Wireless Bridging and Repeating

You can use the access point as a component to build large bridged wireless networks. The following modes are available:

- **Wireless point-to-point bridge mode**. The access point communicates with one bridge-mode wireless station. You can associate wireless clients with this access point. For more information, see *Set Up a Wireless Point-to-Point Bridge* on page 37.
- **Wireless point-to-multi-point bridge mode**. The access point is the base station for a group of bridge-mode wireless stations. You can associate wireless clients with this access point.

  The other bridge-mode wireless stations in the network must be set to point-to-point bridge mode and must use the MAC address of the base station. They send all traffic to the base station rather than communicating directly with each other. For more information, see *Set Up a Wireless Point-to-Multi-Point Bridge* on page 39.

Set Up a Wireless Point-to-Point Bridge

Coordinate the following information ahead of time for each access point:

- **MAC addresses**. You must know the MAC address of each access point in the bridge network. You can use the 2.4 GHz or 5 GHz band for the wireless bridge, but the 2.4 GHz and 5 GHz bands of each access point use a unique MAC address.
- **Authentication settings**. You must specify the same wireless authentication settings for each access point in the bridge network. Each access point must use the same ESSID, channel, authentication mode, if any, and security settings.
- **LAN address range**. Each access point must be configured to operate in the same LAN network address range as the LAN devices.
- **DHCP**. If you are using DHCP, all access points must be set to obtain an IP address automatically. See *Configure the Basic IP Settings* on page 13.

When the wireless bridge is completed, a computer on either LAN segment can connect to the Internet and share files and printers with any other computers or servers connected to LAN Segment 1 or LAN Segment 2.

➢ **To configure a point-to-point wireless bridge between two access points:**

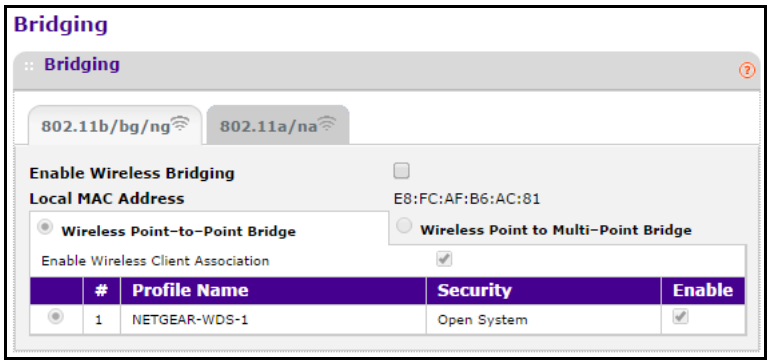
1. Launch a web browser on the computer that is connected to the first access point.
2. In the address field of the browser, enter **http://192.168.0.100**.

   A login prompt displays.
3. Enter the user name and password.

   The user name is **admin** and the default password is **password**.

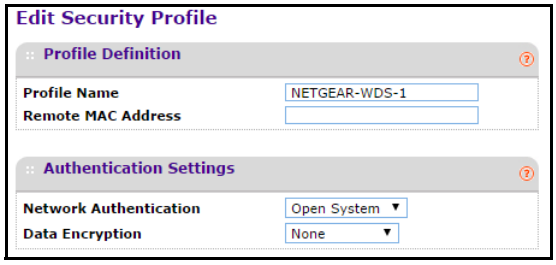
   The General screen displays.

4. Select **Configuration > Wireless Bridge**.



Note: If the access point is using the Auto channel setting, you are prompted to select a channel. To specify the channel, select **Configuration > Wireless > Basic**, select a channel, and click the **Apply** button.

5. Select the band that you want to use for the bridge:
   - To set up the bridge on the 2.4 GHz band, click the **802.11b/bg/ng** tab.
   - To set up the bridge on the 5 GHz band, click the **802.11a/na** tab.
6. Select the **Enable Wireless Bridging** check box.
7. Select the **Wireless Point-to-Point Bridge** radio button.
8. To enable wireless client association, select the **Enable Wireless Client Association** check box.
9. Click the **Edit** button.



10. In the **Remote MAC Address** field, enter the MAC address of the other access point.
11. Under Authentication Settings, specify the authentication settings for your bridge network.
12. Click the **Apply** button at the bottom of the screen.

    Your settings are saved.
13. Configure and verify the following parameters for the access point:
    - Verify that both access points are configured to operate in the same LAN network address range as the LAN devices.

- Verify that both access points use the same ESSID, channel, authentication mode, if any, and security settings.

14. Repeat *Step 1* through *Step 13* for the second access point.
15. Verify connectivity across LAN 1 and LAN 2.

    A computer on either LAN segment can connect to the Internet and share files and printers with any other computers or servers connected to LAN Segment 1 or LAN Segment 2.

Set Up a Wireless Point-to-Multi-Point Bridge

In a multi-point wireless bridge, one wireless station is the base station and is configured in wireless point-to-multi-point bridge mode. All the other access points in the wireless bridge are configured in wireless point-to-point bridge mode. You can connect up to four access points to the base station access point.

Coordinate the following information ahead of time for each access point:

- **Base station**. Select the access point that serves as the base station. The other access points in the wireless bridge network must use the MAC address of the base station.
- **MAC addresses**. You must know the MAC address of each access point in the bridge network. You can use the 2.4 GHz or 5 GHz band for the wireless bridge, but the 2.4 GHz and 5 GHz bands of each access point use a unique MAC address.
- **Authentication settings**. You must specify the same wireless authentication settings for each access point in the bridge network. Each access point must use the same ESSID, channel, authentication mode, if any, and security settings.
- **LAN address range**. Each access point must be configured to operate in the same LAN network address range as the LAN devices.
- **DHCP**. If you are using DHCP, all access points must be set to obtain an IP address automatically. For more information, see *Configure the Basic IP Settings* on page 13.

