VLAN - GVRP

Ethernet Switch

<u>ZyNOS 4.0</u>

Support Notes

<u>Version 4.00</u> <u>Nov 2011</u>



All contents copyright (c) 2011 ZyXEL Communications Corporation.

How to configure GVRP?



Description:

In this scenario, PCs belonging to different divisions within a single corporation cannot communicate with each other. Also, we leave some ports of switches for GVRP-aware PCs and others for VLAN-unaware PCs. Therefore the network administrator can manage and configure VLAN smartly based on what are the different devices and the requirements. For switches on floor 1

and 2, PC that is connected to port 3 joins VLAN 10 statically; PC that is connected to port 4 joins VLAN 20 statically; and PCs that are connected to port 1&2 can join VLAN 10/20/30 as determined by its configuration on GVRP-aware NIC dynamically. For switch in the basement, PC that is connected to port 1 joins VLAN 30 while the PC that is connected to port 3 can join VLAN10/20/30 dynamically. Please Note that all the clients connected to the switches in this scenario should be located in the same subnet (in this example, the subnet is 192.168.1.0/24)

How to configure this scenario:

1. For Switch A on Floor 2:

Please enter VLAN setting under Advanced Application menu and click "static

 $\ensuremath{\mathsf{VLAN}}\xspace$ vLAN" to bring up the following screen and add $\ensuremath{\mathsf{VLAN}}\xspace$ 10: port 3, fixed, untag;

port 9, fixed, Tx tagging".

Static VLAN		VLAN Status
ACTIVE		
Name	VLAN 10	
VLAN Group ID	10	

Port		Control		Tagging
×		Normal	-	🔽 Tx Tagging
1	Normal	Fixed	Forbidden	🗹 Tx Tagging
2	Normal	Fixed	Forbidden	🗹 Tx Tagging
3	Normal	Fixed	Forbidden	🔲 Tx Tagging
4	Normal	Fixed	Forbidden	🗹 Tx Tagging
5	Normal	Fixed	Forbidden	🗹 Tx Tagging
6	Normal	Fixed	Forbidden	🗹 Tx Tagging
7	Normal	Fixed	Forbidden	🗹 Tx Tagging
8	Normal	Fixed	Forbidden	🗹 Tx Tagging
9	Normal	Fixed	Forbidden	🗹 Tx Tagging
10	Normal	Fixed	Forbidden	🗷 Tx Tagging



Add VLAN 20 to this switch, VLAN 20: port 4, fixed, untag; port 9, fixed, Tx tagging.



ZyXEL	
-------	--

🛛 🥥 Static VLAN		VLAN Status
ACTIVE		
Name	VLAN 20]
VLAN Group ID	20	

Port		Control		Tagging
*		Normal	•	🗷 Tx Tagging
1	Normal	Fixed	Forbidden	🗹 Tx Tagging
2	Normal	Fixed	Forbidden	🔽 Tx Tagging
3	Normal	Fixed	Forbidden	🔽 Tx Tagging
4	Normal	Fixed	Forbidden	🔲 Tx Tagging
5	Normal	Fixed	Forbidden	🔽 Tx Tagging
6	Normal	Fixed	Forbidden	🔽 Tx Tagging
7	Normal	Fixed	Forbidden	🔽 Tx Tagging
8	Normal	Fixed	Forbidden	🗹 Tx Tagging
9	Normal	Fixed	Forbidden	🗹 Tx Tagging
10	Normal	Fixed	Forbidden	🗹 Tx Tagging

Add Cancel Clear

Click VLAN port setting to bring up the following screen, setup **PVID 10** for port 3, **PVID 20** for port 4, and enable GVRP on the top of the screen and port 1, port 2, port 9.

ZyXEL

VLAN Port Setting		Subnet Based Vlan	Protocol Based Vlan	VLAN Status
GVRP	V			
Ingress Check				

Port	PVID	GVRP	Acceptable Frame Type	VLAN Trunking	Isolation
*			All 🝷		
1	1		All 🝷		
2	1		All 🝷		
3	10		All 🝷		
4	20		All 🔻		
5	1		All 🔻		
6	1		All 🔻		
7	1		All 🔻		
8	1		All 🝷		
9	1		All 🔻		
10	1		All 🔻		

Apply	Cancel
-------	--------

2. For Switch B on Floor 1:

Please follow the same steps and add VLAN 10: port 3, fixed, untag; port 9, fixed, Tx tagging; port 10, fixed, Tx tagging".



