

FS700TS switch – Configuring VLANs (single unit)

VLAN-Definition

VLANs are logical subgroups within a Local Area Network (LAN), which combine user stations, and network devices into a single unit, regardless of the physical LAN segment to which they are attached. VLANs allow network traffic to flow more efficiently within subgroups. VLANs use software to reduce the amount of time it takes for network changes, additions, and moves to be implemented.

Notes when setting-up VLANs

- A VLAN does not have a minimum number of port
- VLANs work at the OSI Layer 2
- A VLAN can be created per unit, device or via logical connection/combination
- Broadcast and Multicast traffic is transmitted only in the VLAN in which traffic is generated.
- To allow traffic between VLAN a device working at protocol level (Layer 3) is required

VLAN-Tagging

VLAN tagging provides a method of transferring VLAN information between VLAN groups. VLAN tagging attaches a 4-byte tag to packet headers. The VLAN tag indicates to which VLAN the packets belong. VLAN tags are attached to the VLAN by either the end station or the network device. VLAN tags also contain VLAN network priority information.

Creating a new VLAN

Working instructions

- 1) Log on to the device using the Smart Wizard or via the URL `http://<<switchaddress>>`
- 2) Browse to Switch – VLAN - Properties (Note: VLAN1 cannot be modified)
- 3) Click on Add
- 4) Set the VLAN ID and VLAN name
- 5) Click Apply

Assign ports to a VLAN

- 1) Browse to VLAN – Membership
- 2) From the VLAN ID list – select the VLAN you want to add ports to (by default all the ports are members of VLAN1)
- Each port has a Current and Static box associated with -
- 3) Click on the Static box correspondent to the port until this show a U (Untagged) symbol
- 4) Repeat point 3) for all the ports that are required to be member of the VLAN
- 5) Click Apply when completed
- 6) Browse to Interface PVID settings and set the PVID of each port assigned to the new VLAN to the VLAN ID (for VLAN2 PVID = 2 , for VLAN3 PVID = 3....)
- 7) Click on Apply to finalise the changes