When the wireless bridge is completed, computers on either LAN segment can connect to the Internet and share files and printers with any other computers or servers connected to LAN Segment 1 or LAN Segment 2.

You can extend this multi-point bridging by adding more access points configured in point-to-point bridge mode for each additional LAN segment. You can also extend the range of the wireless network with NETGEAR wireless antenna accessories.

➢ **To configure a point-to-multi-point wireless base station:**

1. For the first access point (AP 1) on LAN Segment 1, launch a web browser on a computer that is connected to the access point.
2. On the base station access point, launch a web browser on the computer that is connected to it.
3. In the address field of the browser, enter **http://192.168.0.100**.

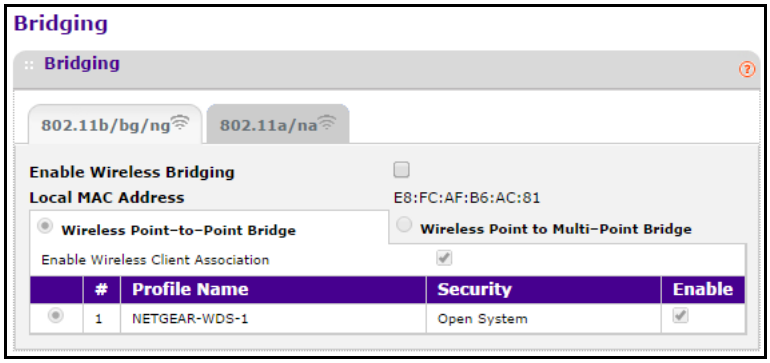
   A login prompt displays.

4. Enter the user name and password.

The user name is **admin** and the default password is **password**.

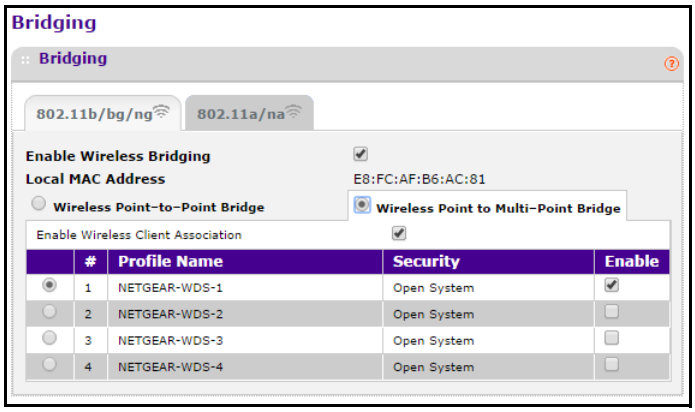
The General screen displays.

5. Select **Configuration > Wireless Bridge**.



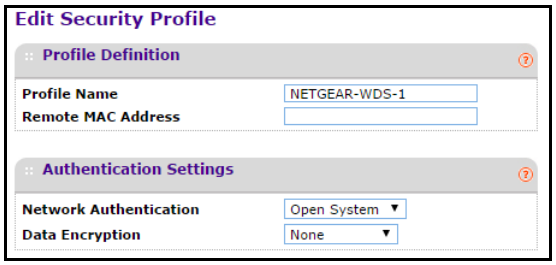
Note: If the access point is using the Auto channel setting, you are prompted to select a channel. To specify the channel, select **Configuration > Wireless > Basic**, select a channel, and click the **Apply** button.

6. Select the band that you want to use for the bridge:
   - To set up the bridge on the 2.4 GHz band, click the **802.11b/bg/ng** tab.
   - To set up the bridge on the 5 GHz band, click the **802.11a/na** tab.
7. Select the **Enable Wireless Bridging** check box.
8. Select the **Wireless Point-to-Multi-Point Bridge** radio button.



9. To enable wireless client association, select the **Enable Wireless Client Association** check box.

10. Select the radio button for the first access point that you want to connect to the base station and click the **Edit** button.



11. In the **Remote MAC Address** field, enter the MAC address of the other access point.
12. Under Authentication Settings, specify the authentication settings for your bridge network.
13. Click the **Apply** button at the bottom of the screen.

    Your settings are saved.
14. Select the radio button for each access point that you want to connect to the base station and click the **Edit** button.

    You can specify up to four access points that connect to the base station access point.
15. Repeat *Step 11* through *Step 13* for additional access points if you are using them.
16. For each access point that you want to allow to connect to the base station access point, select its **Enable** check box.
17. Click the **Apply** button at the bottom of the screen.

    Your settings are saved.
18. Configure each access point that is to connect to the base station access point in wireless point-to-point bridge mode.

    For more information, see *Set Up a Wireless Point-to-Point Bridge* on page 37.
19. Verify the following parameters for all access points:
    - Only the base station access point is configured in wireless point-to-multi-point bridge mode and all the other access points are in wireless point-to-point bridge mode.
    - For all point-to-point access points, the MAC address of the base station access point is specified in their **Remote AP MAC Address** fields.
    - All access points are configured to operate in the same LAN network address range as the LAN devices.
    - All access points use the same SSID, channel, authentication mode, if any, and encryption.
    - If you are using DHCP, all the access points are set to obtain an IP address automatically. For more information, see *Configure the Basic IP Settings* on page 13.
20. Verify connectivity across the LANs:
    - A computer on any LAN segment can connect to the Internet and share files and printers with any other computers or servers connected to any of the other LAN segments.