

# Chapter 6

## Using Network Monitoring Tools

This chapter describes how to use the maintenance features of your Wireless-G Router Model WGR614v9. You can access these features by selecting the items under Maintenance in the main menu of the browser interface.

This chapter includes the following sections:

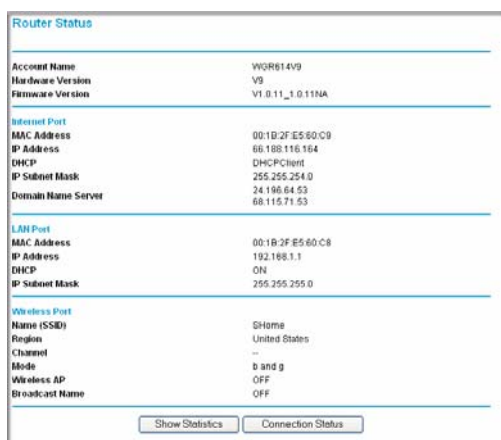
- “Viewing Wireless Router Status Information”
- “Viewing a List of Attached Devices” on page 6-5
- “Managing the Configuration File” in Chapter 6
- “Upgrading the Router Software” on page 6-7
- “Enabling Remote Management Access” on page 6-11

### Viewing Wireless Router Status Information

---

To view router status and usage information:

1. From the main menu of the browser interface, under Maintenance, select **Router Status**. The Router Status screen displays.



| Router Status        |                              |
|----------------------|------------------------------|
| Account Name         | WGR614v9                     |
| Hardware Version     | V9                           |
| Firmware Version     | V1.0.11_1.0.11NA             |
| <b>Internet Port</b> |                              |
| MAC Address          | 00:1B:2F:E5:60:C8            |
| IP Address           | 66.188.116.164               |
| DHCP                 | DHCPClient                   |
| IP Subnet Mask       | 255.255.254.0                |
| Domain Name Server   | 24.196.64.63<br>68.115.71.53 |
| <b>LAN Port</b>      |                              |
| MAC Address          | 00:1B:2F:E5:60:C8            |
| IP Address           | 192.168.1.1                  |
| DHCP                 | ON                           |
| IP Subnet Mask       | 255.255.255.0                |
| <b>Wireless Port</b> |                              |
| Name (SSID)          | SHome                        |
| Region               | United States                |
| Channel              | ...                          |
| Mode                 | b and g                      |
| Wireless AP          | OFF                          |
| Broadcast Name       | OFF                          |

Buttons: Show Statistics, Connection Status

Figure 6-1

Table 6-1 describes the router status fields.

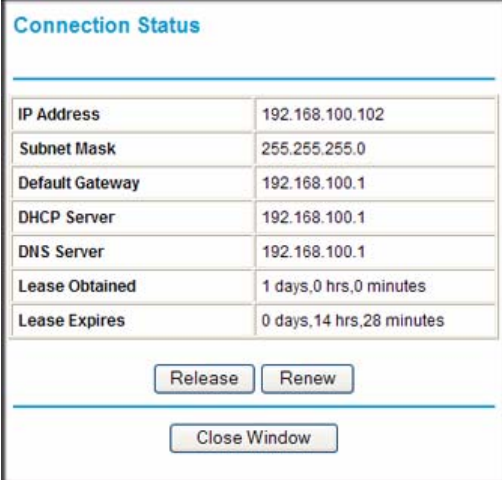
**Table 6-1. Wireless Router Status Fields**

