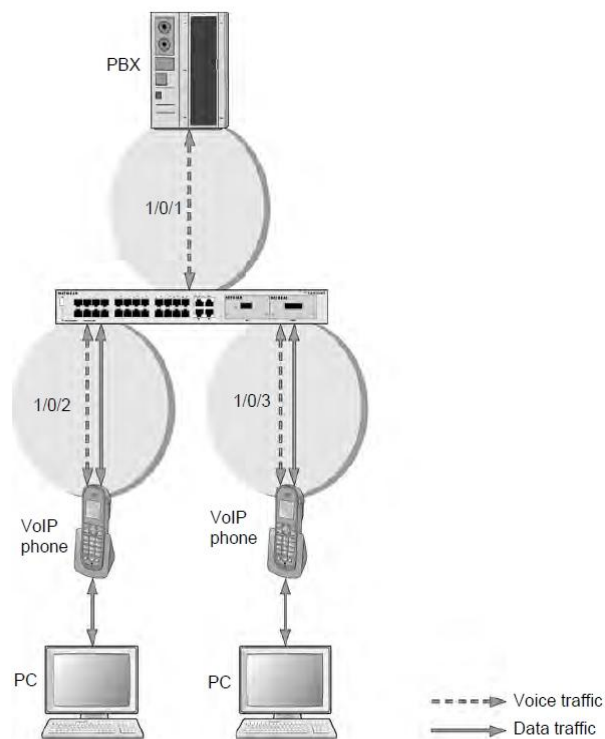


## Configuring voice VLAN feature on the NETGEAR Smart switches

*GS108Tv2, GS110TP, GS716Tv2, GS724Tv3 (fw 5.0.3.2) and FS728TPv2 (fw 5.0.2.20)*

### Voice VLAN feature

Voice VLAN allows you to enhance VoIP service by configuring ports to carry IP Voice traffic from IP phones on a specific VLAN. VoIP traffic has a preconfigured OUI prefix in the source MAC address. Network managers can configure VLANs on which voice IP traffic is forwarded. Voice VLAN also provides QoS to VoIP, ensuring that the quality of voice does not deteriorate if the IP traffic is received unevenly. Using voice VLANs ensures that VOIP devices do not have to contend directly with all the broadcasts and other traffic from data VLANs which could cause delays in voice packets delivery. Using a voice VLAN can simplify network configuration. Specifically, marking packets for QoS is easier, because there is no need to specify the various ranges of TCP and UDP ports. All packets from dedicated subnet will be assigned higher priority. The system supports one Voice VLAN.

