

Static IP Address Configuration for AP Mode

Supported NETGEAR Routers:

Nighthawk and Orbi Systems

Summary:

This detailed process outlines how to use NETGEARS AP mode feature and use the AP Mode Static IP address configuration vs the Dynamic IP Configuration. This sets a specific IP address on the router to be configured as a wired AP which allows the IP address to be static and not change as when using Dynamic IP address configuration, the IP address given here can be change depending upon host router DHCP IP address configuration and least time.

For Dynamic IP Configuration for AP Mode on Nighthawk or Orbi systems, users can refer to the following KBs:

<https://kb.netgear.com/20927/How-do-I-change-my-NETGEAR-router-to-AP-mode>

<https://kb.netgear.com/31218/How-do-I-configure-my-Orbi-router-to-act-as-an-access-point>

Refer to these KB for router features that are supported and not supported while in AP Mode:

<https://kb.netgear.com/26765/Disabled-Features-on-the-Router-when-set-to-AP-Mode>

<https://kb.netgear.com/000061277/Which-features-are-disabled-on-my-Orbi-router-when-it-is-set-to-AP-Mode>

Pre-conditions:

- Host Router with DHCP Services enabled.
- Recommend having an adjusted DHCP IP Address pool range on host router to allow for static IP address configured devices to use IP addresses that are outside of the host routers DHCP IP Address pool range. Recommend the host router be configured for ###.###.#.100 thru ###.###.#.200.

<https://kb.netgear.com/24089/How-do-I-specify-the-pool-of-IP-addresses-assigned-by-my-Nighthawk-router>

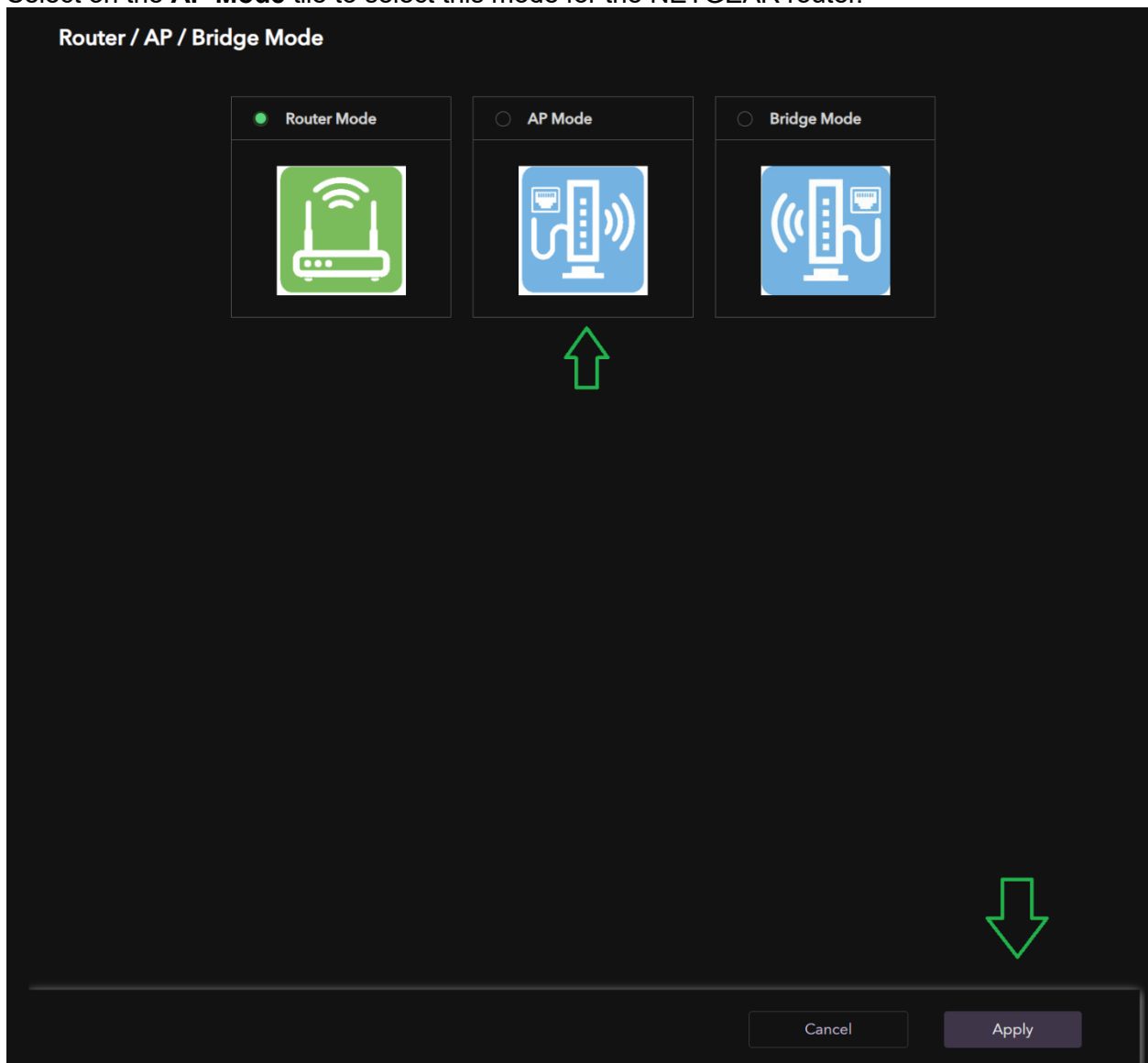
This gives a good IP address pool size range for IP address reservation within the pool range and then also gives room on either side of the IP address pool range for devices that are static IP addressed configured which this is a standard networking practice. IP address range adjustments can be changed later.