🛛 🍑 Static	VLAN			VLAN Status
	ACTIVE			
	Name		VLAN 10	
	VLAN Group ID		10	
Port		Control		Tagging
*		Normal	•	🔽 Tx Tagging
1	Normal	Fixed	Forbidden	🗹 Tx Tagging
2	Normal	Fixed	Forbidden	🔽 Tx Tagging
3	Normal	Fixed	Forbidden	🔲 Tx Tagging
4	Normal	Fixed	Forbidden	🔽 Tx Tagging
5	Normal	Fixed	Forbidden	🗹 Tx Tagging
6	Normal	Fixed	Forbidden	🗹 Tx Tagging
7	Normal	Fixed	Forbidden	🗹 Tx Tagging
8	Normal	Fixed	Forbidden	🗹 Tx Tagging
9	Normal	Fixed	Forbidden	🗹 Tx Tagging
10	Normal	Fixed	Forbidden	🗹 Tx Tagging
		Add Car	ncel Clear	

Add VLAN 20 to this switch, VLAN 20: port 4, fixed, untag; port 9, fixed, Tx tagging; port 10, fixed, Tx tagging.

🔵 🕘 Static VLAN)		VLAN Status
ACTIVE			
Name		VLAN 20]
VLAN Group ID		20	
Dert	Cantaal		Tanaina
POIL	Control		ragging
*	Normal	▼	V Tx Tagging

î.		Ivormai	<u>.</u>	Ix lagging
1	Normal	Fixed	Forbidden	🔽 Tx Tagging
2	Normal	Fixed	Forbidden	🔽 Tx Tagging
3	Normal	Fixed	Forbidden	🔽 Tx Tagging
4	Normal	Fixed	Forbidden	🔲 Tx Tagging
5	Normal	Fixed	Forbidden	🔽 Tx Tagging
6	Normal	Fixed	Forbidden	🔽 Tx Tagging
7	Normal	Fixed	Forbidden	🔽 Tx Tagging
8	Normal	Fixed	Forbidden	🔽 Tx Tagging
9	Normal	Fixed	Forbidden	🔽 Tx Tagging
10	Normal	Fixed	Forbidden	🔽 Tx Tagging

Add	Cancel	Clear
		\square

Click VLAN port setting to bring up the following screen, setup **PVID 10 for port 3**, **PVID 20 for port 4**, and **enable GVRP on the top of the screen and port 1**, **port 2**, **port 9**, **port 10**.

ZyXEL

VLAN Port Setting		Subnet Based Vlan	Protocol Based Vlan	VLAN Status
GVRP	V			
Ingress Check				

Port	PVID	GVRP	Acceptable Frame Type	VLAN Trunking	Isolation
*			All 🝷		
1	1		All 🝷		
2	1		All 🝷		
3	10		All 🝷		
4	20		All 🝷		
5	1		All 🝷		
6	1		All 🝷		
7	1		All 🝷		
8	1		All 🝷		
9	1		All 🝷		
10	1		All 👻		

Apply Cancel

3. For Switch C on Basement:

Please set static VLAN 10: port 9, fixed, untag.

Ĩ	Basic Setting	🔵 🎱 Static	VLA	N					VLAN Stat
ž	Advanced Application			ACTIVE			V		
ğ	IP Application			Name			VLAN	l 10	
2	Management		VLA	N Group ID			10		
GS2									
	VLAN								
	Static MAC Forwarding	Port				Contro	l.		Tagging
	Static Multicast Forwarding	*				Normal	-		🔽 Tx Tagging
	Filtering	1	۲	Normal	0	Fixed		Forbidden	Tx Tagging
	Spanning Tree Protocol	2	0	Normal	0) Fixed		Forbidden	Tx Tagging
	Bandwidth Control	- 3		Normal		Eivad		Eorbidden	
	Broadcast Storm Control	3		Nermel		Fixed		- Forbidden	
	Mirroring	4		Normal		Fixed		Forbidden	IX Lagging
	Link Aggregation	5	۲	Normal	0	Fixed	0	Forbidden	✓ Tx Tagging
	Port Authentication	6	۲	Normal	0	Fixed	0	Forbidden	🔽 Tx Tagging
	Port Security	7	۲	Normal	C	Fixed	C	Forbidden	🔽 Tx Tagging
	Classifier	8	۲	Normal	C	Fixed	C	Forbidden	🔽 Tx Tagging
	Policy Rule	9	0	Normal	0	Fixed	0	Forbidden	Tx Tagging
	Queuing Method	10	۲	Normal	C) Fixed	6	Forbidden	Tx Tagging
	Multicast		-						2 in rugging
	AAA								
	IP Source Guard				ſ	Add	ancel	Clear	
	Loop Guard								



Please set static VLAN 20: port 23, fixed, untag.

