# How Do I Set Up WDS Using MikroTik

Firstly, I would like to describe, what WDS actually is. WDS stands for Wireless Distribution System and was primarily designed for Roaming hotspot environments.

Let's take a scenario where a small hotel has to be covered in wireless signal, so that the guests may access the internet. In most cases like this, one wireless Access Point will not give the desired coverage needed, and thus, a second wireless Access point must be integrated into the solution. This does leave a major problem to be solved due to the fact that there are usually only two ways to get the two Access Points to communicate with each other, the first being to cable the two Access Points together with CAT5 networking cable, and the second being to run Wireless bridges in between the two Access Points. Neither of these solutions are very viable due to both of them adding extra costs and hassles to an otherwise "simple" installation. The best way to solve a problem such as this is WDS, which is a means of getting both of these Access Points to communicate with each other and the clients at the same time.

So, the purpose of this document is to show you how to set up two or more Access Points (Using MikroTik), to talk to each other, and broadcast a signal to wireless clients at the same time.
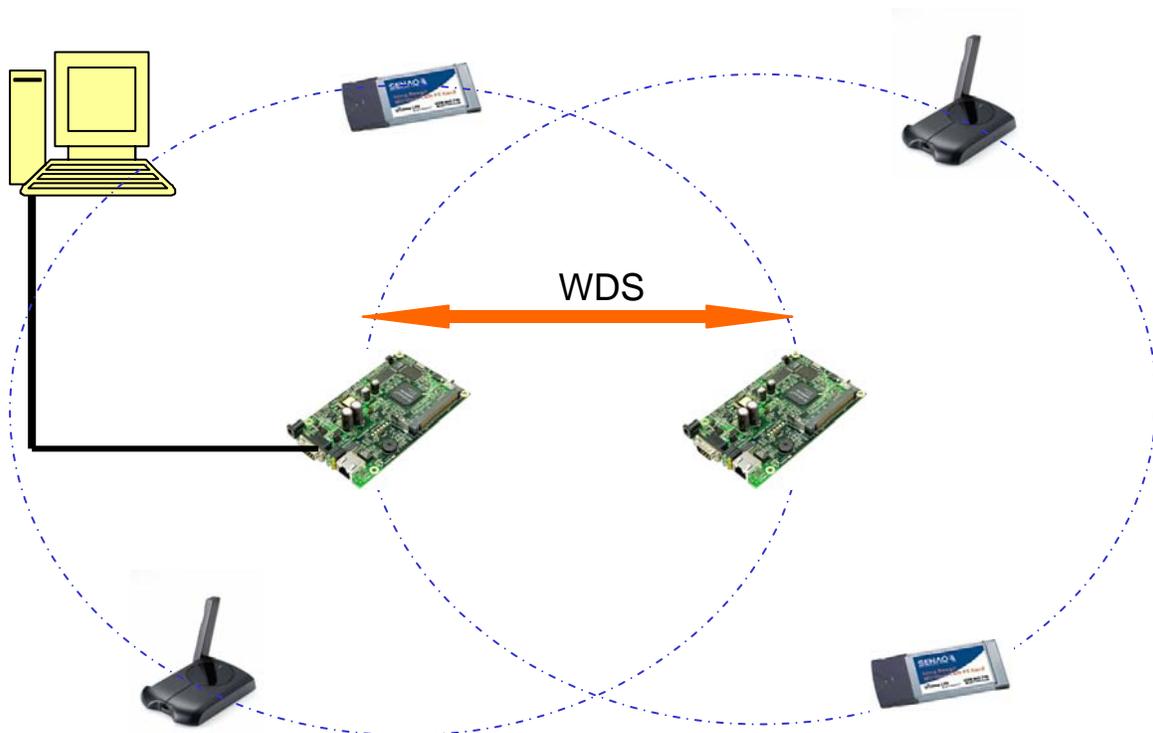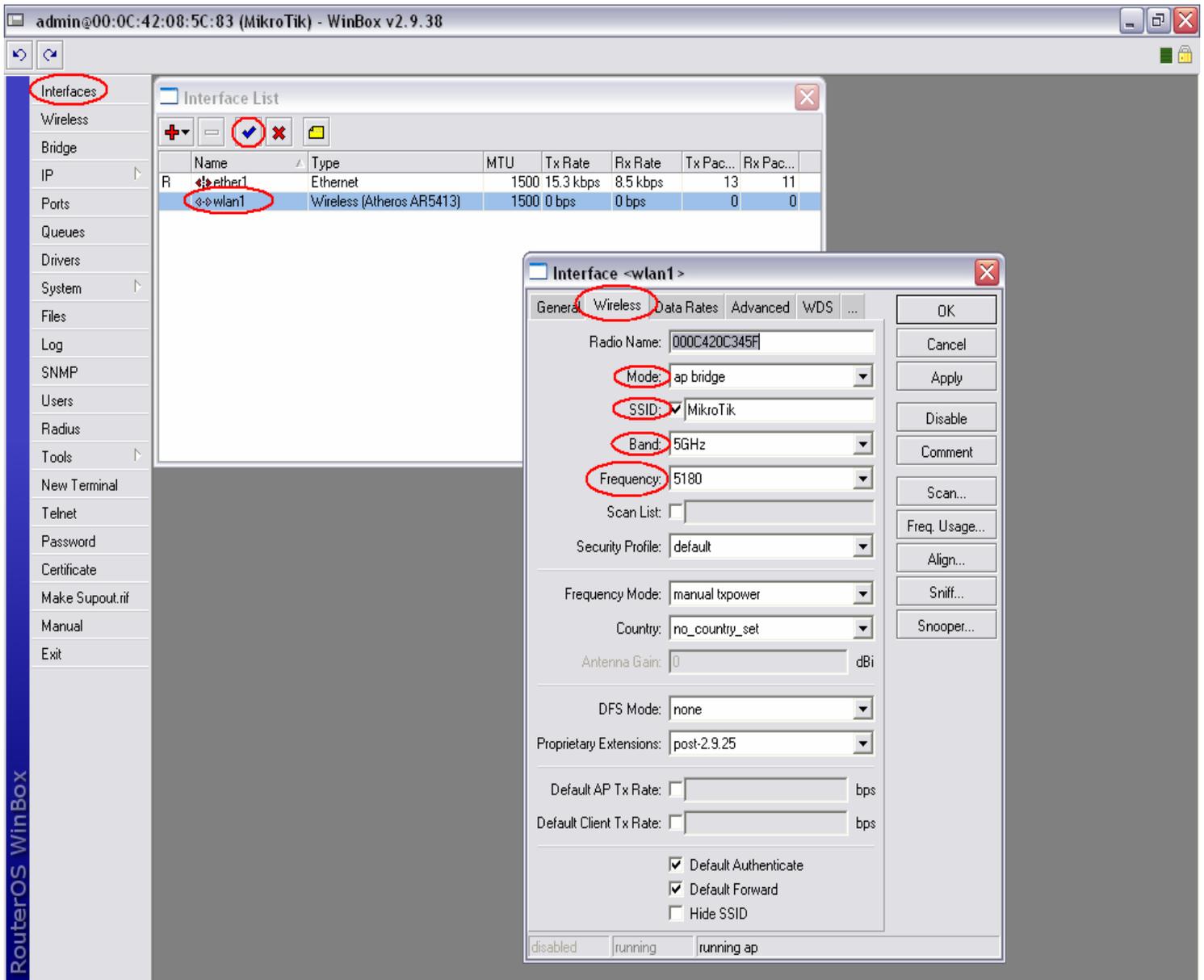