- LAN cable to connect the host router to the NETGEAR router being configured to AP mode. ALL NETGEAR routers configured for AP mode require the WAN or Internet port to be connected to the host routers LAN port for proper operation when in AP mode. CAT6 recommended LAN cable.
- NETGEAR router running in router mode, or a factory reset may need to be performed to get the router back to default router mode and its web page accessible at 192.168.1.1
- Ethernet wired PC or Laptop is recommended, connected to back of NETGEAR router to be configured for AP mode.

Log into the NETGEAR routers web page at 192.168.1.1 or the IP address custom set if this differs from the default IP address, in a web browser. Navigate to the following location, **Advanced tab/Advanced Setup/Router/AP Mode** menu setting. Also, may be seen as **Router Mode** on some different model routers.

The screenshot displays the NETGEAR web interface. At the top, there are two tabs: 'BASIC' and 'ADVANCED', with a green arrow pointing to 'ADVANCED'. On the left side, there is a navigation menu with various settings categories. A green arrow points to 'Router / AP / Bridge Mode' under the 'Wireless Settings' section. The main content area is titled 'Router / AP / Bridge Mode' and features three radio button options: 'Router Mode' (selected), 'AP Mode', and 'Bridge Mode'. Each option has a corresponding icon: a green router icon for Router Mode, a blue AP icon for AP Mode, and a blue bridge icon for Bridge Mode. Below these options, there is a descriptive text for 'Router Mode' and a section titled 'To change router settings' with two buttons: 'Internet Setup' and 'Wireless Setup'. At the bottom, there is a diagram showing a router connected to the Internet (via DSL or Cable Service), a smartphone, and a TV.

Select on the **AP Mode** tile to select this mode for the NETGEAR router.



Then select the **APPLY** button.

Wireless AP configuration screen will appear in the web page:

The screenshot shows the 'Wireless AP' configuration page in a web browser. The page has a dark theme with a sidebar on the left containing navigation options like 'ADVANCED Home', 'Setup Wizard', 'WPS Wizard', 'Setup', 'USB Functions', 'Security', 'Administration', 'Advanced Setup', 'Wireless Settings', 'Router / AP / Bridge Mode', 'Port Forwarding / Port Triggering', 'Dynamic DNS', 'VPN Service', and 'Static Routes'. The main content area is titled 'Wireless AP' and features three radio buttons for mode selection: 'Router Mode', 'AP Mode' (which is selected and highlighted in green), and 'Bridge Mode'. Below the mode selection, there is a paragraph explaining 'AP Mode' and a note about client devices connecting to the SSID. There are also two radio buttons for IP address settings: 'Get dynamically from existing router' (selected) and 'Enable fixed IP settings on this device (not recommended)'. A 'Device Name' field with an 'Edit' button is also present. At the bottom of the page, a diagram illustrates the network topology: 'Internet' (represented by a globe) connects to 'DSL or Cable Service', which connects to an 'Existing Router/Gateway'. This gateway is connected via an 'Ethernet Cable' to 'This NETGEAR router acts as Wireless AP'. The Netgear router is then connected wirelessly to a smartphone and a TV.