| Field              | Description   |
|--------------------|---|
| Account Name       | The host name assigned to the router.   |
| Hardware Version   | The hardware version of the router.   |
| Firmware Version   | The version of the current software installed in the router. This will change if you upgrade your router.   |
| Internet Port      | These settings apply to the Internet (WAN) port of the router.  |
| MAC Address        | The Media Access Control address. This is the unique physical address being used by the Internet (WAN) port of the router.  |
| IP Address         | The IP address being used by the Internet (WAN) port of the router. If no address is shown, or is 0.0.0.0, the router cannot connect to the Internet.   |
| DHCP               | If set to None, the router is configured to use a fixed IP address on the WAN. If set to DHCP Client, the router is configured to obtain an IP address dynamically from the ISP.  |
| IP Subnet Mask     | The IP subnet mask being used by the Internet (WAN) port of the router. For an explanation of subnet masks and subnet addressing, click the link to the online document <a href="#">"TCP/IP Networking Basics" in Appendix B.</a> |
| Domain Name Server | The Domain Name Server addresses being used by the router. A Domain Name Server translates human-language URLs such as www.netgear.com into IP addresses.   |
| LAN Port           | These settings apply to the Ethernet (LAN) port of the router.  |
| MAC Address        | The Media Access Control address. This is the unique physical address being used by the LAN port of the router.   |
| IP Address         | The IP address being used by the Ethernet (LAN) port of the router. The default is 192.168.1.1.   |
| DHCP               | Identifies whether the router's built-in DHCP server is active for the LAN-attached devices.  |
| IP Subnet Mask     | The IP subnet mask being used by the Ethernet (LAN) port of the router. The default is 255.255.255.0.   |

**Table 6-1. Wireless Router Status Fields (continued)**

| Field          | Description  |
|----------------|--|
| Wireless Port  | These settings apply to the wireless port of the router.   |
| Name (SSID)    | The wireless network name (SSID) being used by the wireless port of the router. The default is NETGEAR.  |
| Region         | The geographic region where the router is being used. It might be illegal to use the wireless features of the router in some parts of the world.   |
| Channel        | Identifies the channel of the wireless port being used. Click the link to the online document <a href="#">“Wireless Networking Basics”</a> in Appendix B for the frequencies used on each channel. |
| Mode           | Indicates the wireless communication mode: b and g; g only.  |
| Wireless AP    | Indicates whether the radio feature of the router is enabled. If not enabled, the Wireless LED on the front panel is off.  |
| Broadcast Name | Indicates whether the router is broadcasting its SSID.   |

- Click **Connection Status** to display the connection status.



The screenshot shows a window titled "Connection Status" with a table of network parameters and control buttons. The table lists IP Address, Subnet Mask, Default Gateway, DHCP Server, DNS Server, Lease Obtained, and Lease Expires. Below the table are buttons for "Release", "Renew", and "Close Window".

| Connection Status |                          |
|-------------------|--------------------------|
| IP Address        | 192.168.100.102          |
| Subnet Mask       | 255.255.255.0            |
| Default Gateway   | 192.168.100.1            |
| DHCP Server       | 192.168.100.1            |
| DNS Server        | 192.168.100.1            |
| Lease Obtained    | 1 days,0 hrs,0 minutes   |
| Lease Expires     | 0 days,14 hrs,28 minutes |

Release Renew

Close Window

**Figure 6-2**

Table 6-2 describes the connection status settings.

**Table 6-2. Connection Status Settings**

| Item            | Description  |
|-----------------|--|
| IP Address      | The IP address that is assigned to the router.   |
| Subnet Mask     | The subnet mask that is assigned to the router.  |
| Default Gateway | The IP address for the default gateway that the router communicates with.  |
| DHCP Server     | The IP address for the Dynamic Host Configuration Protocol server that provides the TCP/IP configuration for all the computers that are connected to the router. |
| DNS Server      | The IP address of the Domain Name Service server that provides translation of network names to IP addresses.   |
| Lease Obtained  | The date and time that the lease was obtained.   |
| Lease Expires   | The date and time that the lease will expire.  |

Click the **Release** button to release the connection status items (that is, all items return to 0).

Click the **Renew** button to renew to the connection status items (that is, all items are refreshed).

Click the **Close Window** button to close the Connection Status screen.

