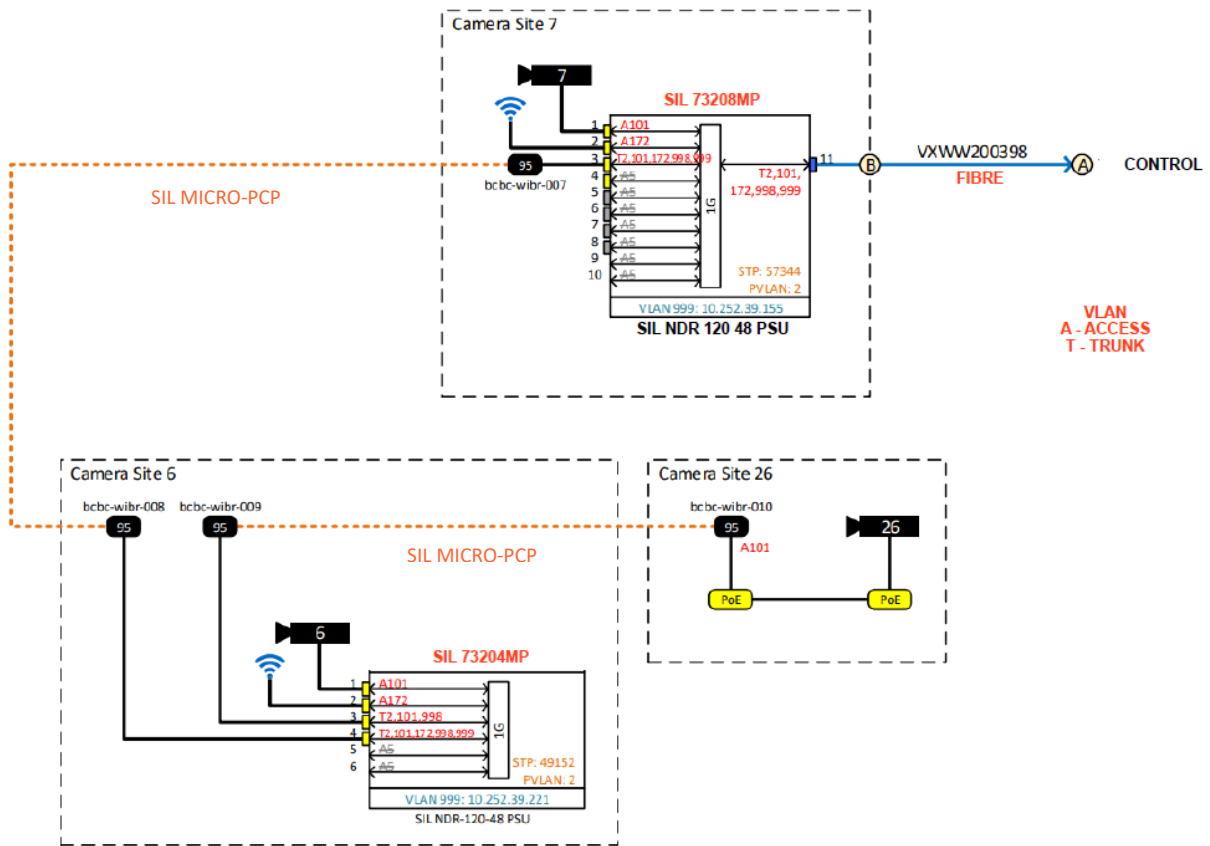


Pro Gen 5 & Series 7 Switches VLAN Configuration Guide

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Scenario



MICRO IP addresses

10.252.39.71	255.255.255.192	Wireless Bridge (bcbc-wibr-007)
10.252.39.72	255.255.255.192	Wireless Bridge (bcbc-wibr-008)
10.252.39.73	255.255.255.192	Wireless Bridge (bcbc-wibr-009)
10.252.39.74	255.255.255.192	Wireless Bridge (bcbc-wibr-010)