Select the **Enable fixed IP Settings on this device** radio button. This will display the **IP Address, IP Subnet Mask, Gateway IP Address, Primary and Secondary DNS** configuration input boxes:

Wireless AP

Router Mode AP Mode Bridge Mode

AP Mode: The NETGEAR router will function as a wireless access point. This mode is appropriate for easy setup if devices are already connected to your existing router or gateway, or if you just want to use this new NETGEAR router to extend your WiFi coverage. Some router functions are not available in access point mode.

Choose IP Address settings on this access point

Get dynamically from existing router

Enable fixed IP settings on this device (not recommended)

Device Name: RAXE500

IP Address: 0.0.0.0

IP Subnet Mask: 0.0.0.0

Gateway IP Address: 0.0.0.0

Primary DNS: 0.0.0.0

Secondary DNS:

Downlink

Your client devices can connect to the SSID below.

To change:

Configure the **IP Address** box for a static IP address number that is outside of the host routers DHCP IP Address pool range. Recommend setting the default DHCP IP address pool range to the following after applying and a factory reset: 192.168.#.100 to 192.168.#.200.

Example:

Host router Default IP address pool range is set for 192.168.0.100 thru .200.

IP Address set on NETGEAR router for AP mode is 192.168.0.50

Recommend making the static IP address intuitive. i.e. use the model number of the NETGEAR router in the IP address number in the last value. So, for a RBR850 or RAX120 model router, set a 192.168.#.85 or 192.168.#.12 static IP address. This IP address will not change unless the user changes it here. These addresses need to be outside of the host routers DHCP IP address pool range.