Once logged into your Routerboard, proceed to the 'Interface' menu and enable your wireless interface 'wlan1' with the 'Tick' button. Thereafter, double click the 'wlan1' interface and proceed to the 'Wireless' Tab. Here we will set the mode to 'ap_bridge' (which is MikroTik's term for an Access Point), the 'SSID' to a name of your choice, the 'Band' will be set to the desired ISM band, and the 'Frequency' will also be set to a variable of your choice. Please note that these settings will have to be IDENTICAL on the second Routerboard. Once completed, click 'Apply' and 'OK'
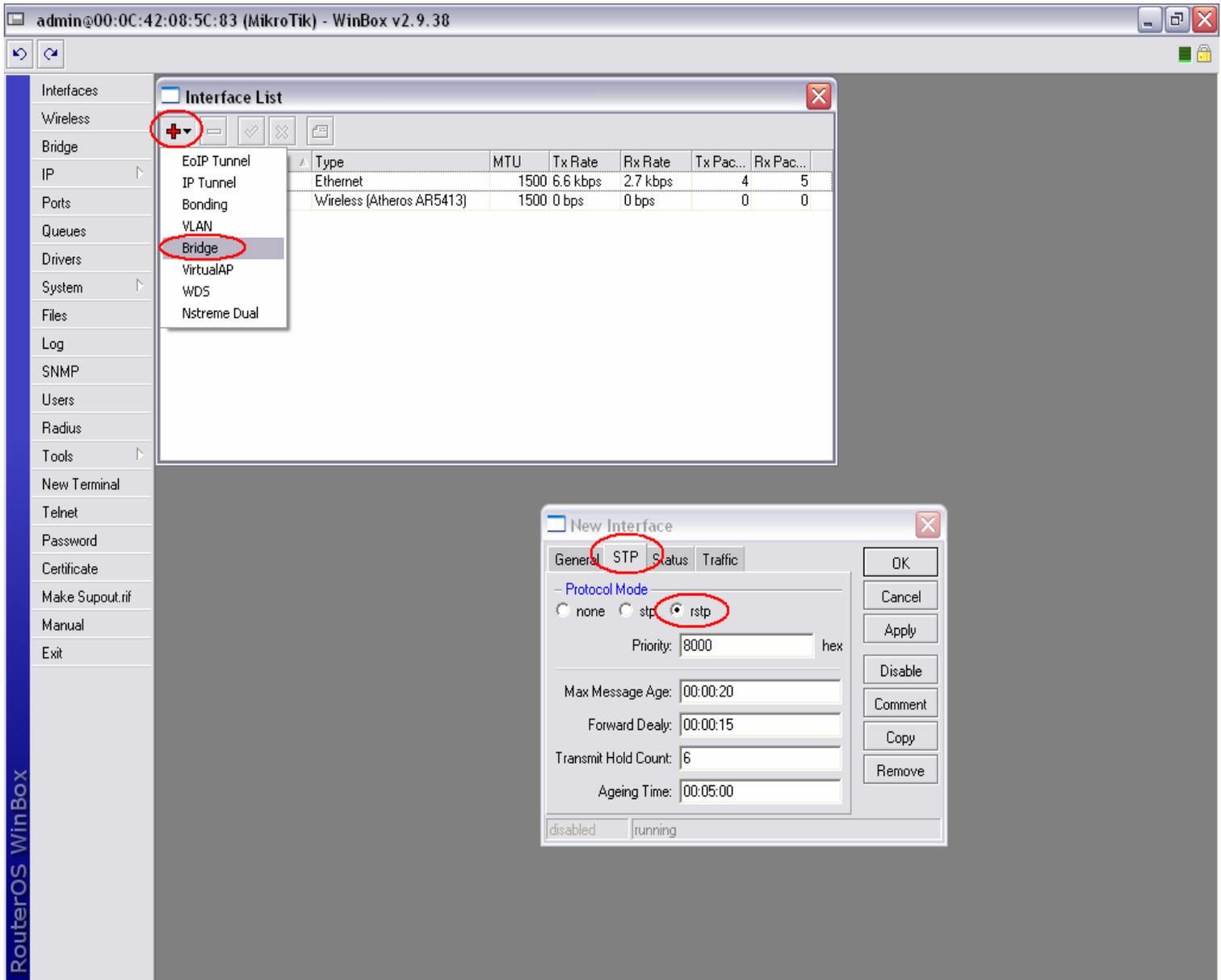