999 – Management for switches

998 – Management for MICRO's

172 – Wi-Fi public access point traffic

101 – Camera traffic

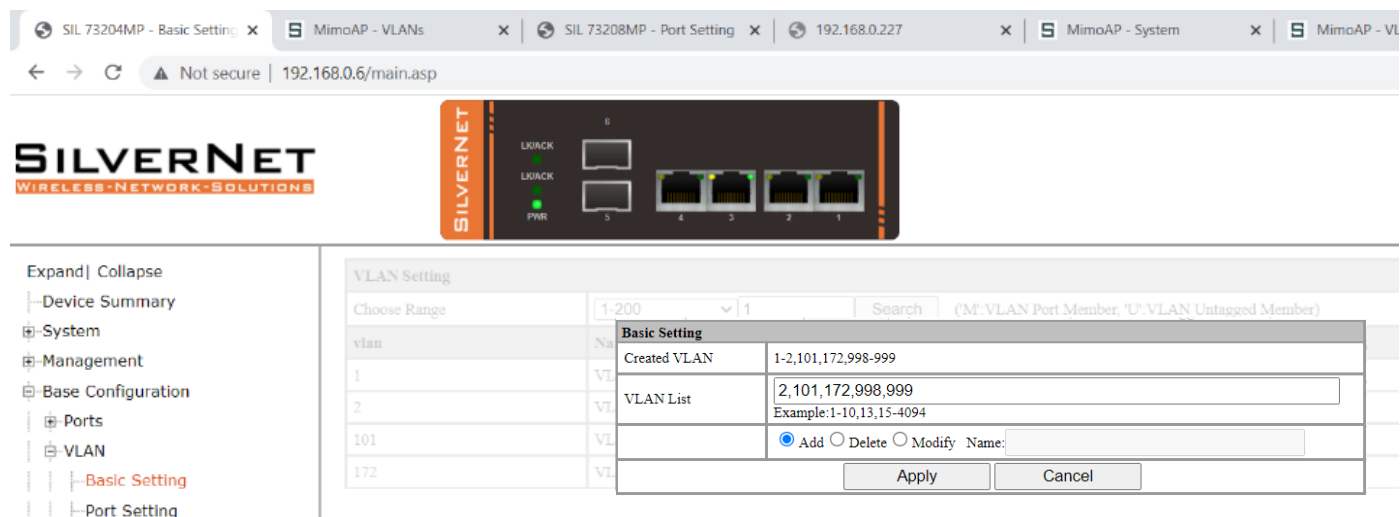
Switch configuration

Camera site 7

Switch is SIL 73204MP

Login into the switch on port GE/4 using its default IP address 192.168.1.6 and username/password settings admin/admin. Navigate to Base Configuration > VLAN > Basic Setting and add in the VLANS you need.

In this scenario the VLANS are 2,101,172,998,999



Once you have done this you will need to configure which ports are Access ports and which are Trunk ports and also what VLANS they will need assigned to them. Navigate to Base Configuration > VLAN > Port Setting and configure the ports as follows.

Port	VLAN Mode	PVID	Tagged VLANs for hybrid / Permitted VLANs for trunk	Untagged VLANs	Setting
GE/1	Access	101			<button>Modify</button>
GE/2	Access	172			<button>Modify</button>
GE/3	Trunk	2	101,172,998-999		<button>Modify</button>
GE/4	Access	1			<button>Modify</button>
GE/5	Access	1			<button>Modify</button>
GE/6	Access	1			<button>Modify</button>

Refresh

This matches our camera site 7 layout.

GE/1 is an Access VLAN for 101 – Will put anything on that interface to VLAN 101

GE/2 is an Access VLAN for 172 - Will put anything on that interface to VLAN 172

GE/3 is a Trunk VLAN (VLAN 2) which will carry VLANS 101,172,998 & 999 across it

GE/4 has been left as Access for the switch to allow you to make any changes

Camera site 6

Switch is SIL 73208MP

Login into the switch on port GE/8 using its default IP address 192.168.1.6 and username/password settings admin/admin. Navigate to Base Configuration > VLAN > Basic Setting and add in the VLANs you need.

In this scenario the VLANs are 2,101,172,998,999



Expand | Collapse

- Device Summary
- System
- Management
- Base Configuration
 - Ports
 - VLAN
 - Basic Setting

VLAN Setting

Choose Range: 1-200 | 1 | Search (M:VLAN Port Member, U:VLAN Untagged Member)

vlan	Name
1	VLAN1
2	VLAN2
101	VLAN101
172	VLAN172

Basic Setting

Created VLAN: 1-2,101,172,998-999

VLAN List: 2,101,172,998,999
Example: 1-10,13,15-4094

☒ Add ☐ Delete ☐ Modify Name:

Apply Cancel

Once you have done this you will need to configure which ports are Access ports and which are Trunk ports and also what VLANs they will need assigned to them. Navigate to Base Configuration > VLAN > Port Setting and configure the ports as follows.

