

123 Manual for the creation of VLAN Networks in the LP-SGW2404F and LP-SGW2404FP Managed Switches

LPSGW2404FX_M123_ENC01W



LP-SGW2404F



LP-SGW2404FP

123 Manual for the creation of VLAN Networks in the LP-SGW2404F and LP-SGW2404FP Managed Switches

We know that switches are devices that let equipment or devices interconnections between the physical ports available. The ports are numbered from 1 to n, where n is the Switch port number; in these cases, all the equipment that are connected in any one of the ports can communicate between them.

We will now define two large families of switches:

First the Non-Manageable, which are those that have a default VLAN or Network, which groups those ports and let any devices connected to any of those ports. (There is no way to define any parameters).

Second, the Manageable ones, which are those with embedded software that can be accessed and managed. In these Switches, we can define the functionalities they can manage; this differs between manufacturers and the management levels available in them. These types can be characterized in layers, and they are defined in the standards used in the OSI model. If you wish to investigate this theme in a deeper way, please check with your switch manual and with the information available on the OSI model.

We will now give you a short introduction on what a VLAN is:

A VLAN is nothing more than the creation of a virtual Switch inside the physical switch, it is as we had another switch.

Another important characteristic is that we can create these VLAN's and give them special properties; this of course depends on the Switch and Layer where it belongs or can manage, beside this, we can assign one or more ports from a VLAN, which can be very useful when the equipment or device needs to be accessed from one or more virtual Switches or VLAN's: e.g.: when a Server serves different networks.

It is always important to be able to separate certain communications between equipment or devices, and to give them different characteristics. We use VLANs with this purpose in mind.



Important Note:
a port can belong to more than one virtual switch. The VLANs can be configured in a complex or simple way based on the needs or requisites for each one of them, in our Switches, the LP-SGW2404F and LP-SGW2404FP you can configure as many VLAN's as the local memory permits, depending on their complexity (Please see the specifications).

Once this brief VLAN definition has been given, lets proceed to set up a simple example of how to configure it, the main purpose of this 123 Manual. For more complex setups, we recommend you to read the document: **LPSGW2404F_UG_ENB01W and LPSGW2404FP_UG_ENB01W.**

Note: these switches have (1) VLAN by Default, which cannot be modified because it is the basement of the switch's functionality, this means that if the equipment is automatically connected, it will behave like a Non-Manageable Switch.

We must also need to know that a VLAN must be associated to the possibility of accessing the Switch management, by default, this will be the VLAN 1.

In this example we will create 3 VLAN's which will be able to communicate through a port in which a central equipment will be located, which shall be able to manage the switch. Remember that the VLAN 1 comes defined by default and cannot be modified.

- VLAN Default VLAN (Only for equipment administration).**
- VLAN 1-2 Zone A equipment (2 to 20 ports).**
- VLAN 1-3 Zone B equipment (21 to 23 ports).**