The next step is to add a 'Bridge' interface on which the WDS will work. From within the 'Interface' menu, click the '+' button and add a 'Bridge'. Once this is done, proceed to the 'STP' Tab and select the 'rstp' option (this guards against loops in the wireless networks). If the 'rstp' option is unavailable, then just enable the plain 'STP' option. Click 'Apply' and 'OK'
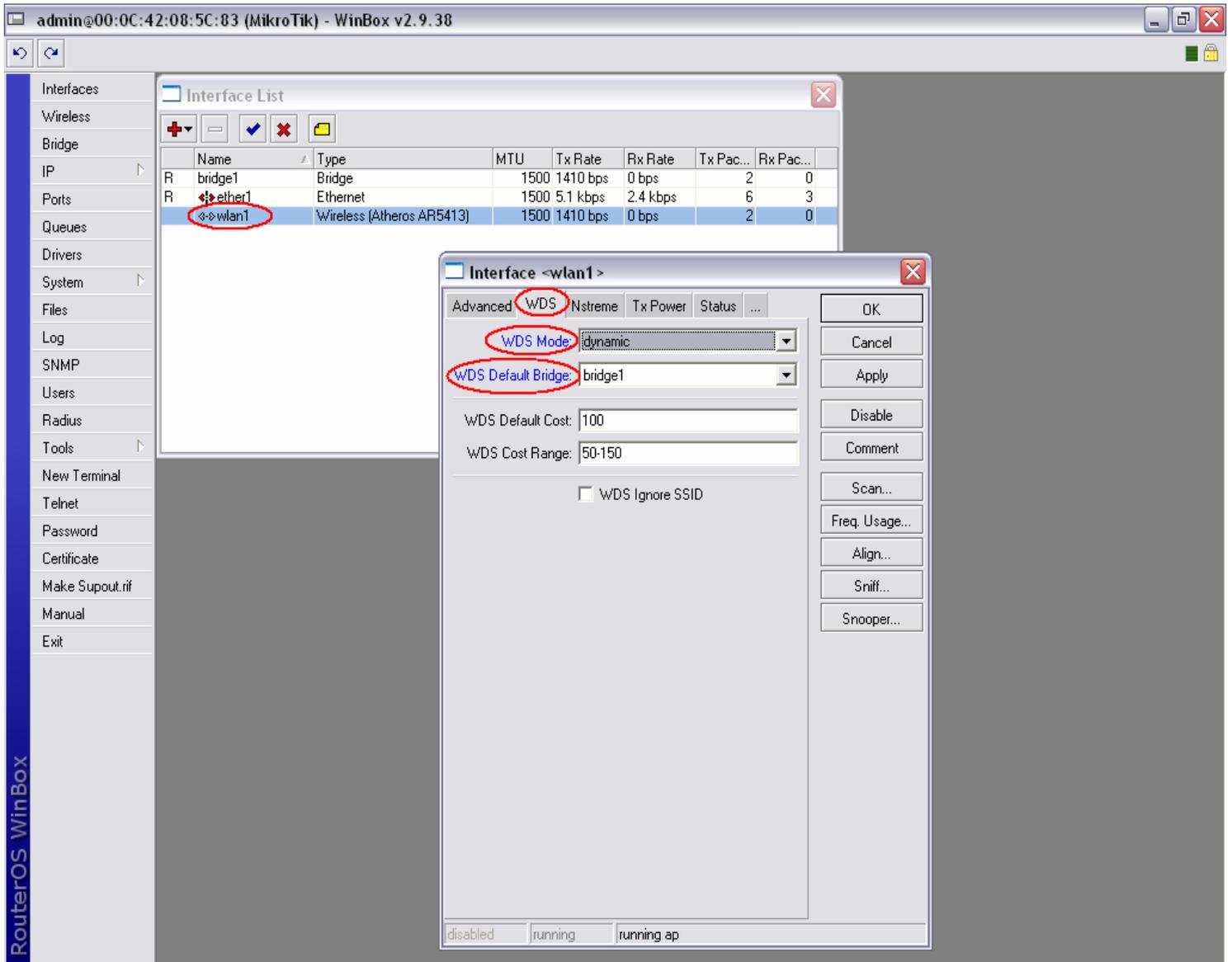
Once your 'Bridge' has been added, go back into the wireless setup screen by double clicking the 'wlan1' interface and proceed to the 'WDS' Tab. Once there, set the 'WDS Mode' to 'dynamic' and set the 'WDS Default Bridge' to the 'bridge1' interface that we created on the previous page. Click 'Apply' and 'OK'
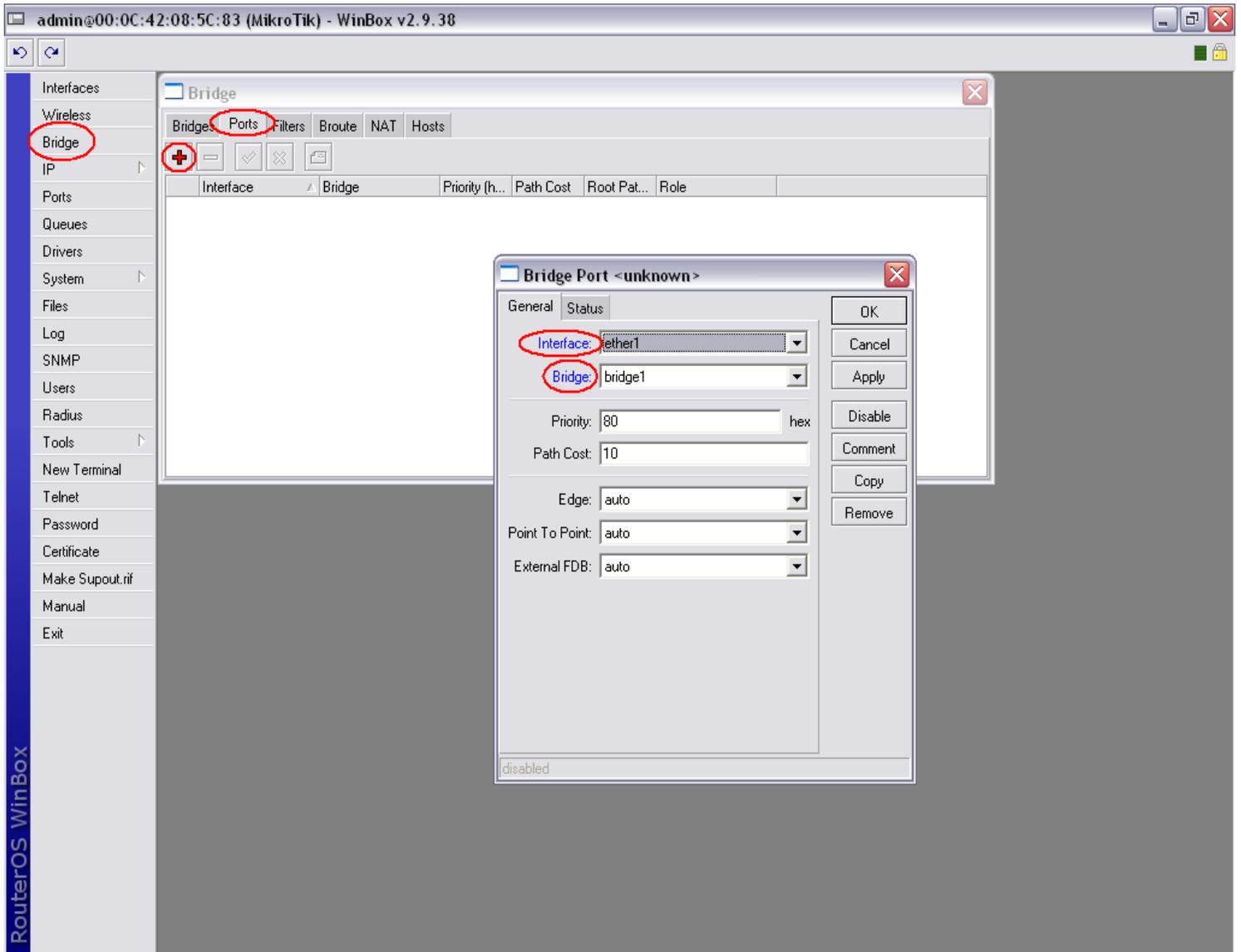