3. Click **Show Statistics** to display router usage statistics.

| Port | Status       | TxPkts | RxPkts | Collisions | Tx B/s | Rx B/s | Up Time        |
|------|--------------|--------|--------|------------|--------|--------|----------------|
| WAN  | 100Mbps/Full | 201446 | 237177 | 0          | 266    | 1505   | 1 day 21:37:49 |
| LAN1 | 100Mbps/Full | 135629 | 129768 | 0          | 1360   | 179    | 1 day 05:33:08 |
| LAN2 | Link Down    |        |        |            |        |        | --             |
| LAN3 | Link Down    |        |        |            |        |        | --             |
| LAN4 | Link Down    |        |        |            |        |        | --             |
| WLAN | 300M         | 95234  | 79713  | 0          | 481    | 159    | 1 day 21:38:00 |

Poll Interval :  (secs)

**Figure 6-3**

Table 6-3 describes the router statistics.

**Table 6-3. Router Statistics**

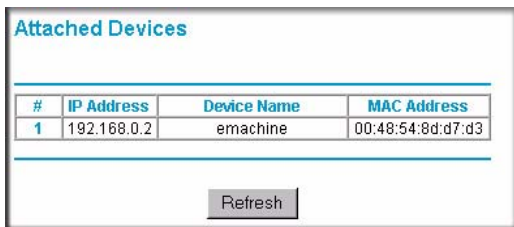
| Item           | Description   |
|----------------|---|
| System Up Time | The time elapsed since the router was last restarted.   |
| Port           | The statistics for the WAN (Internet) and LAN (Ethernet) ports. For each port, the screen displays the following: |
| Status         | The link status of the port.  |
| TxPkts         | The number of packets transmitted on this port since reset or manual clear.                                       |
| RxPkts         | The number of packets received on this port since reset or manual clear.  |
| Collisions     | The number of collisions on this port since reset or manual clear.  |
| Tx B/s         | The current transmission (outbound) bandwidth used on the WAN and LAN ports.                                      |
| Rx B/s         | The current reception (inbound) bandwidth used on the WAN and LAN ports.  |
| Up Time        | The time elapsed since this port acquired the link.   |
| Poll Interval  | The intervals at which the statistics are updated in this screen.   |

To change the polling frequency, enter a time in seconds in the **Poll Interval** field, and click **Set Interval**.

To stop the polling entirely, click **Stop**.

## Viewing a List of Attached Devices

The Attached Devices screen contains a table of all IP devices that the router has discovered on the local network. From the main menu of the browser interface, under **Maintenance**, select **Attached Devices** to view the table.



The screenshot shows a web interface titled "Attached Devices". It contains a table with the following data:

| # | IP Address  | Device Name | MAC Address       |
|---|-------------|-------------|-------------------|
| 1 | 192.168.0.2 | ernachine   | 00:48:54:8d:d7:d3 |

Below the table is a "Refresh" button.

**Figure 6-4**

For each device, the table shows the IP address, NetBIOS host name or device name (if available), and the Ethernet MAC address. To force the router to look for attached devices, click **Refresh**.



**Note:** If the router is rebooted, the table data is lost until the router rediscovers the devices.

---

## Managing the Configuration File

---

The configuration settings of the Wireless-G Router are stored within the router in a configuration file. You can back up (save) this file to your computer, restore it, or reset it to the factory default settings.

From the main menu of the browser interface, under Maintenance, select **Backup Settings**.

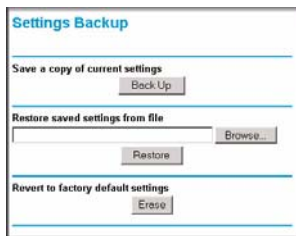


Figure 6-5

The following sections describe the three available options.

### Backing Up and Restoring the Configuration

The Restore and Backup options in the Settings Backup screen let you save and retrieve a file containing your router's configuration settings.

To save your settings, click **Back Up**. Your browser extracts the configuration file from the router and prompts you for a location on your computer to store the file. You can give the file a meaningful name at this time, such as comcast.cfg.



**Tip:** Before saving your configuration file, change the administrator password to the default, **password**. Then change it again after you have saved the configuration file. If you forget the password, you will need to reset the configuration to factory defaults.

To restore your settings from a saved configuration file, enter the full path to the file on your computer, or click **Browse** to browse to the file. When you have located it, click **Restore** to send the file to the router. The router then reboots automatically.