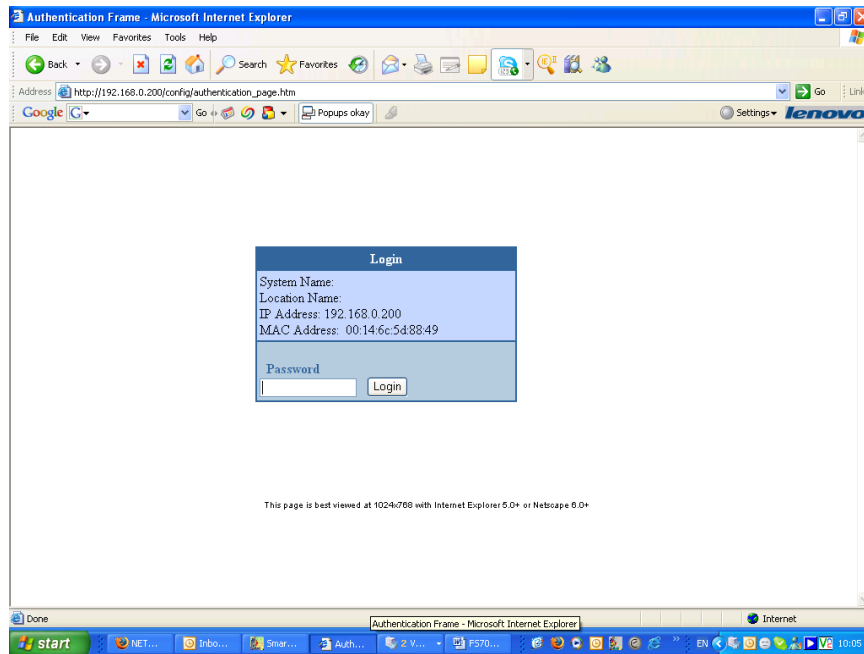
Verify the VLAN is working

Working instructions

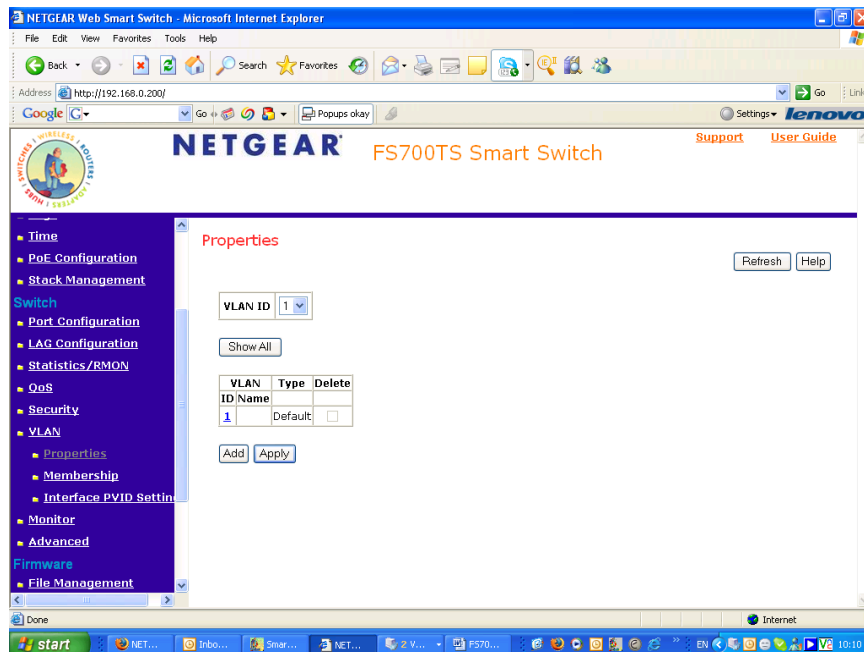
- 1) Configure two PCs with unique IP address (within the same range) and same subnet mask
- 2) Patch each PC in one of the ports that are members of the VLAN you wish to test
- 3) You should now be able to ping each machine from the other
- 4) Re-patch one of the machines to a port on a different VLAN
- 5) You should not be able to ping such machine from the others

Setting-up a VLAN (Web-GUI)

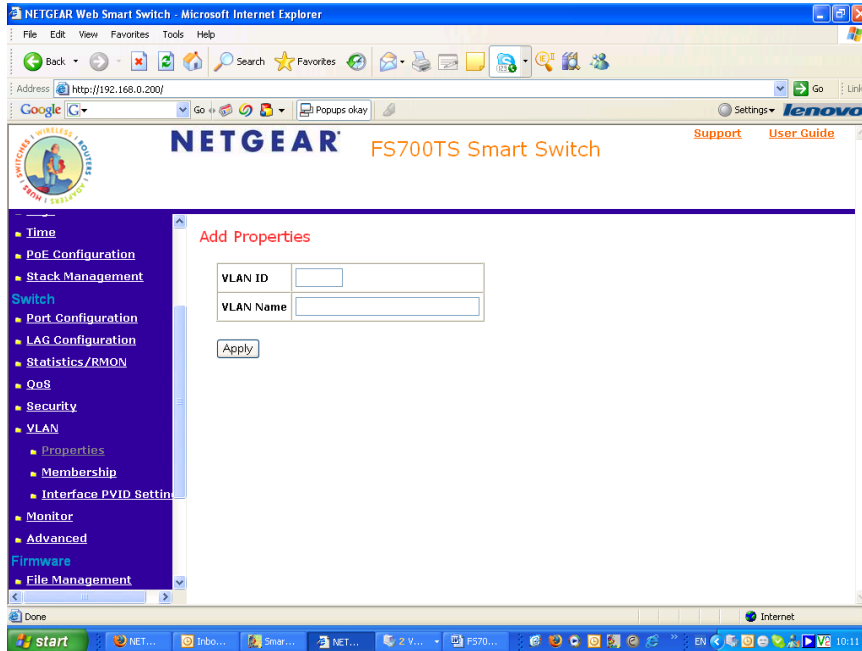
1) Log on to the device using the Smart Wizard or via the URL `http://<switchaddress>`



