EnGenius WDS Bridging Guide and Setup Example

There are three types of WDS Operation Mode and each of them serves the purposes as follows -

WDS Access Point (AP):

This mode allows you to simultaneously broadcast a publically visible WiFi network while bridging to another WDS AP or WDS Bridge.
(Four other WDS AP/Bridge units can be linked back to one WDS Access Point using MAC address assignment in the WDS Link Settings.)

WDS Bridge:

This mode is required if you want to create a point-to-point link that is not visible to the public.
(*Four other WDS AP/Bridge units can be linked back to one WDS Bridge using MAC address assignment in the WDS Link Settings. – It is also worth noting that WDS Bridge is the **fastest** of all WDS modes.*)

WDS Station:

When using WDS Station the device is effectively like a Client Bridge but maintains the integrity of a WDS link in terms MAC address transparency.
(*You can connect as many WDS Stations to a WDS AP as you require because you do not rely on the WDS Link Settings and simply do a Site Survey to connect to the WDS AP.*)

WDS Bridge Setup Example

It is quite often that there is a requirement to deploy a wireless bridge between two buildings to share an Internet or network connection and this requires the use of a pair of Outdoor WiFi units.

Here I will show you how to set up a generic scenario where a building-to-building link is required.

First of all we need to make a note of the Wireless MAC address of each unit – this can be located on the label on the back and in the **Main** section from the **Status** heading.
For this demonstration we will have a **Unit A** and a **Unit B** set up in **WDS Bridge Mode**.
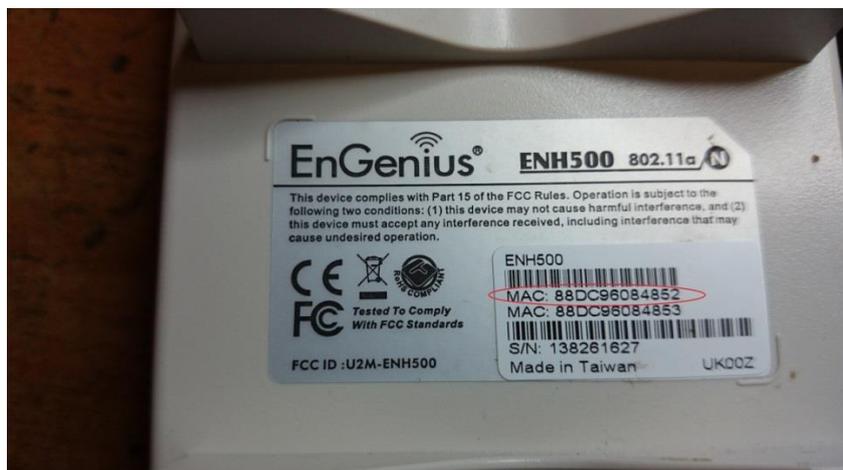
We will also assume that the **Default Gateway/Router** of the network has an IP address of **192.168.2.1**
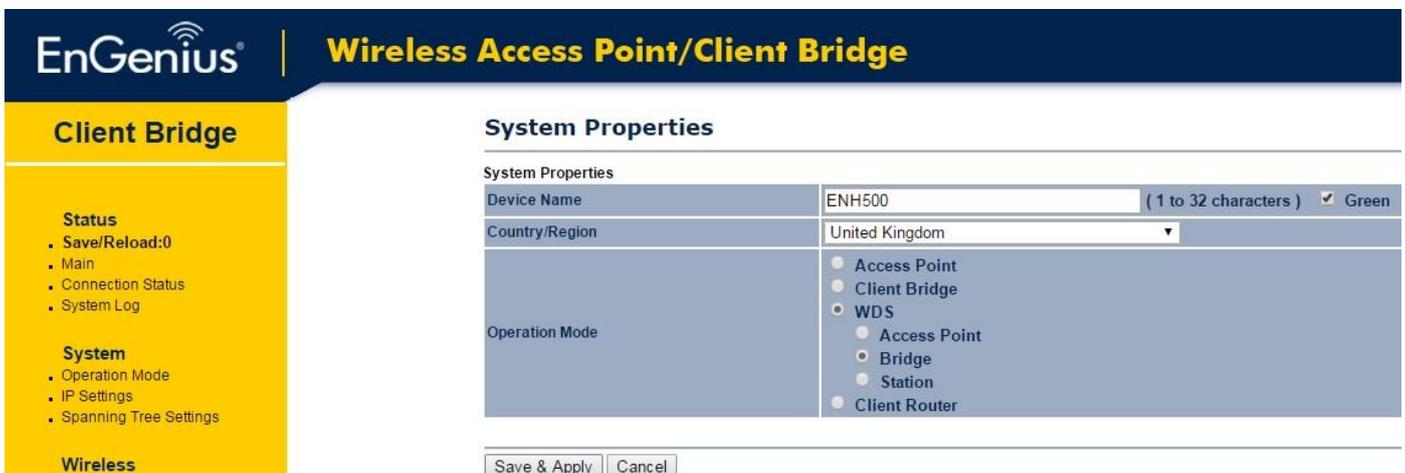
The default IP address of the EnGenius Outdoor WiFi unit is **192.168.1.1** (may vary according to model). We need to ensure we're on the same **subnet** as the EnGenius unit so give your computer's Ethernet adapter a temporary static IPv4 address of **192.168.1.20**

1. After doing this connect your EnGenius unit to your computer, open a web browser, and in the address bar type in **192.168.1.1** - click enter and you should see a log in box appear.