Created VLAN

Created VLAN	1-2,101,172,998-999
--------------	---------------------

Port	VLAN Mode	PVID	Tagged VLANs for hybrid / Permitted VLANs for trunk	Untagged VLANs	Setting
GE/1	Access	101			<button>Modify</button>
GE/2	Access	172			<button>Modify</button>
GE/3	Trunk	2	101,998		<button>Modify</button>
GE/4	Trunk	2	101,172,998-999		<button>Modify</button>
GE/5	Access	998			<button>Modify</button>
GE/6	Access	999			<button>Modify</button>
GE/7	Access	1			<button>Modify</button>
GE/8	Access	1			<button>Modify</button>
GE/9	Access	1			<button>Modify</button>
GE/10	Access	1			<button>Modify</button>

Refresh

This matches our camera site 6 layout.

GE/1 is an Access VLAN for 101 – Will put anything on that interface to VLAN 101

GE/2 is an Access VLAN for 172 - Will put anything on that interface to VLAN 172

GE/3 is a Trunk VLAN (VLAN 2) which will carry VLANs 101 & 998 across it

GE/4 is a Trunk VLAN (VLAN 2) which will carry VLANs 101,172,998 & 999 across it

GE/5 has been set up as an Access VLAN for 998

GE/6 has been set up as an Access VLAN for 999

GE/7 & GE/8 have been left as Access for the switch to allow you to make any changes

Test

You will now be able to connect an Ethernet cable from port GE/3 of the SIL 73204MP to port GE/4 of the SIL 73208MP to create a trunk (link) between the two switches.

If you now connect a laptop (configured on a static IP address) into port GE/1 on the 73204MP and connect a laptop (configured on a static IP address) into port GE/1 on the 73208MP you should be able to ping through the trunk to the remote laptop. Moving one end into another port on the switch will lose your connection as you will be on different VLANs.

If you connect both laptops into port GE/2 on their respective switches then you again should be able to ping the remote laptop through the trunk.

Wireless Configuration

Connect a wireless link

Now we replace the Ethernet cable from port GE/3 of the SIL 73204MP to port GE/4 of the SIL 73208MP with a wireless link.

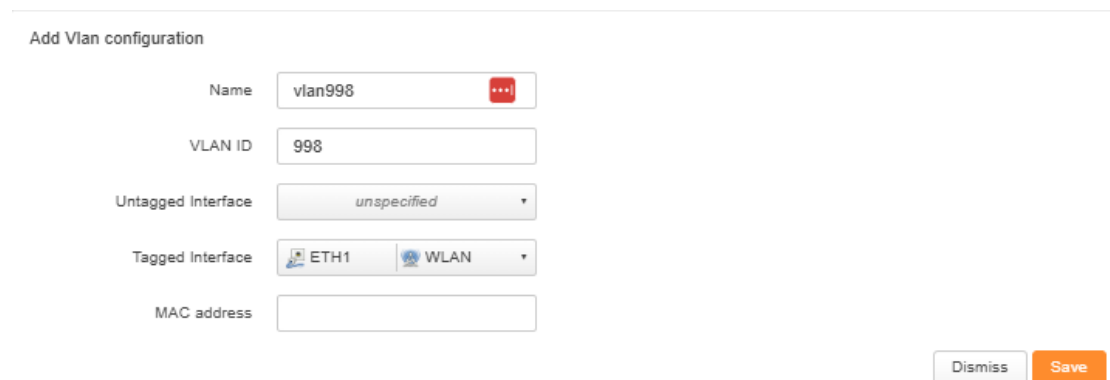
Once this has been done you should be able to test the same way as above and have the same results.

We can now setup a Management VLAN on the radios.

Login into your radio and navigate to Network > Network. Scroll to the VLAN section.



