

Some companies and schools configure their WiFi networks to have two distinct VLANs

- (1) One for employees or teachers, to have greater network access
- (2) The other for guests or students.

Since NovoConnect is a network resource that might be shared among employees/guests, or teachers/students, this multi-VLAN environment requires a bit more effort to enable the proper operations of NovoConnect devices.

This document describes a way to install NovoConnect devices in such a multi-VLAN environment, which has been implemented in a large-sized company successfully.

I. Network Topology

Figure 1 illustrates the existing network topology, where

- (1) VLAN_A is deployed for employees
- (2) VLAN_B is deployed for guests





To share NovoConnect devices between VLAN_A and VLAN_B users, a third VLAN, VLAN_C, is created as some sort of "bridge," as shown in Figure 2.

- (1) NovoConnect devices will be connected to this newly-created VLAN.
- (2) Access control between VLAN_A and VLAN_C (or between VLAN_B and VLAN_C) can be achieved through ACL (Access Control List) mechanism.





Fig. 2 Adding a New VLAN

II. Implementation Details

Figure 3 illustrates the network implementation. Comparing to Figure 2, you will notice that the main configuration is done at L2 (Layer-2) Switch layer.



Fig. 3 Implementation Details

The steps to configure the L2 layer and the NovoConnect devices are as followings.



(1) L2 Layer: Build a new SSID named "WiFi_Novo" with MAC authentication enabled. (MAC authentication is chosen because of ease of setup for fixed-location network asset.)

WLANs > Edit 'WiFi Novo'

General	Security	QoS	Advanced			
Layer 2	Layer 3		Gervers			
Layer 2 Security ^g None						
Fast Transition Fast Transition						

Fig. 4 L2 Configuration: MAC Authentication

(2) L2 Layer: In the Wireless LAN Controller (WLC), enter and allocate MAC addresses of all NovoConnect devices to SSID "WiFi_Novo." As a result, only these NovoConnect devices are allowed to be connected to SSID "WiFi_Novo."

MAC Address	Profile Name	Interface	IP Address	Description	
d0:eb:03:fc:f3:71	NovoConnect	vlan10	unknown	IOT RFID05	

Fig. 5 L2 Configuraton: WLC's screen-shot

(3) NovoConnect Device: Now we turn to the NovoConnect devices. Connect them to SSID "WiFi_Novo" without any security mechanism. (Please note that MAC-filtering has been enabled at network's L2 Layer.)

Connecting a NovoConnect device to "WiFi_Novo" can be done either through the PC software (Desktop Streamer) or by connected a mouse to the NovoConnect device. Figure 6 is a screen-shot of the latter approach.



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	LaQuinta							([t-	
	Courtyard_Guest Not in range	Add network						_	
	ess_connect 5GHz Not in range	Network SSID	WiFi_Novo						_
	NETGEAR37 Not in range	Security		None					
	NETGEAR37-5G Not in range	Show advanced opti	ons	Save					
	NVC_12464 Not in range								
		 \$							

Fig. 6 Screenshot: Connected to SSID "WiFi_Novo"

(4) **Done:** After the NovoConnect device is connected to SSID "WiFi_Novo," its IP address is allocated by a DHCP server. At this point, users at both VLAN_A and VLAN_B can access this NovoConnect device.