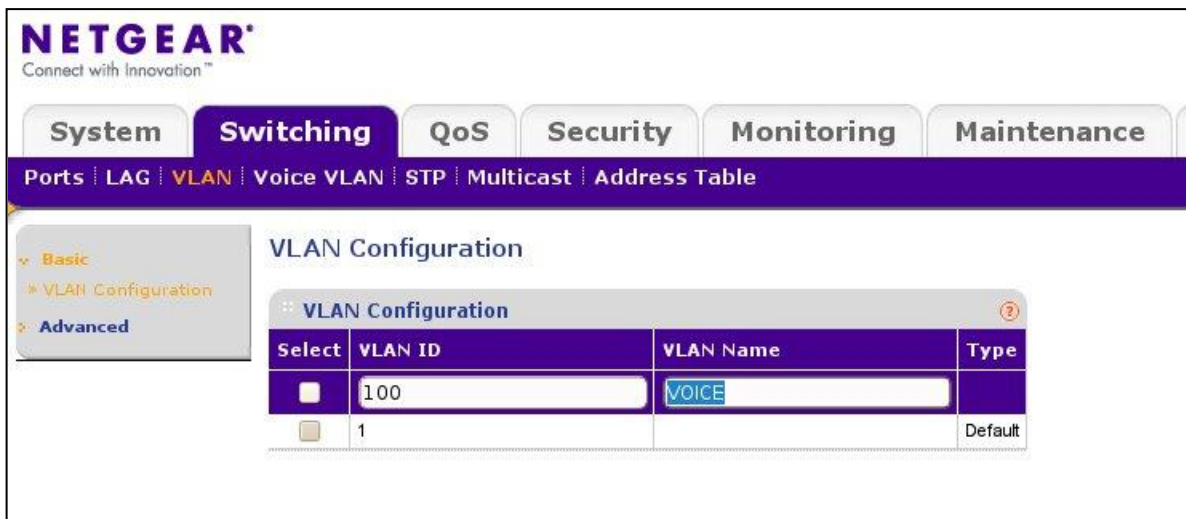


## Configuration steps

1. Create dedicated voice VLAN
  2. Enable voice VLAN feature on the switch
  3. Add custom OUI prefix to match MAC address of the IP phone (optional)
  4. Enable automatic recognition of VoIP device connected to switch port
  5. Verify operation status of voice VLAN
- 

### 1. Create dedicated voice VLAN

1. Select **Switching > VLAN > Basic > VLAN Configuration**
2. In **VLAN ID** field, enter desired VLAN number, for example number **100**.
3. In **VLAN Name** field, enter desired name, for example **VOICE**.
4. Click **ADD**.



The screenshot shows the Netgear web interface for VLAN Configuration. The navigation menu includes System, Switching, QoS, Security, Monitoring, and Maintenance. Under Switching, there are links for Ports, LAG, VLAN, Voice VLAN, STP, Multicast, and Address Table. The left sidebar shows a tree view with Basic, VLAN Configuration, and Advanced. The main content area is titled 'VLAN Configuration' and contains a table with the following data:

Select	VLAN ID	VLAN Name	Type
<input type="checkbox"/>	100	VOICE	
<input type="checkbox"/>	1		Default

## 2. Enable voice VLAN feature on the switch

1. Select **Switching > Voice VLAN > Basic > Properties**
2. For **Voice VLAN Status** select the **Enable** radio button.
3. Click **Apply**.

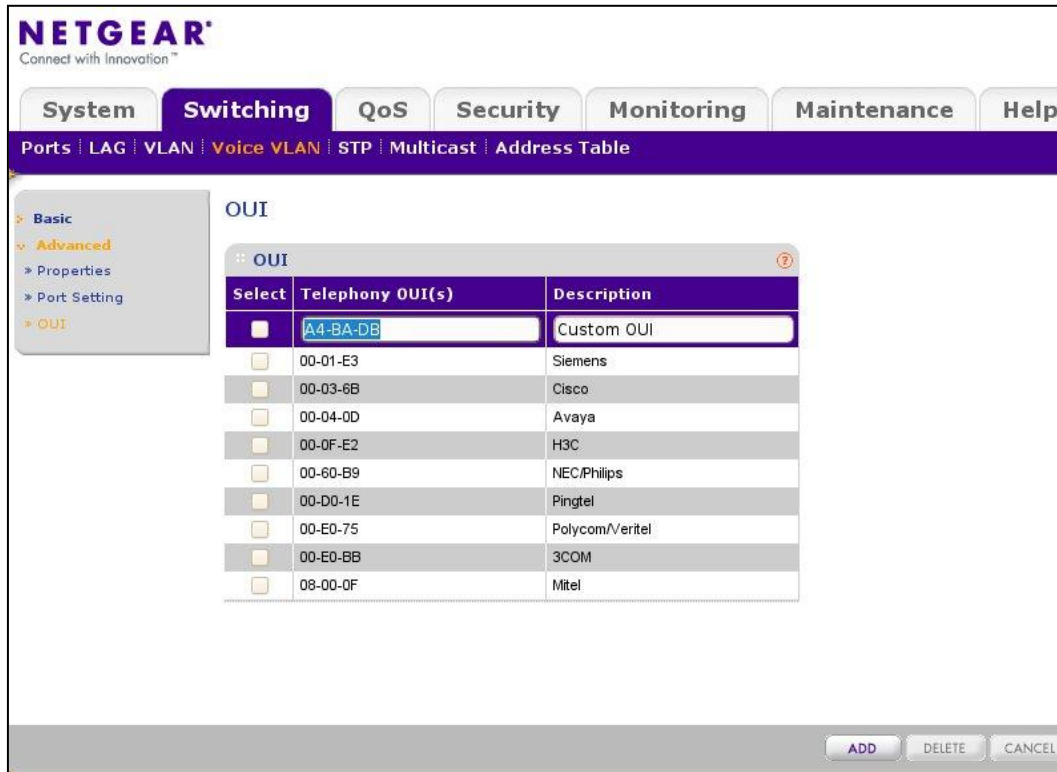


The screenshot displays the Netgear web interface for configuring a switch. The top navigation bar includes tabs for System, Switching, QoS, Security, Monitoring, and Maintenance. Under the Switching tab, there are sub-tabs for Ports, LAG, VLAN, Voice VLAN, STP, Multicast, and Address Table. The left sidebar shows a tree view with Basic, Properties, and Advanced options. The main content area is titled 'Properties' and contains the following configuration fields:

- Voice VLAN Status:** Radio buttons for Disable and Enable. The 'Enable' radio button is selected.
- Voice VLAN ID:** A dropdown menu showing the value 100.
- Class Of Service:** A dropdown menu showing the value 6.
- Remark CoS:** Radio buttons for Disable and Enable. The 'Enable' radio button is selected.
- Voice VLAN Aging Time:** Input fields for 1 Day, 0 Hour, and 0 Min. A note indicates '(1Min-30 Days)'.

### 3. Add custom OUI prefix to match MAC address of IP phone (optional)

1. Select **Switching > Voice VLAN > Advanced > OUI**
2. In **Telephony OUI(s)** field, enter custom OUI, for example **A4-BA-DB**.
3. In **Description** field, enter description of the entered OUI.
4. Click **ADD**.



### 4. Enable automatic recognition of VoIP device connected to switch port

1. Select **Switching > Voice VLAN > Advanced > Port Setting**
2. Select interface to which IP phone is connected.
3. For **Voice VLAN Mode** select **Auto**.
4. (Optional) For **Voice VLAN security** select **Enable** so unrecognized OUI will be dropped.
5. Click **Apply**.

**NETGEAR**  
Connect with Innovation™

System | **Switching** | QoS | Security | Monitoring | Maintenance

Ports | LAG | VLAN | **Voice VLAN** | STP | Multicast | Address Table

Basic  
Advanced  
Properties  
Port Setting  
OUI

### Port Setting

Port Setting

PORTS LAGS All GO TO INTERFACE GO

Select	Interface	Voice VLAN Mode	Voice VLAN Security	Membership
<input type="checkbox"/>		Auto	Enable	
<input type="checkbox"/>	g1	None	Disable	Not Active
<input type="checkbox"/>	g2	None	Disable	Not Active
<input type="checkbox"/>	g3	None	Disable	Not Active
<input type="checkbox"/>	g4	None	Disable	Not Active
<input checked="" type="checkbox"/>	g5	Auto	Disable	Not Active
<input type="checkbox"/>	g6	None	Disable	Not Active
<input type="checkbox"/>	g7	None	Disable	Not Active
<input type="checkbox"/>	g8	None	Disable	Not Active
<input type="checkbox"/>	g9	None	Disable	Not Active
<input type="checkbox"/>	g10	None	Disable	Not Active
<input type="checkbox"/>	g11	None	Disable	Not Active
<input type="checkbox"/>	g12	None	Disable	Not Active
<input type="checkbox"/>	g13	None	Disable	Not Active
<input type="checkbox"/>	g14	None	Disable	Not Active
<input type="checkbox"/>	g15	None	Disable	Not Active

## 5. Verify operation status of voice VLAN

1. Select **Switching > VLAN > Advanced > VLAN Membership**
2. For VLAN ID select voice VLAN number.
3. Select desired unit number, for first unit click Unit 1.
4. First screen shows that the switch has automatically enabled tagging (T) on port to which IP phone is connected.
5. Additional ARP table shows that MAC address of the IP phone was assigned to voice VLAN.

- Basic
- Advanced
  - VLAN Configuration
  - VLAN Membership**
  - Port PVID Configuration

### VLAN Membership

**VLAN Membership**

<b>VLAN ID</b>	100	<b>Group Operation</b>	Tag All
<b>VLAN Name</b>	VOICE	UNTAGGED PORT MEMBERS	
<b>VLAN Type</b>	static	TAGGED PORT MEMBERS	

Unit 1

<b>GE Port</b>	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
					T																			
<b>GE Port</b>	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
																				U				

LAG