1
 Go to the Network card properties, as shown in **Figure 1.**

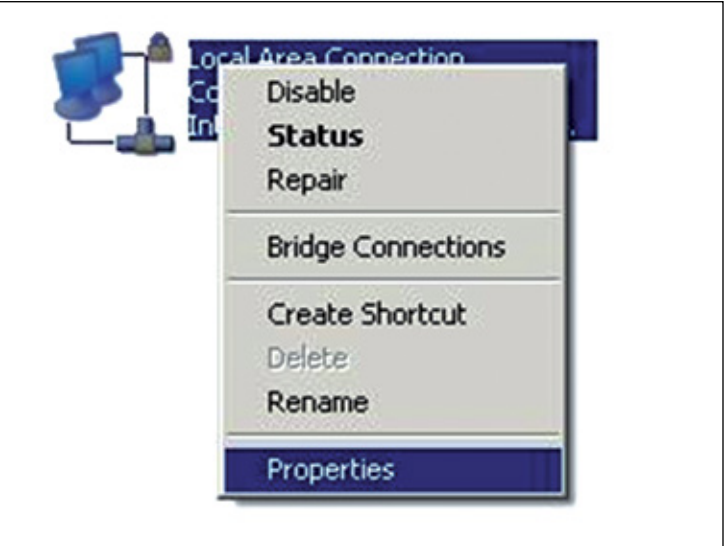


Figure 1

2
 Select protocol **TCP/IP** and select again **Properties** as shown in **Figure 2.**

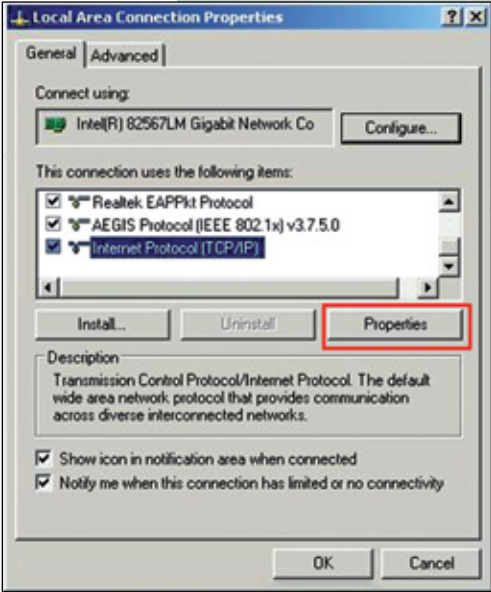


Figure 2

3
 Input on your network card an IP address that is on the same segment of your Access Point (AP), this must support VLAN management, (in this case LanPro recommends our Access Point model LP-1540ai). By default, the switches **LP-SGW2404F and LP-SGW2404FP**, have assigned the IP address 192.168.0.1, for this reason, in this example we will input the IP address 192.168.0.2 for the network card (See **Figure 3**), remember that IP addresses must be unique and cannot be repeated in a data network; proceed to select **OK** 2 times, as shown in the image.

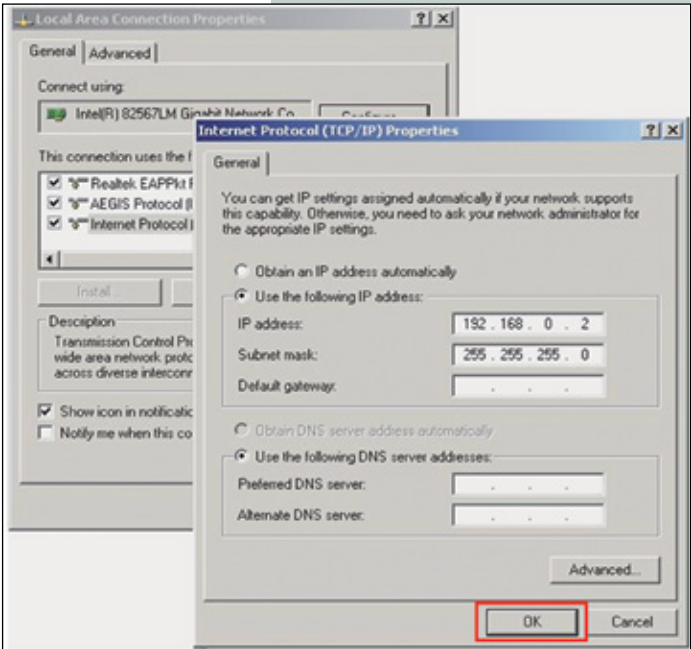


Figure 3

4

Please open your preferred browser and input the **LP-SGW2404FP or the LP-SGW2404F** IP address by default: **192.168.0.1**, as shown in the **Figure 4**, remember to configure your Network Card in the same range of IP addresses and use a port belonging to the administrative network, by default the Port 1.



Figure 4

5

The equipment will prompt you for the User credentials, input them and select **Login**, (see **Figure 5**).