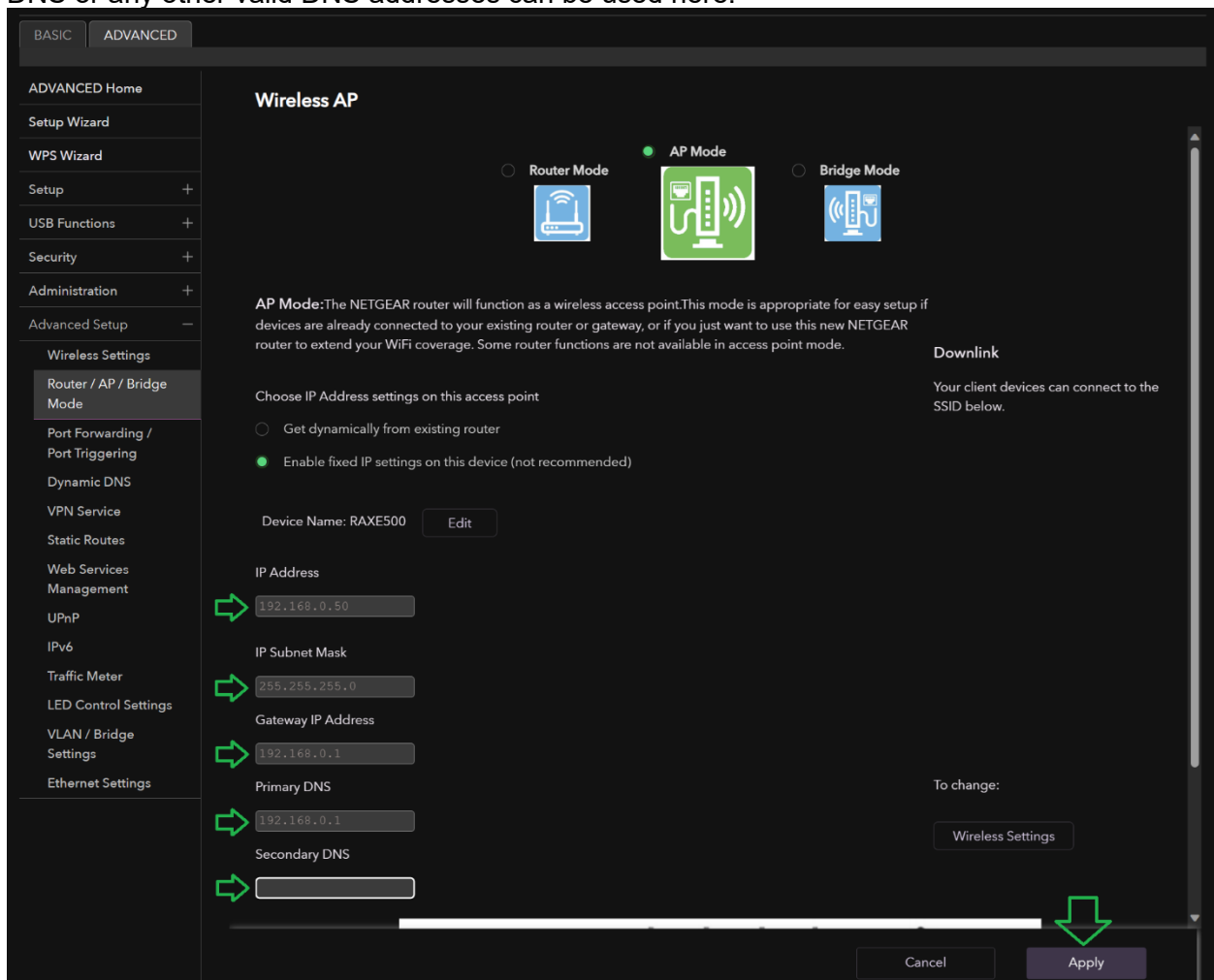
Configure the **IP Subnet Mask, Gateway IP Address, Primary and Secondary DNS** configuration input boxes accordingly to what the host router is set for.

Example:

Host router IP Subnet Mask is 255.255.255.0

Host router Gateway IP Address is 192.168.0.1

Primary and Secondary can be either the Host routers IP address or use custom DNS IP addresses here, such as ISP service DNS, Google DNS, OpenDNS, Quad 9 DNS, Raspberry Pi DNS or any other valid DNS addresses can be used here.

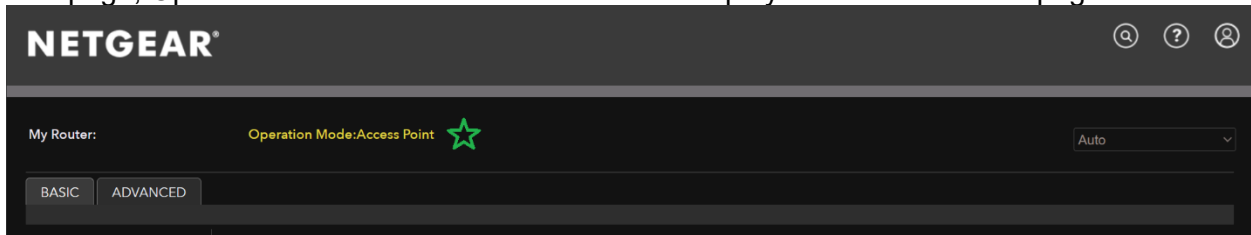


After input boxes have been filled in correctly and checked, select the **APPLY** button.