**Warning:** Do not interrupt the reboot process.

## Erasing the Configuration

Under some circumstances (for example, if you move the router to a different network or if you have forgotten the password) you might want to erase the configuration and restore the factory default settings. After an erase, the router's username is **admin**, the password is **password**, the LAN IP address is **192.168.1.1** (or **192.168.1.1**), and the router's DHCP server is enabled.

To erase the configuration, click the **Erase** button in the Settings Backup screen.

To restore the factory default configuration settings when you do not know the login password or IP address, you must use the restore factory settings button on the rear panel of the router (see [“Restoring the Default Configuration and Password” on page 7-13](#)).

## Upgrading the Router Software

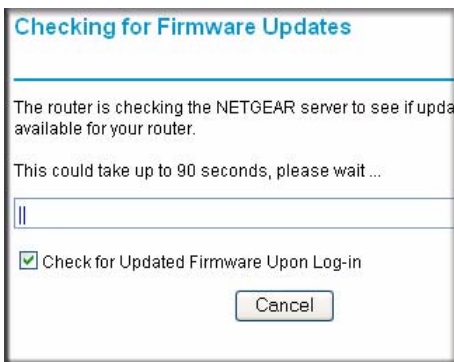
---

The routing software (also called firmware) of the Wireless-G Router is stored in flash memory, and can be upgraded as NETGEAR releases new software. Your router can download and install the new software, or you can download upgrade files from the NETGEAR website and manually send the upgrade file to the router using your browser.



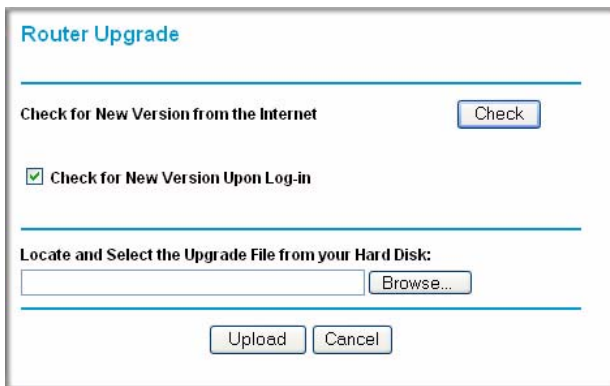
**Tip:** To ensure that you are always using the latest router firmware, enable the Firmware Upgrade Assistant feature so that the router will automatically detect a new version of the firmware on the Internet and alert you to its availability.

The Checking for Firmware Updates screen appears at login unless you clear the **Check for Updated Firmware Upon Log-in** check box.



**Figure 6-6**

A screen is also provided for upgrading the router. From the main menu of the browser interface, under Maintenance, select **Router Upgrade** to display the Router Upgrade screen.



**Figure 6-7**

From this screen, you can check for new software versions by clicking the **Check** button. If a new version is found, you can download and install it in one step. To enable the Smart Wizard to automatically check for a new software version upon login, select the **Check for New Version Upon Log-in** check box.

Alternatively, you can manually install an upgrade file stored on your computer.

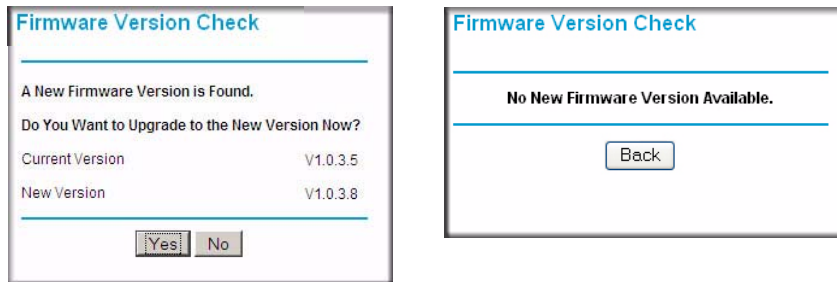


**Tip:** Before upgrading the router software, use the router Settings Backup screen to save your configuration settings. A router upgrade might cause the router settings to revert to the factory defaults. If this happens, after completing the upgrade, you can restore your settings from the backup.