Figure 5

6

Verify that the VLAN that manages the equipment does so, for this, please select option **System Info/System IP** and check option **Management VLAN** in this case the VLAN 1 the one by default as shown in **Figure 6**. (Shown in figures that follow are the windows that pop for the LP-SGW2404FP, similar windows will pop for the LP-SGW2404F switch).



Figure 6

7

Lets create our first VLAN called **VLAN 1-2 Equipment of Zone A (Ports 2 to 20)**. Select option **VLAN/802.1Q VLAN/VLAN Config/Create** as shown in **Figure 7**.

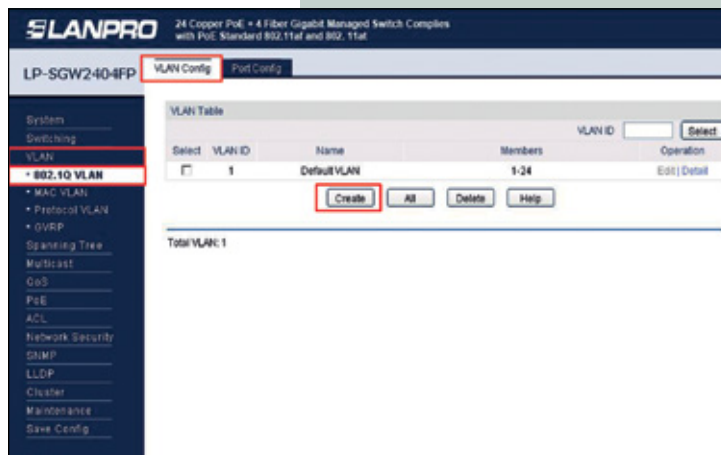


Figure 7

8

Fill the VLAN ID fields with the number of the VLAN (In this case 2), fill the field Name, with the name of the VLAN, in this case (VLAN 1-2), select all the desired ports(2-20), then select **Apply**, as shown in **Figure 8**.

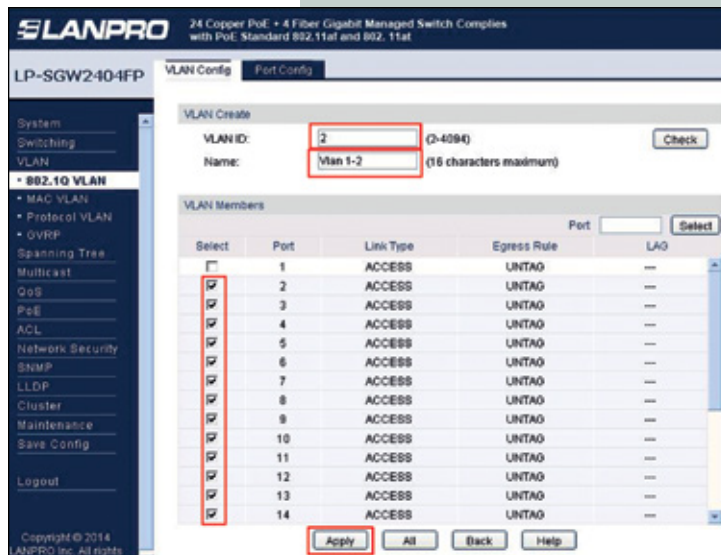


Figure 8

9

We can check how we have the first VLAN already created (Figure 9), it will only communicate the equipment in those ports.



Figure 9

10

Lets create our second VLAN called **VLAN 1-3 Zone B equipment (ports 21 to 23)**, **Select Option VLAN/802.1Q VLAN/VLAN Config/Create**, as shown in Figure 10.

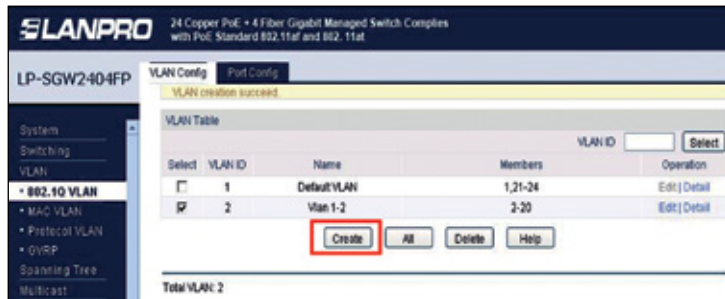


Figure 10

11

Fill the VLAN ID fields with the VLAN number, in this case 3, fill the Name field, with the name of the VLAN, in this case VLAN 1-3, select the desired ports 21 to 23, select **Apply**, as shown in Figure 11.