Basic Setting	🔵 Static	VLAN			VLAN Stat
Advanced Application		ACTIVE			
IP Application		Name		VLAN 20	
Management		VLAN Group ID		20	
VLAN					
Static MAC Forwarding	Port		Contro	bl	Tagging
Static Multicast Forwarding	*		Normal	•	🔽 Tx Tagging
Filtering	1	Normal	Fixed	Forbidden	🔽 Tx Tagging
Spanning Tree Protocol	2	Normal	Fixed	Forbidden	🛛 Tx Tagging
Bandwidth Control	3	Normal	Fixed	Forbidden	Tx Tagging
Broadcast Storm Control	4	Normal	Fixed	Forbidden	Tx Tagging
Mirroring	5	Normal	Fixed	Forbidden	Tx Tagging
Link Aggregation	6	Normal	Fixed	Forbidden	Tx Tagging
Port Addrenication	7	Normal	Fixed	Forbidden	Tx Tagging
Classifier	, o	Normal	Cived	Forbidden	
Policy Rule	°	 Normal 	Fixed	Forbidden	Tx ragging
Queuing Method	9	Normal	Fixed	Forbidden	IX Lagging
Multicast	10	Normal	Fixed	Forbidden	Tx Tagging
AAA					
IP Source Guard			Add	ancel Clear	
Loop Guard					

Add VLAN 30: port 1, fixed, untag; port9, fixed, untag; port 10, fixed, Tx

			_		
			-	 _	
	_	_			
_				 	
				 	-
	~	~		 ~	
				_	
	-	-		-	

Basic Setting	🛛 🥥 Static	VLAN			VLAN
Advanced Application		ACTIVE			
IP Application		Name		VLAN 30	
Management		VLAN Group ID		30	
VLAN					
Static MAC Forwarding	Port		Contro	I	Tagging
Static Multicast Forwarding	*		Normal	•	🔽 Tx Tagging
Filtering	1	Normal	Fixed	Forbidden	Tx Tagging
Spanning Tree Protocol	2	Normal	Fixed	Forbidden	Tx Tagging
Bandwidth Control	3	Normal	Fixed	Forbidden	Tx Tagging
Broadcast Storm Control	4	Normal	Fixed	Forbidden	
Mirroring		Normal	Cived	Corbidden	
Link Aggregation	J	 Normal 	Fixed	Forbidden	
Port Authentication	0 	Normal	Tixed	Forbidden	IX lagging
Port Security	/	Normal	Fixed	Forbidden	Tx Tagging
Classifier	8	Normal	Fixed	Forbidden	🗹 Tx Tagging
Policy Rule	9	Normal	Fixed	Forbidden	🔲 Tx Tagging
Queuing Method	10	Normal	Fixed	Forbidden	🗹 Tx Tagging
Multicast					
AAA					
IP Source Guard			Add	Clear	
Loop Guard					



Setup PVID 30 for port 1 and enable GVRP on port 3 and port 24.

3	Basic Setting	C 🔘 VLAN	N Port Setting	<u>s</u>	<u>ubnet Based Vlan</u>	Protocol Based Vlan	VLAN Status			
Ĩ	Advanced Application		GVRP							
H	IP Application	Ing	ress Check							
Ĵ	Management									
GS										
2200	VLAN	Dort	DV/ID	CUDD	Accontoble Frame T	VI AN Trupking	lociation			
	Static MAC Forwarding	Роп	PVID	GVKP	Acceptable Frame T	ype VLAN Trunking	Isolation			
	Static Multicast Forwarding	*			All 🔻					
	Filtering	1	30	V	All 👻					
	Spanning Tree Protocol	2	1		All 👻					
	Bandwidth Control	3	1		All 🔻					
	Broadcast Storm Control				All _					
	Mirroring	4	1		All					
	Eink Aggregation	5	1		All 🔻					
	Port Security	6	1		All 👻					
	Classifier	7	1		All 👻					
	Policy Rule	8	1		All 🔻					
	Queuing Method	0			All -					
	Multicast	9			Ali					
	AAA	10	1		All 🔻					
	IP Source Guard									
	Loop Guard									
	Layer 2 Protocol Tunneling				Apply Cancer					
	PPPoE									

The setting of this scenario is done.