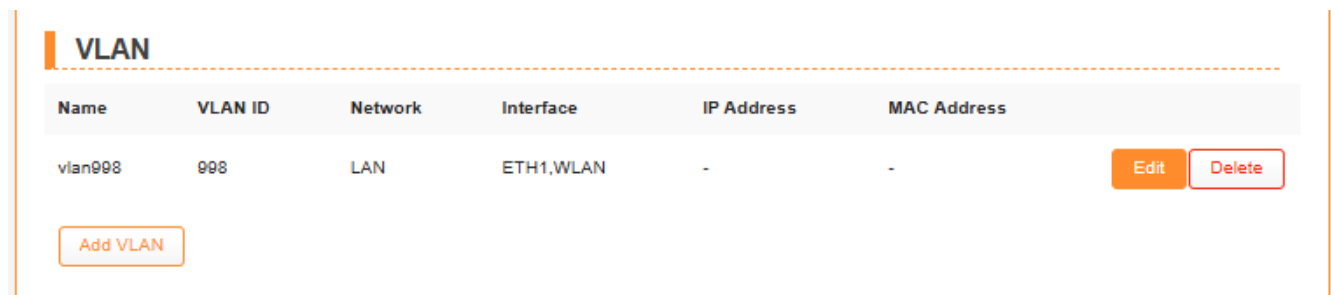
To create a VLAN, click “Add VLAN”. A window will appear.



Enter your VLAN ID – in this scenario management of the radios will be on VLAN 998.

Tag the Ethernet and wireless port by setting the dropdown to tagged on ETH1 and WLAN

Click Save to create the VLAN



Once the VLAN is created you can configure the IP settings.

***Note – Management VLAN IP address must be on a different subnet to the main IP address of the radio. For example, radio main LAN IP is 192.168.0.228 so Management VLAN IP is 192.168.1.228.**

SILVERNET
WIRELESS-NETWORK-SOLUTIONS

Status ▾ Network ▾ Wireless ▾ System ▾ Tools ▾

Log out

LAN_VLAN998

Protocol

Static address ▾

IPv4 address

192.168.1.229

IPv4 netmask

255.255.255.0 ▾

IPv4 gateway

192.168.1.1

IPv6 address

+

IPv6 gateway

VLAN

Name	VLAN ID	Untagged Interface	Tagged Interface	IP Address	MAC Address	
vlan998	998	-	ETH1,WLAN	192.168.1.229	50:11:EB:40:02:01	Edit Delete

Add VLAN

Save & Apply ▾

Once you have configured the IP settings, click Save & Apply.

To make your new VLAN the management VLAN just select it from the Manage Interfaces drop-down menu and then Save & Apply.

Warning: Once this setting is enabled, you must have your management VLAN settings correctly configured or you will not be able to reach your device again without resetting to defaults.

SILVERNET
WIRELESS-NETWORK-SOLUTIONS

Status ▾ Network ▾ Wireless ▾ System ▾ Tools ▾

Log out

Configuration

Manage Interfaces

ALL ▾

LAN

Protocol

ALL
LAN
LAN_VLAN998
LAN_VLAN101

***Note – A reboot may be required after VLANs have been configured but is not always necessary.**

Test

Connect your laptop via an Ethernet cable to port GE/5 of the SIL 73208MP and connect the configured radio into port GE/4. You should now be able to access the radio on the IP address you set (10.252.39.73) because we set up port GE/5 for Access on VLAN for 998.

Camera site 26

To configure a radio for camera site 26 where no switch will be needed then follow the above steps for setting the management VLAN but also add in VLAN 101. See image below.

VLAN

Name	VLAN ID	Untagged Interface	Tagged Interface	IP Address	MAC Address	
vlan998	998	-	ETH1,WLAN	192.168.1.228	50:11:EB:40:02:09	<button>Edit</button> <button>Delete</button>
vlan101	101	ETH1	WLAN	-	50:11:EB:40:02:09	<button>Edit</button> <button>Delete</button>

Add VLAN

Save & Apply

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We want to untag the Ethernet interface (ETH1). This means that the traffic with the specified VLAN ID (in this case 101) received over the upstream wireless link will have the VLAN tag removed as it exits the wired ports. Similarly, traffic coming into the device over the wired ports (the Camera) will be tagged with the specified VLAN ID when it's sent over the wireless link.

We want to tag the wireless interface (WLAN). This means the device keeps the VLAN tag on the Ethernet frame as it leaves the port (or wireless link). The device will expect any traffic coming into it over the port (or wireless link) to already have a VLAN tag and will treat it according to that tag.

IP settings can be left blank.