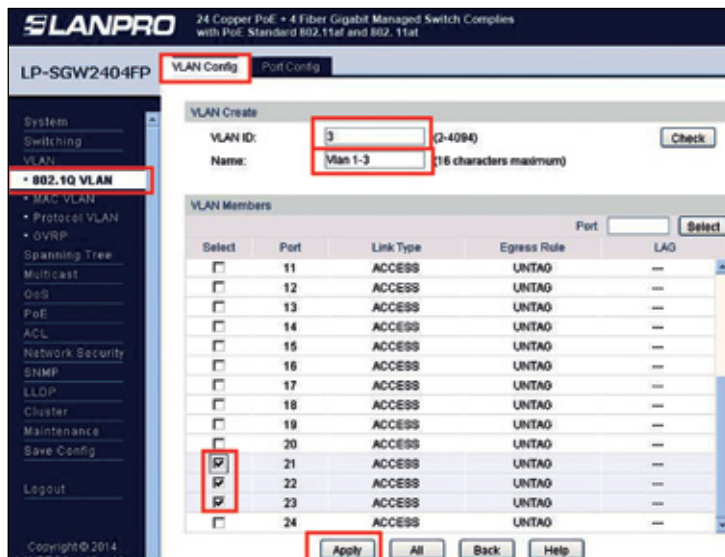


Figure 11

12

Let's check in Figure 12 how we created the 3 VLAN's, 3 virtual switches which don't connect between them.

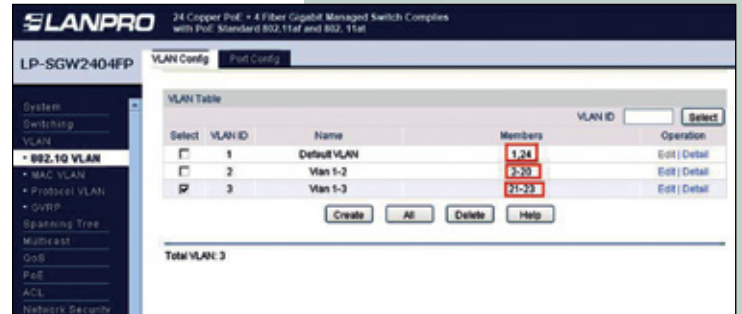


Figure 12

13

Now, the ports are all defined for these VLAN's as access ports, in order to use one port for several VLAN's we must configure this port as General, in order to do this, the following example in which the port 1 is the link port between the VLAN's, remember that Port 1 and the 24 are associated to the management VLAN defined in the paragraph 6.

14

First select **Port Config**, then port 1, let's change it to General and select **Apply** as shown in Figure 13.

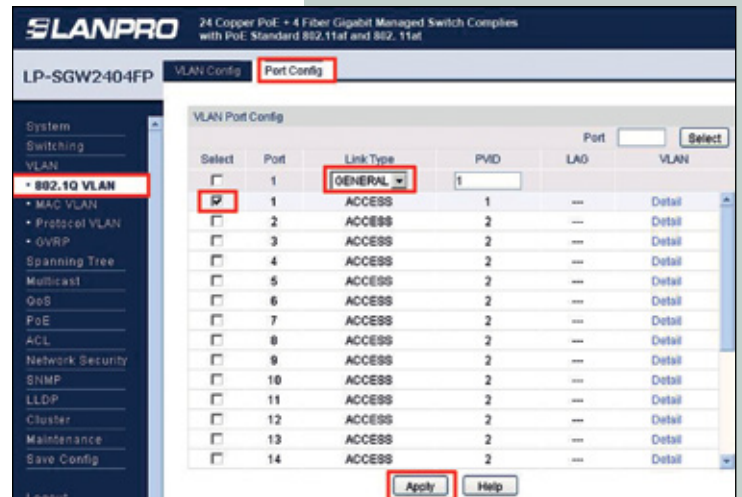


Figure 13

15

Let's check the type of port which now is General as shown in Figure 14.