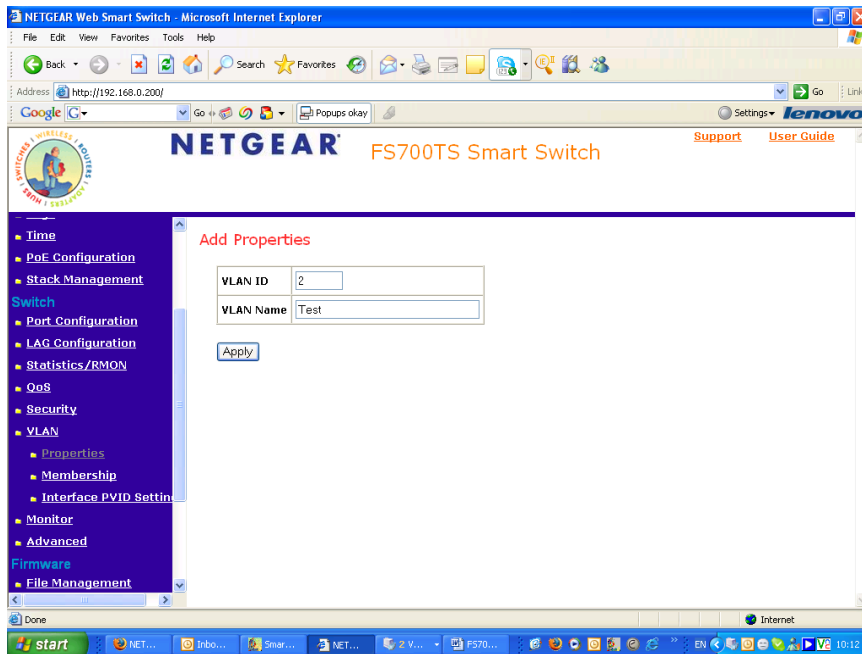
2) Browse to Switch – VLAN - Properties (Note: VLAN1 cannot be modified)



