

VLAN

RGS200-12P

Support Notes

Jun 2016

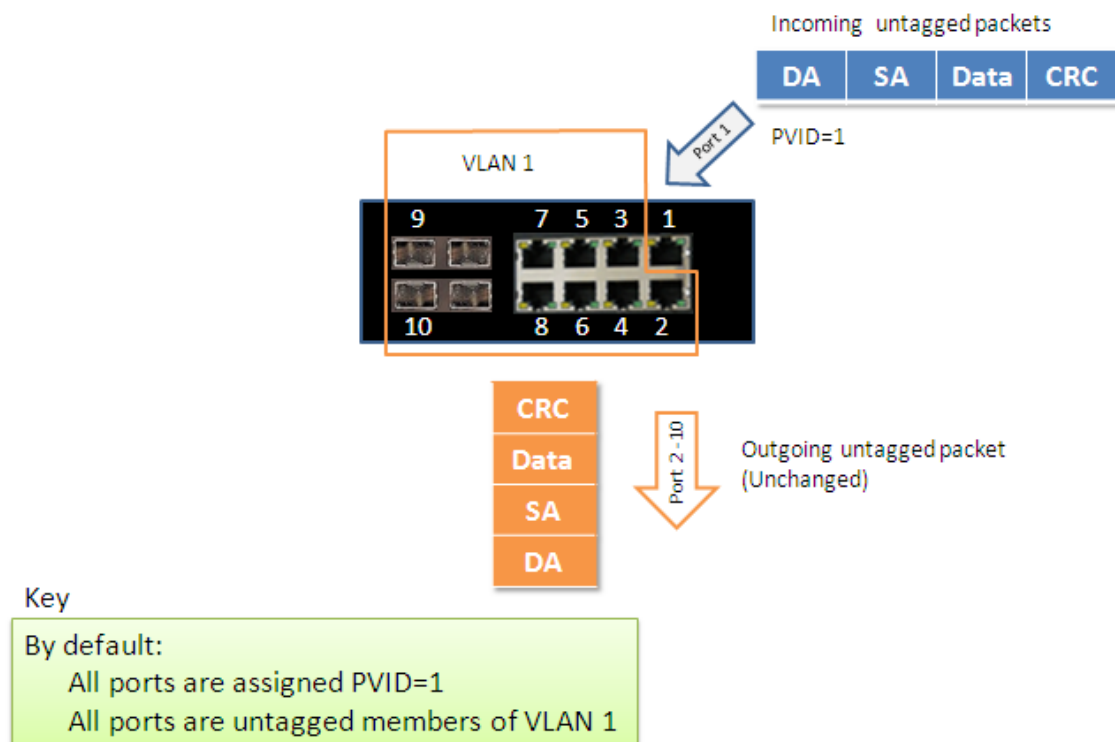
VLAN Application Guide

This part describes how to configure Virtual LANs (VLANs) in RGS200-12P. The RGS200-12P supports up to 1000 VLANs. Ports are grouped into broadcast domains by assigning them to the same VLAN. Frames received in on VLAN can only be forwarded within that VLAN, and multicast frames and unknown unicast frames are flooded only to ports in the same VLAN.

Example 1: Default VLAN Settings

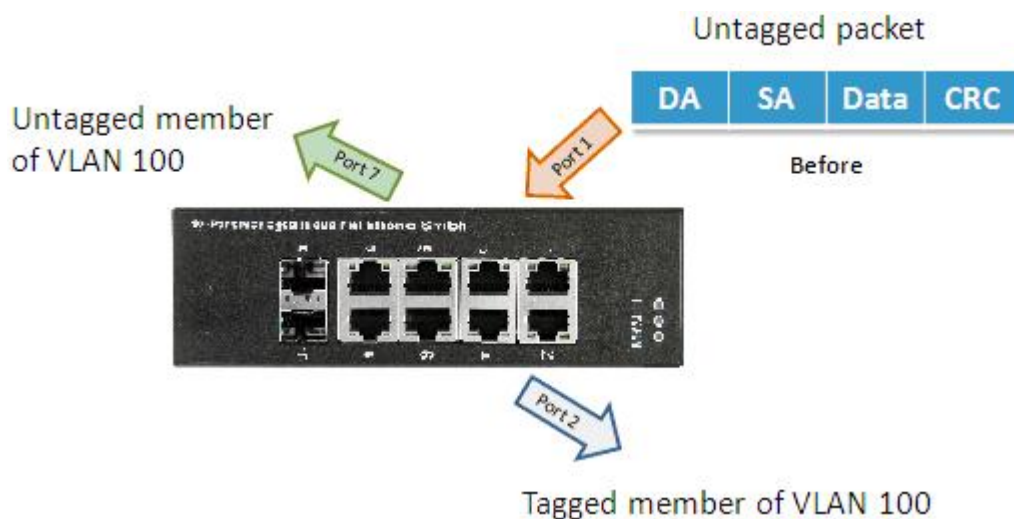
Each port in the RGS200-12P has a configurable default VLAN number, known as its PVID. This places all ports on the same VLAN initially, although each port PVID is configurable to any VLAN number between 1 and 4094.

