

## **Cisco - sample 802.1Q VLAN configurations**

The following are generic examples of Cisco 802.1Q VLAN configurations. Actual configurations will vary depending on hardware and software that is being used.

**Cisco IOS Switch** - The following will create 802.1Q VLAN's:

```
vlan vlan-id xxxx      << This creates VLAN on switch. Valid range is 2 to 1005.
interface range f0/1-10  << Defines the range of ports to configure - e.g. ports 1-10.
switchport trunk encapsulation dot1q    << Sets the VLAN Trunk type to 802.1Q.
switchport mode trunk      << Puts the port in VLAN Trunk mode.
switchport nonegotiate     << Disables Dynamic Trunk Protocol.
switchport trunk allowed vlan xxxx << Specifies VLAN's permitted on Trunk - default is all.
switchport trunk native vlan xxxx << Sets the native VLAN (default VLAN) for Trunk.
switchport priority extend trust << Sets port to trust the COS received from connected host.
```

**Cisco Router** - The following will create VLAN's on the router interface to support inter-VLAN routing:

```
interface FastEthernet0/1
description 802.1Q trunk << This is just a description of the interface.

interface FastEthernet0/1.1 << Creates sub-interface for data subnet - matches VLAN 1.
encapsulation dot1q 1 << Defines 802.1Q as encapsulation type for VLAN 1.
ip address 10.30.50.1 255.255.255.0 << Sets IP Address of sub-interface for the data subnet.

interface FastEthernet0/1.70 << Creates sub-interface for voice subnet - matches VLAN 70.
encapsulation dot1q 70 << Defines 802.1Q as encapsulation type for VLAN 70.
ip address 10.30.70.1 255.255.255.0 << Sets IP Address of sub-interface for the voice subnet.

ip helper-address 10.30.50.10 << If there is no DHCP server on the local VoIP subnet, DHCP
packets will need to be forwarded from the router interface on
the VoIP subnet to the remote DHCP server.
```