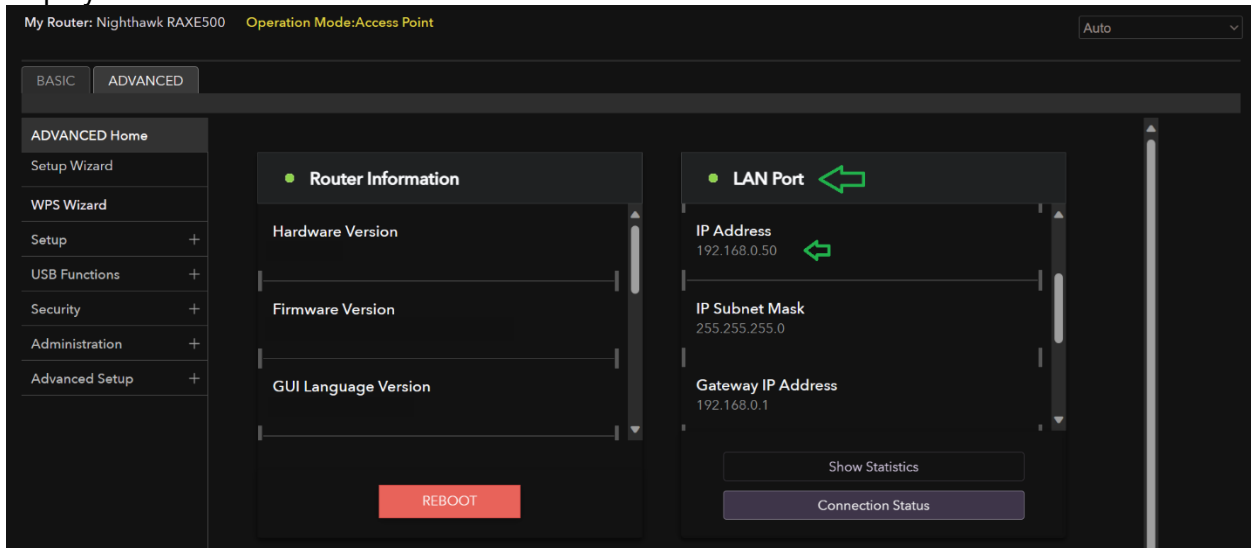
The NETGEAR router will now begin a reboot cycle.

Take a LAN cable and connect it to the WAN or Internet (yellow) port on the back of the NETGEAR router. Connect the other end of the LAN cable to an open LAN port on the back of the host router. Give about 2-3 minutes allowing for the NETGEAR router to process the AP mode configuration and come to ready. Observe for internet status LEDs on the router, that should give indication of the connection to the host router and getting internet services. Check the model router user's manual for LED indication and behaviors.

After the NETGEAR router has rebooted and come to ready, the ethernet connected PC should now have internet access and should be able to log into the NETGEAR routers WEB page that's now in AP mode using the static IP address that was configured. After logging into the router's web page, Operation Mode: Access Point should be displayed on the first main page:

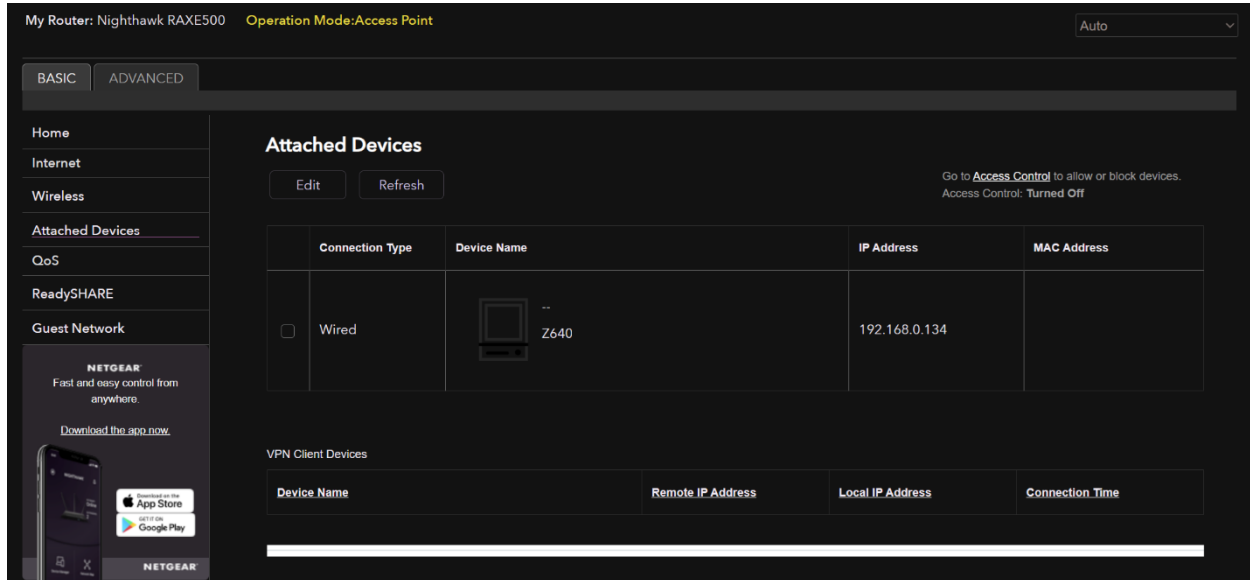


Navigate to the Advanced Tab/Advance Home and check the **LAN Port** section. **IP Address, IP Subnet Mask, Gateway IP Address, Primary and Secondary DNS** configurations should be displayed here for review.



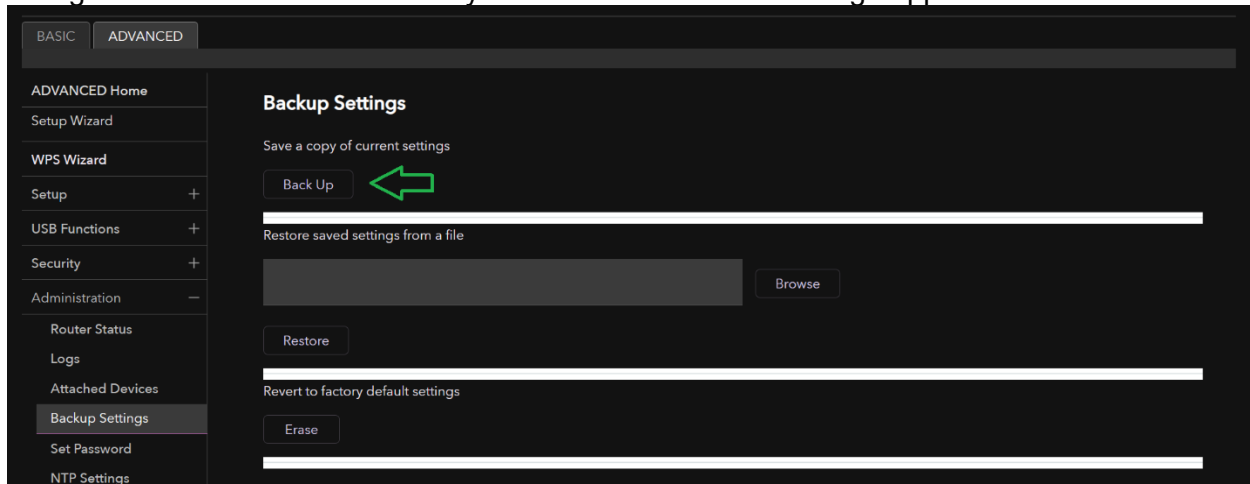
Users can now configure the wireless settings or configuration on the NETGEAR router as desired. Navigate to the **Basic Tab/Wireless Settings** web page to make changes here.

Navigate to **Basic Tab/Attached** Devices. Verify any devices appear here that are connected to the NETGEAR router while in AP Mode. All ethernet and wireless connected devices will appear here:



Check with all connected devices that they can connect to the NETGEAR router in AP mode. Verify they get internet services while connected.

Recommend making a backup configuration to file for safe keeping of the AP Mode configuration. Saves time if a factory reset is needed or something happens.



<https://kb.netgear.com/24231/How-do-I-back-up-the-router-configuration-settings-on-my-Nighthawk-router>

<https://kb.netgear.com/000062080/How-do-I-back-up-the-configuration-settings-on-my-Orbi-WiFi-System>

LAN Ports in back of the NETGEAR router configured for AP mode are functional and can be used for ethernet connected devices while in AP mode.

Place NETGEAR router that's in AP Mode into your desired or designated location for normal operation. Recommend 3-6 feet distance from other electronic devices.