The default configuration settings for RGS200-12P have all ports set as untagged members of VLAN 1 with all ports configured as PVID=1. In default configuration example shown in the following figure, all incoming packets are assigned to VLAN 1 by the default port VLAN identifier (PVID=1).



Example 2: 802.1Q VLAN Configuration.

When the RGS200-12P receives an untagged VLAN packet, it will add a VLAN tag to the frame according to the PVID setting on a port. As shown in the following figure, the untagged packet is marked (tagged) as it leaves the RGS200-12P through Port 2, which is configured as a tagged member of VLAN100. The untagged packet remains unchanged as it leaves the RGS200-12P through Port 7, which is configured as an untagged member of VLAN100.



Configuration:

Step1. Go to Configuration -> VLANs and configure Allowed Access VLANs to 1,100 then set PVID 100 on Port 1, Port 2 and Port 7.

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Configuration

- System
- EEE
- Ports
- DHCP
- Security
- Aggregation
- Loop Protection
- Spanning Tree
- IPMC Profile
- MVR
- IPMC
- LLDP
- PoE
- MAC Table
- VLANs**
- Voice VLAN
- QoS
- Mirroring
- GVRP
- RingV2
- DDMI
- Monitor
- Diagnostics
- Maintenance

Global VLAN Configuration

Allowed Access VLANs: 1,100

Port VLAN Configuration

Port	Mode	Port VLAN	Ingress Filtering	Egress Tagging	Allowed VLANs	Forbidden VLANs
*	<>	1	<input checked="" type="checkbox"/>	<>	1	
1	Trunk	100	<input checked="" type="checkbox"/>	Untag Port VLAN	1-4095	
2	Trunk	100	<input checked="" type="checkbox"/>	Untag Port VLAN	1-4095	
3	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
4	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
5	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
6	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
7	Trunk	100	<input checked="" type="checkbox"/>	Untag Port VLAN	1-4095	
8	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
9	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
10	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
11	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
12	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	

Save Reset

Step2. Assign VLAN tag setting to or remove it from a port by toggling the check box under an individual port number. The tag settings determine if packets that are transmitted from the port tagged or untagged with the VLAN ID. The possible tag settings are:

- Tag All** Specifies that the egress packet is tagged for the port.
- Untag port vlan** Specifies that the egress packet is untagged for the port.

Here we set tagged VLAN100 on Port 1 and Port 2, untagged VLAN100 on Port7.

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Global VLAN Configuration

Allowed Access VLANs 1,100

Port VLAN Configuration

Port	Mode	Port VLAN	Ingress Filtering	Egress Tagging	Allowed VLANs	Forbidden VLANs
*	<>	1	<input checked="" type="checkbox"/>	<>	1	
1	Trunk	100	<input checked="" type="checkbox"/>	Tag All	1,100	
2	Trunk	100	<input checked="" type="checkbox"/>	Tag All	1,100	
3	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
4	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
5	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
6	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
7	Trunk	100	<input checked="" type="checkbox"/>	Untag Port VLAN	1,100	
8	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
9	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
10	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
11	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	
12	Access	1	<input checked="" type="checkbox"/>	Untag Port VLAN	1	

Save
Reset

Step3. Transmit untagged unicast packets from Port 1 to Port 2 and Port 7. The RGS200-12P should tag it with VID 100. The packet has access to Port2 and Port 7. The outgoing packet is stripped of its tag to leave Port 7 as an untagged packet. For Port 2, the outgoing packet leaves as a tagged packet with VID 100.

Step4. Transmit untagged unicast packets from Port 2 to Port 1 and Port 7. The RGS200-12P should tag it with VID 100. The packet has access to Port1 and Port 7. The outgoing packet is stripped of its tag to leave Port 7 as an untagged packet. For Port 1, the outgoing packet leaves as a tagged packet with VID 100.

Step5. Transmit untagged unicast packets from Port 7 to Port 1 and Port 2. The RGS200-12P should tag it with VID 100. The packet has access to Port1 and Port 2. For Port 1 and Port 2, the outgoing packet leaves as a tagged packet with VID 100.

CLI Command:

```
vlan 1
vlan 100

interface GigabitEthernet 1/1
switchport access vlan 100
switchport trunk native vlan 100
switchport trunk allowed vlan 1,100
switchport trunk vlan tag native
switchport mode trunk
poe mode enable
exit
interface GigabitEthernet 1/2
switchport access vlan 100
switchport trunk native vlan 100
switchport trunk allowed vlan 1,100
switchport trunk vlan tag native
switchport mode trunk
poe mode enable
exit
interface GigabitEthernet 1/7
switchport access vlan 100
switchport trunk native vlan 100
switchport trunk allowed vlan 1,100
switchport mode trunk
poe mode enable

exit
```