Figure 14

16

Select **Edit** from the **VLAN** to which we will add the port, as shown in **Figure 15**.



Figure 15

17

Now select Port 1 and leave it as Untag, (tag means the equipment or devices which is connected to that port can identify from which VLAN the traffic comes from), now, select **Apply**, see **Figure 16**.

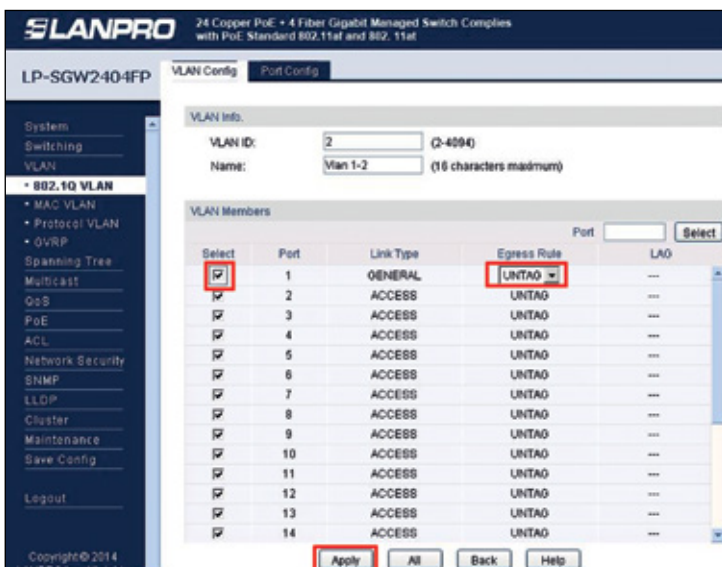


Figure 16

18

Check how a port, (In this case Number 1), belongs to two VLAN's, let's add Port 1 to VLAN 3 following the same procedure as in the paragraph 17.

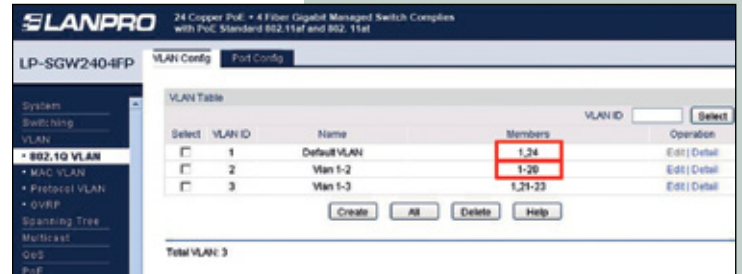


Figure 17

19

We can see now how Port 1 belongs to all 3 VLAN's and that it can communicate with all ports, as shown in **Figure 18**.

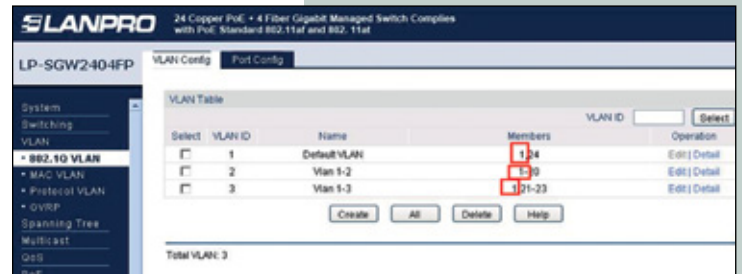


Figure 18

Note: In this example we have the Port 1 talking with all other ports. For more configurations please refer to the switch manual.

LanPro is continuously improving its products and reserves the right to change specifications and availability without prior notice.