- Use "**admin**" for both **Username** and **Password**.

- Select **Operation Mode** from the menu heading **System**
- Select **United Kingdom** (or appropriate Country)
- Select **WDS** then **Bridge**
- Click **Save & Apply**

This will convert the unit's mode of operation to a **WDS Bridge**.

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2. Next go to the **WDS Link Settings** from the menu heading **Wireless**

- Set the **Security** to **AES**
- Enter an **AES Passphrase** at least 8 characters long (you will use the same passphrase on **Unit B**)
- Select **Enable** from the **Mode** box – this will allow you to enter a **MAC Address** of the other unit.
- Type in Mac Address of **Unit B** (next time we will do vice versa and use the MAC address of **Unit A**)
- Click **Accept**

(Be aware of **Save/Reload:** under the **Status** heading, you can apply multiple changes at once but they won't take effect until you click **Save & Apply** from this section, don't do this just yet...)

3. Go to **IP Settings** from the menu heading **System**

- As the Router in the network has an address of **192.168.2.1** we need to give the Engenius unit an IP address that is in the same network range but does not clash with anything else.

- Here I've used **192.168.2.100**
- The **Subnet Mask** should be **255.255.255.0**
- *If desired*, put in the Router's address for the **Default Gateway** (our example is **192.168.2.1**)
- Click **Accept**

4. Go to **Save/Reload:** under the **Status** heading and click **Save & Apply**.
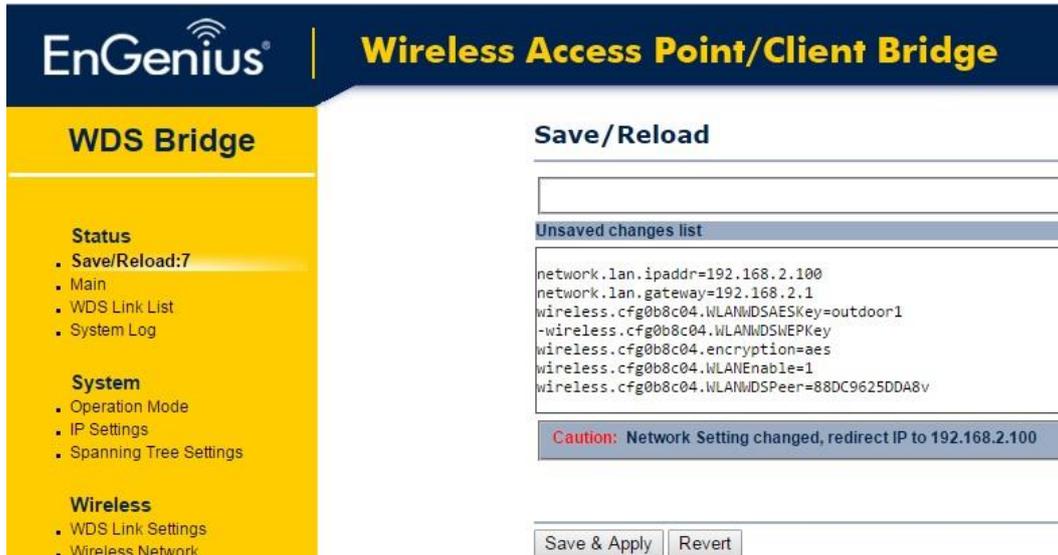
- The unit will now be configured as we require but you will no longer be able to access it as the IP address has been changed to a different subnet (the subnet of the router).

- Disconnect it from your computer however leave it powered up, as we will want to see if we can establish a link after we've set up the second unit.

5. Now we will configure **Unit B** - connect it to the computer in the same manner as the last.

- Repeat step **1.** In this guide.
- Repeat step **2.** But type in the **MAC Address** of **Unit A** (use exactly the same passphrase as before)
- Repeat step **3.** But give the unit an **IP Address** of **192.168.2.101** (So it doesn't clash with the other)
- Repeat step **4.** You should now see the unit configured as desired.

6. After the unit has rebooted we may have to change the **IP Address** of the computer to access it -

- If so we only need to change the subnet so alter the computer's Ethernet IPv4 Settings from **192.168.1.20** to **192.168.2.20**

- Use the web browser to log into the address **192.168.2.101** as before and go to **WDS Link List** under the **Status** heading.
- Here we should be able to see the **WDS Link Status** and if the wireless bridge is up and running.
- So now both the units are configured, each with a static IP address that resides on the same network as the router, finally we change our computer's Ethernet settings back to **Obtain an IP address automatically / via DHCP**.

*There are many ways you can use WDS, however if you wanted a unit to broadcast a publically visible WiFi Network we could set it (or multiples) up as a **WDS AP** for additional WiFi coverage.*