***Note – A reboot may be required after VLANs have been configured but is not always necessary.**

Test

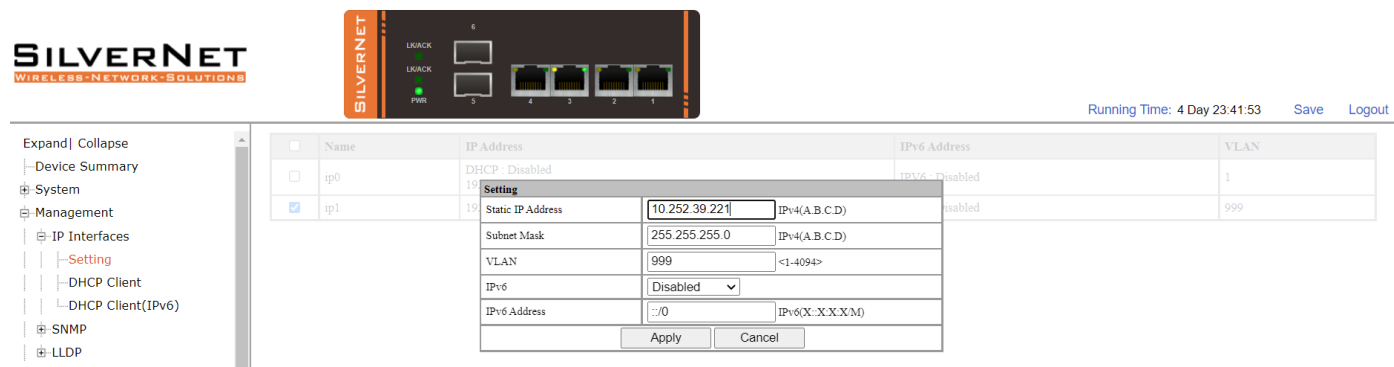
Connect a laptop via an Ethernet cable to a PoE injector on radio 10.252.39.74 which should have a wireless connection to wireless radio 10.252.39.73 which will be connected to port GE/3 of the SIL 73208MP. You should be able to ping another laptop that is connected to port GE/1 of the of the SIL 73208MP. You should be able to ping through all this to the remote laptop simulating camera site 26.

You can also configure another wireless link (or use a cable for testing) to connect port GE/3 of the SIL 73204MP to port GE/4 of the SIL 73208MP to create a trunk (link) between the two switches. Then move the laptop connection from port GE/1 of the of the SIL 73208MP to port GE/1 of the of the SIL 73204MP. You should be able to ping through all this to the remote laptop simulating camera site 26.

Switch management

Management VLAN

To put the switch on a Management VLAN you must navigate to Management > IP Interfaces > Setting, click Add and enter the IP details and VLAN details for the management. In this scenario we used the 73208MP and set the details as below.



The screenshot shows the SilverNet switch management interface. At the top, there is a header with the SilverNet logo and a navigation bar. Below the header, there is a sidebar on the left with a tree view containing 'Expand| Collapse', 'Device Summary', 'System', 'Management', 'IP Interfaces', 'Setting', 'DHCP Client', 'DHCP Client(IPv6)', 'SNMP', and 'LLDP'. The main area displays a table of IP interfaces. The table has columns for 'Name', 'IP Address', 'IPv6 Address', and 'VLAN'. The table contains two rows: 'ip0' and 'ip1'. The 'ip1' row is selected, and a 'Setting' dialog box is open for it. The dialog box has fields for 'Static IP Address' (10.252.39.221), 'Subnet Mask' (255.255.255.0), 'VLAN' (999), 'IPv6' (Disabled), and 'IPv6 Address' (::0). The 'Apply' button is highlighted.

Name	IP Address	IPv6 Address	VLAN
ip0	DHCP: Disabled	IPv6: Disabled	1
ip1	10.252.39.221	Disabled	999

***Note – Management VLAN IP address must be on a different subnet to the main IP address of the switch. For example, main IP is 192.168.1.6 so Management VLAN IP is 192.168.2.6.**

***Note – A reboot may be required after VLANS have been configured but is not always necessary.**

Test

Connect your laptop via an Ethernet cable to port GE/6 of the SIL 73208MP. You should now be able to access the switch on the IP address you set (10.252.39.221) because we set up port GE/6 for Access on VLAN for 999.

Summary

Plugging into Port GE/1 of the switches should allow you to pass data on VLAN 101

Plugging into Port GE/2 of the switches should allow you to pass data on VLAN 172

Port GE/3 (73208MP) and GE/4 (73204MP) of the switches are the Trunk ports (connect via cable or wireless)

Plugging into Port GE/5 of the 73208MP should allow you to access the radios on management VLAN 998

Plugging into Port GE/6 of the 73208MP should allow you to access the switches on management VLAN 999

Port GE/4 (73204MP) and ports GE/7 & GE/8 (73208MP) have been left as Access for the switch to allow you to make any non VLAN changes.