing it... we told you it would come in handy!)

Press the “Clone” button



By pressing the “Clone” button, the router puts the Hub's MAC address and current IP address in the fields on the page.

Click on “Enabled,” give it a name and an IP address; press “Apply”

D-Link Building Networks for People

DI-614+ Enhanced 2.4GHz Wireless Router

Home Advanced Tools Status Help

DHCP Server

The DI-614+ can be setup as a DHCP Server to distribute IP addresses to the LAN network.

DHCP Server Enabled Disabled

Starting IP Address 192.168.0.100

Ending IP Address 192.168.0.199

Lease Time 1 Week

Static DHCP

Static DHCP is used to allow DHCP server to assign same IP address to specific MAC address.

Static DHCP Enabled Disabled

Name AyrMesh

IP 192.168.0.199

MAC Address 00-15-6D-DB-D2-13

DHCP Client unknown.00-15-6D-DB-D2-13 Clone

Apply Cancel Help

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Provide a name (I like “AyrMesh” and an IP address (you can use the one it has now or choose another in the range of DHCP addresses this router is providing).

Press “Apply” and the router will remember this device and always give it the same IP address.

Part 3: Setting the static route

Unfortunately, most D-Link routers cannot set a static route to an address on their own LAN.

Please check your router's manual – most can only set a static route to a device on their WAN, not on the LAN, but the AyrMesh Hub must be plugged into the router's LAN port.

If it is possible on your router, let us know what the steps are – use the following guidelines.



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Setting a static route will allow computers on your router's network (via Ethernet or wireless) to access computers or devices on your AyrMesh network. This is necessary because the AyrMesh network is its own network with IP addresses in the 101.x.y.z range, while your router probably has addresses in the 192.168.x.y range.

Normally, the router would “route” traffic to 101.x.y.z out the WAN port on the assumption it is going to the Internet. This Static Route will tell it instead to route that traffic to the AyrMesh Gateway Hub, which will route it in the AyrMesh network.

Unfortunately, it is not possible on most D-Link routers.

Set the route

- Set a route name (I use “AyrMesh”)
- Enter the “Destination LAN IP”
 - Always “101.0.0.0”
- Enter the “Subnet Mask”
 - Always “255.0.0.0”
- Enter the “Default Gateway”
 - The IP address for your Hub from the DHCP table
 - Mine is “192.168.1.100”
- Select “LAN” as the “Interface”
- Save the route



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Just fill in the routing table as shown.

The “Destination LAN IP” is the LAN that we are routing to, in this case, the AyrMesh LAN. It is always 101.0.0.0.

The “Subnet Mask” indicates how big that LAN can be. Theoretically, the AyrMesh LAN can be very large, so the subnet mask has three zeros; it is always 255.0.0.0

The “Default Gateway” is the IP address the router knows (one on its network) to which the traffic bound for the AyrMesh network should be routed. It is always the IP address of the AyrMesh Hub.

The “Interface” is the router's interface to which this route applies. D-Link routers generally only allow you to use the WAN interface, but you need to apply this route to the LAN interface. Check your router's manual (or online forums) to see if this is possible.

You're Done!
Congratulations!



That's all!