3) Click on Add



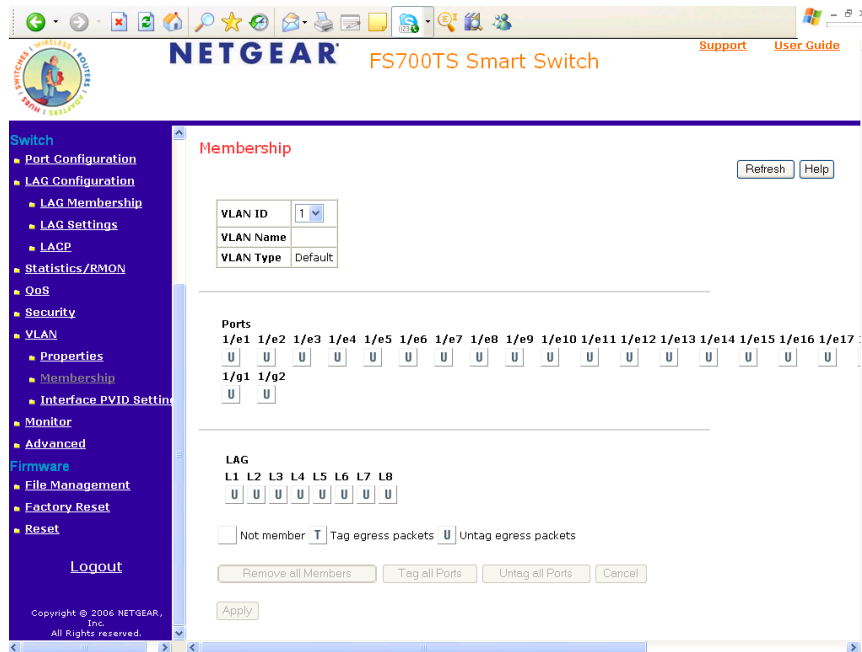
4) Set the VLAN ID and VLAN name



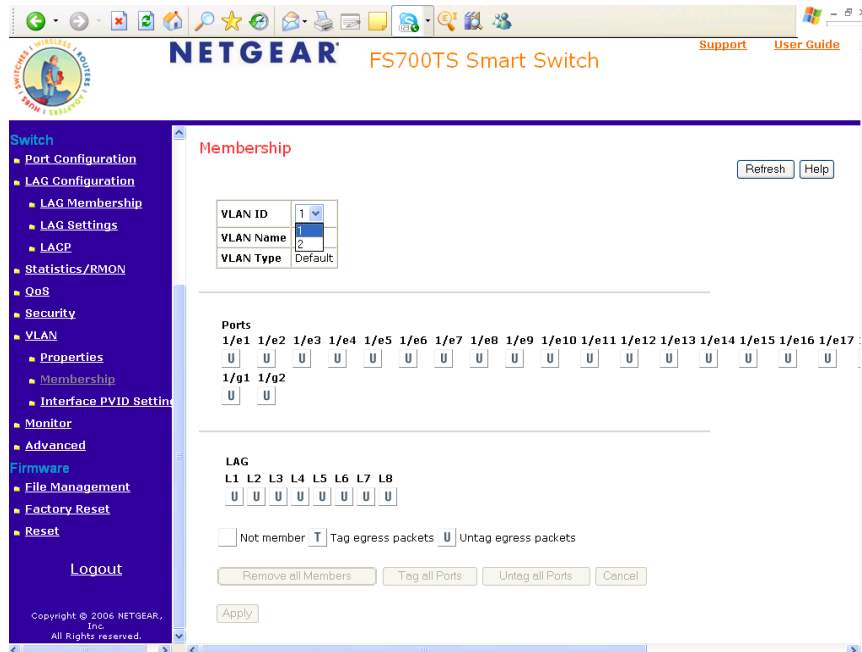
5) Click Apply

Assign ports to a VLAN (Web-GUI)

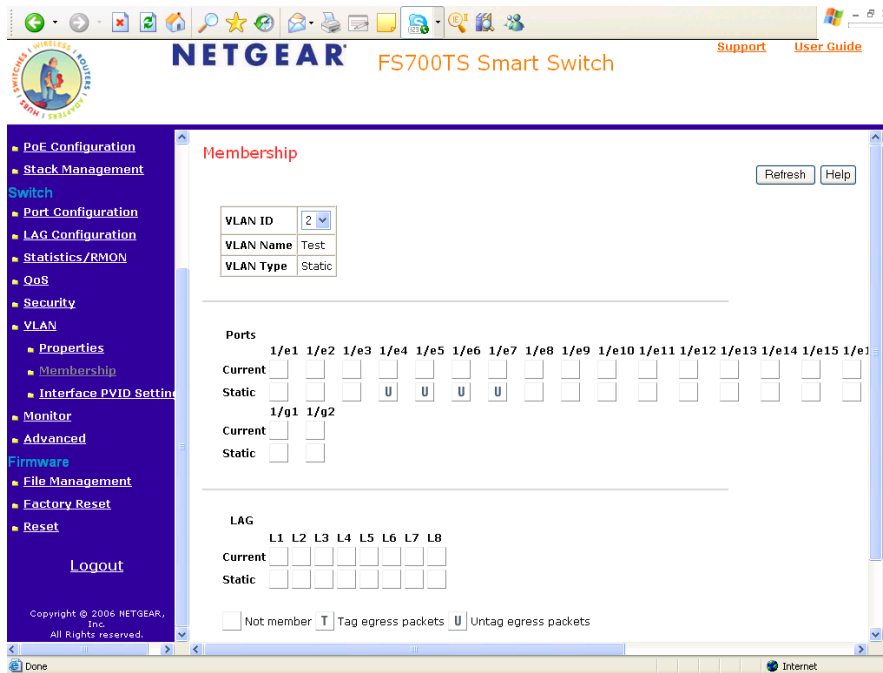
- 1) Browse to VLAN – Membership



- 2) From the VLAN ID list – select the VLAN you want to add ports to (by default all the ports are members of VLAN1)

