Manage communication between VLANs

- 2022-01-10 - Basics

In this example:

You have an HMI, PLC, and IO device attached to the switch.

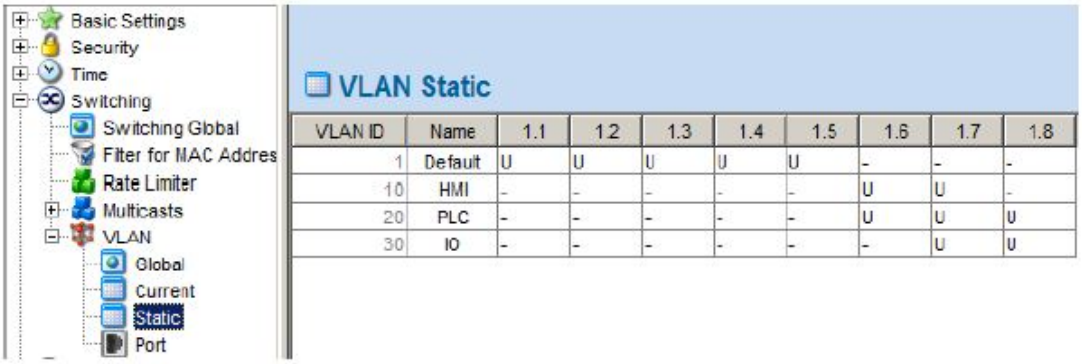
Typically, the HMI and the PLC needs to communicate with each other, but the HMI doesn't need to communicate directly with the IO device.
Also, the PLC and the IO device needs to communicate with each other directly.
You want to isolate the traffic so the the PLC can communicate with both the HMI and IO, but you want to prevent the HMI and IO from seeing each other's traffic.

The HMI is connected to Port 1.6
The PLC is connected to Port 1.7
The IO is connected to Port 1.8

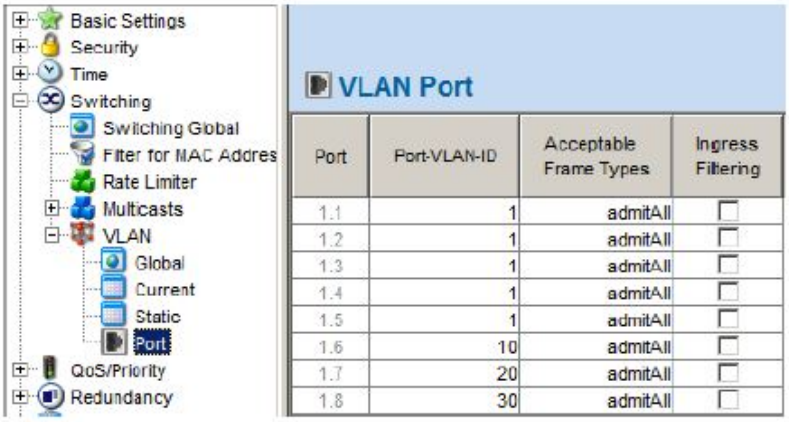
The VLAN Static pages shows what VLAN traffic a given port will allow to exit the port.
Port 1.6 will enable Untagged traffic to exit this port from VLANS 10 & 20.
Port 1.7 will enable Untagged traffic to exit this port from VLANS 10, 20, & 30.
Port 1.8 will enable Untagged traffic to exit this port from VLANS 20 & 30.

The VLAN Port page shows how to assign the PVID for the ports.
Port 1.6 is a member of VLAN 10
Port 1.7 is a member of VLAN 20
Port 1.8 is a member of VLAN 30

Below are the screenshots from switch GUI for above example



VLAN ID	Name	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
1	Default	U	U	U	U	U	-	-	-
10	HMI	-	-	-	-	-	U	U	-
20	PLC	-	-	-	-	-	U	U	U
30	IO	-	-	-	-	-	-	U	U



Port	Port-VLAN-ID	Acceptable Frame Types	Ingress Filtering
1.1	1	admitAll	☐
1.2	1	admitAll	☐
1.3	1	admitAll	☐
1.4	1	admitAll	☐
1.5	1	admitAll	☐
1.6	10	admitAll	☐
1.7	20	admitAll	☐
1.8	30	admitAll	☐