## Upgrading Automatically to New Router Software

If you have selected **Check for New Version Upon Log-in**, your router alerts you to the new software when you log in. Otherwise, you can click the **Check** button in the Router Upgrade screen to search for new software.

If the router discovers a newer version of software, the message on the left displays when you log in. If no new software is available, the message on the right displays.



**Figure 6-8**

To automatically upgrade to the new software, click **Yes** to allow the router to download and install the new software file from NETGEAR.



**Warning:** When uploading software to the Wireless-G Router, *do not* interrupt the Web browser by closing the window, clicking a link, or loading a new page. If the browser is interrupted, it could corrupt the software.

When the upload is complete, your router automatically restarts. The upgrade process typically takes about 1 minute. Read the new software release notes to determine whether you must reconfigure the router after upgrading.

## Upgrading Manually to New Router Software

To manually select, download, and install new software to your router:

1. Under Maintenance on the main menu, select **Router Status**. Note the version number of your router firmware.
2. Go to the WGR614v9 support page on the NETGEAR website at <http://www.netgear.com/support>.
3. Check the most recent firmware version offered against the firmware version shown on your Router Status screen.
4. If the version on the NETGEAR website is more recent, download the file to your computer.
5. Under Maintenance on the main menu, select **Router Upgrade**.
6. Click **Browse**, and locate the firmware image that you downloaded to your PC (the file ends in .img or .chk).
7. Click **Upload** to send the firmware to the router.



**Warning:** When uploading software to the Wireless-G Router, *do not* interrupt the Web browser by closing the window, clicking a link, or loading a new page. If the browser is interrupted, it could corrupt the software.

When the upload is complete, your router automatically restarts. The upgrade process typically takes about 1 minute. Read the new software release notes to determine whether you must reconfigure the router after upgrading.

## Enabling Remote Management Access

Using the Remote Management feature, you can allow a user on the Internet to configure, upgrade, and check the status of your Wireless-G Router. From the main menu of the browser interface, under Advanced, select **Remote Management**.

The screenshot shows the 'Remote Management' configuration page. At the top, there is a section titled 'Remote Management' with a blue header. Below this, there is a checkbox labeled 'Turn Remote Management On'. Underneath, the 'Remote Management Address' is set to '10.1.32.90:8080'. The 'Allow Remote Access By:' section has three radio button options: 'Only This Computer' (with four empty IP address boxes), 'IP Address Range' (with 'From' and 'To' labels and two sets of four empty IP address boxes), and 'Everyone' (which is selected). At the bottom, the 'Port Number' is set to '8080' in a text box. There are 'Apply' and 'Cancel' buttons at the very bottom of the form.

Figure 6-9



**Note:** Be sure to change the router's default configuration password to a very secure password. The ideal password should contain no dictionary words from any language, and should be a mixture of letters (both uppercase and lowercase), numbers, and symbols. Your password can be up to 30 characters.

To configure your router for remote management:

1. Select the **Turn Remote Management On** check box.

2. Under Allow Remote Access By, specify what external IP addresses will be allowed to access the router's remote management.



**Note:** For enhanced security, restrict access to as few external IP addresses as practical.

- To allow access from any IP address on the Internet, select **Everyone**.
  - To allow access from a range of IP addresses on the Internet, select **IP Address Range**. Enter a beginning and ending IP address to define the allowed range.
  - To allow access from a single IP address on the Internet, select **Only This Computer**. Enter the IP address that will be allowed access.
3. Specify the port number for accessing the management interface.

Normal Web browser access uses the standard HTTP service port 80. For greater security, enter a custom port number for the remote management Web interface. Choose a number between 1024 and 65535, but do not use the number of any common service port. The default is 8080, which is a common alternate for HTTP.

4. Click **Apply** to have your changes take effect.



**Note:** When accessing your router from the Internet, type your router's WAN IP address into your browser's address or location field, followed by a colon (:) and the custom port number. For example, if your external address is 134.177.0.123 and you use port number 8080, then enter **http://134.177.0.123:8080** in your browser.