We have now finished with the WDS setup. The next thing to do is to add an Ethernet port to the created 'bridge1' interface so as to allow communication over the WDS link. Click on the 'Bridge' menu button and continue to the 'Ports' Tab. Add a new port by clicking the '+' button. In the 'Interface' option, select the desired Ethernet port (for this document we will select 'ether1') to be added to the bridge. In the 'Bridge' option, select the 'bridge1' interface created earlier. Click 'Apply' and 'OK'
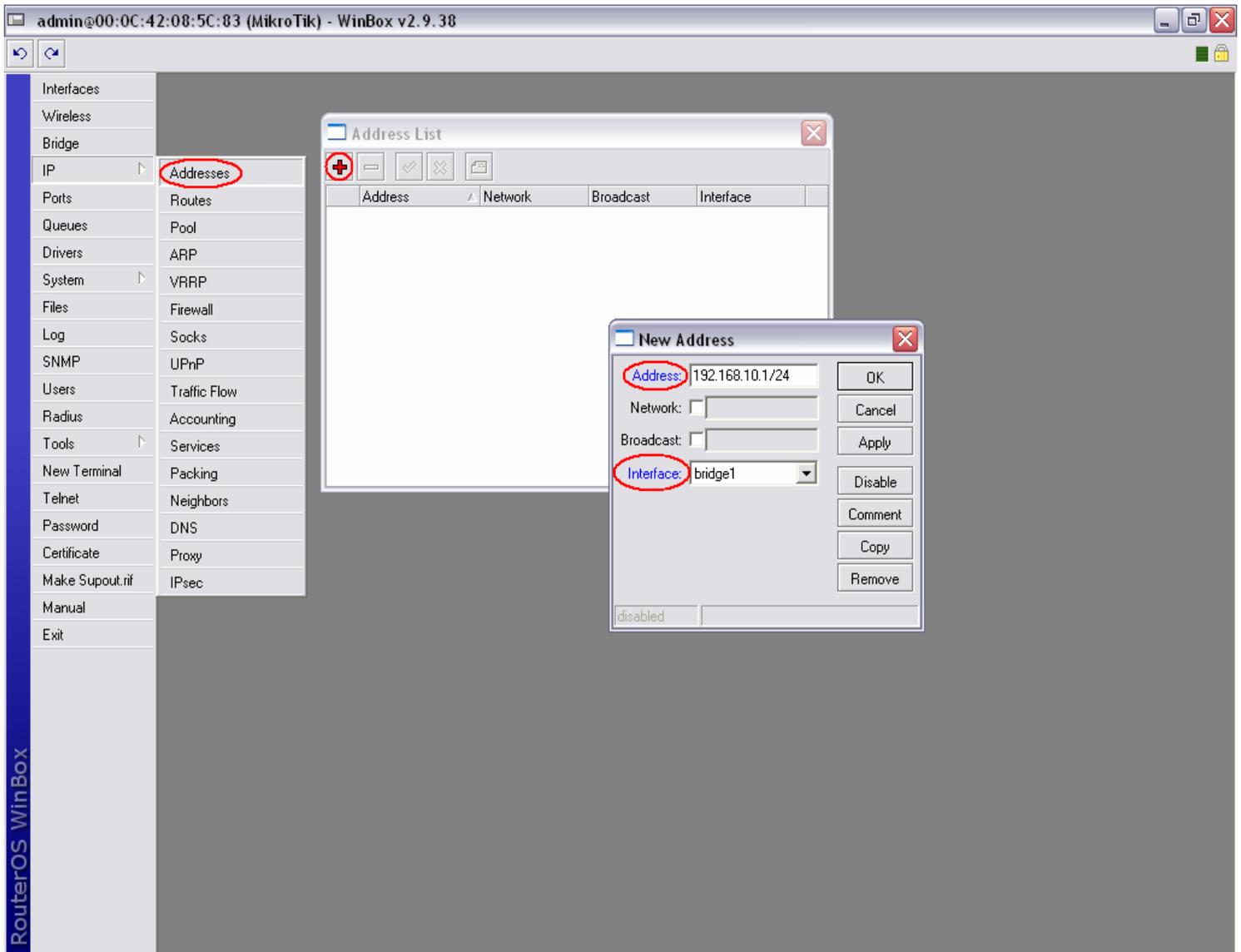
The very last step is to add an IP address for the MikroTik router to use. Click on 'IP' and then 'Addresses' and add a new IP address by clicking the '+' button. In the 'Address' field, you may type in the IP address of your choice (for this example we will use '192.168.10.1/24' and in the 'Interface' field, select 'bridge1' Click 'Apply' and 'OK'

That's it! You have successfully created a WDS network between two or more Access Points. Each Access point in this WDS network will be setup EXACLTY the same way as I have show here. The only thing that will change from Access Point to Access Point is the IP address. In short, all SSID's, Frequencies, Bands, Bridges, etc will be identical between different Access Points, apart from the IP Address.

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Miro Distribution