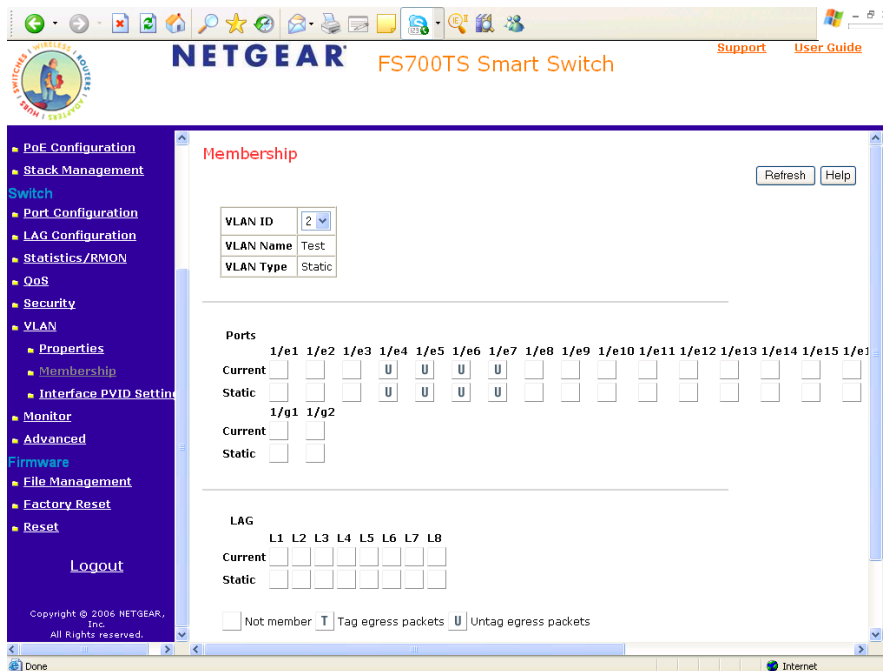


- Each port has a Current and Static box associated with -
- 3) Click on the Static box correspondent to the port until this show a U (Untagged) symbol



- 4) Repeat point 3) for all the ports that are required to be member of the VLAN

- 5) Click Apply when completed



- Browse to Interface PVID settings and set the PVID of each port assigned to the new VLAN to the VLAN ID (for VLAN2 PVID = 2 , for VLAN3 PVID = 3....)

The screenshot shows the NETGEAR FS700TS Smart Switch web interface. The main content area is titled "Interface PVID Settings" and contains a table with the following data:

Interface	PVID	Interface	PVID	Interface	PVID	Interface	PVID
1/e1	1	1/e2	1	1/e3	1	1/e4	2
1/e5	2	1/e6	2	1/e7	2	1/e8	1
1/e9	1	1/e10	1	1/e11	1	1/e12	1
1/e13	1	1/e14	1	1/e15	1	1/e16	1
1/e17	1	1/e18	1	1/e19	1	1/e20	1
1/e21	1	1/e22	1	1/e23	1	1/e24	1
1/g1	1	1/g2	1	LAG 1	1	LAG 2	1
LAG 3	1	LAG 4	1	LAG 5	1	LAG 6	1
LAG 7	1	LAG 8	1				

Below the table is an "Apply" button. In the top right corner of the main content area, there are "Refresh" and "Help" buttons. The left sidebar contains a navigation menu with the following items:

- PoE Configuration
- Stack Management
- Switch
 - Port Configuration
 - LAG Configuration
 - Statistics/RMON
 - QoS
 - Security
 - VLAN
 - Properties
 - Membership
 - Interface PVID Settings
 - Monitor
 - Advanced
- Firmware
 - File Management
 - Factory Reset
 - Reset
- Logout

At the bottom of the sidebar, it says "Copyright © 2006 NETGEAR, Inc. All Rights reserved." The browser's status bar at the bottom shows "Done" and "Internet".

- Click on Apply to finalise the changes