Switch

Successfully pass the free certification exam at IW Academy and become an Infinet Certified Engineer.

To the certification exam

The switch page allows you to configure the ports of the unit and the switching related features.

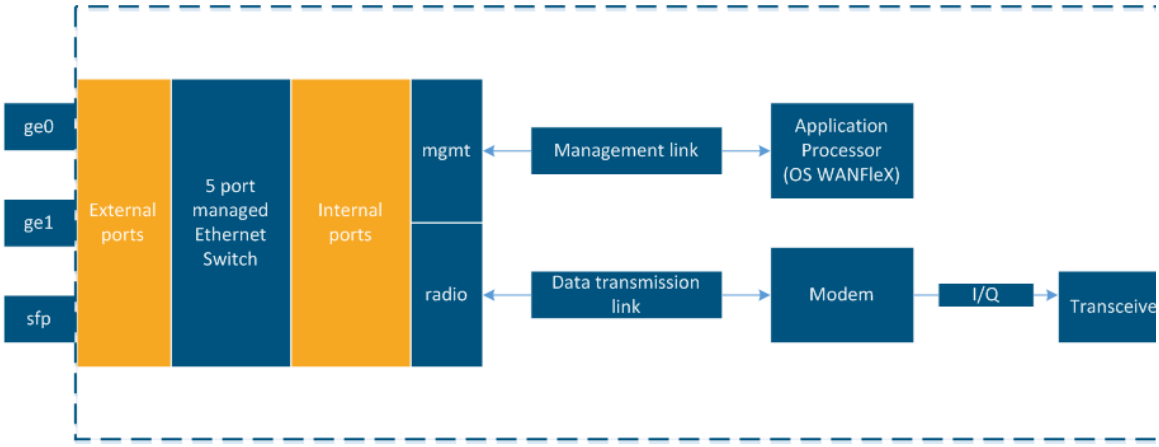


Figure- Unit Scheme

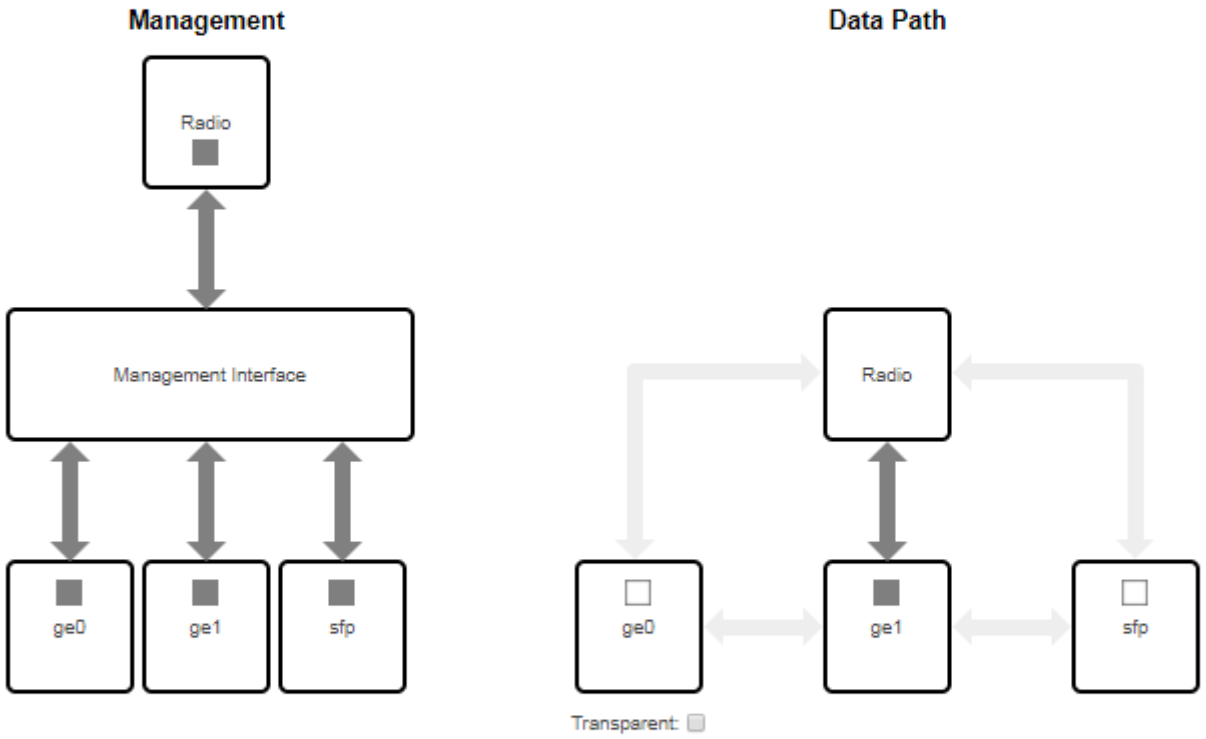
The following 5 ports are available at the unit:

- "ge0" and "ge1" - external copper Gigabit Ethernet ports 1000BASE-T (IEEE 802.1ab).
- "sfp" - external optical Gigabit port for plugging of the optical SFP transceiver module.
- "radio" - internal radio interface of the device.
- "mgmt" - internal interface for the device management.

Switch Port Settings

Port	Up	Egress Rate Limit	QoS mode	Port Mode
ge0	☑	Unlimited	Weighted Round Robin	auto
ge1	☑	Unlimited	Weighted Round Robin	auto
sfp	☑	Unlimited	Weighted Round Robin	
radio	☑		Weighted Round Robin	
mgmt		Unlimited	Weighted Round Robin	

Connectivity Matrix



VLAN-based Switching

VLAN-based Switching Enable: ☐

Vlan	Priority	ge0	ge1	sfp	mgmt	radio
Default VLAN	None	Untagge	Untagge	Untagge	Untagge	Untagge

Add VLAN

The unit will be rebooted for this option to take effect

Apply Try

Figure - Switch section

- "Switch Port Settings" - allows you to perform general port configuration.

Switch Port Settings

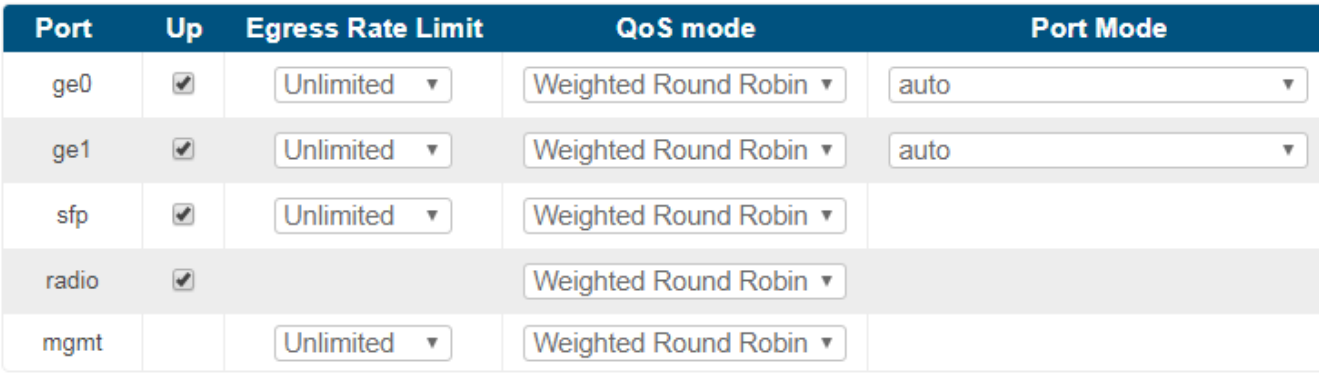


Figure - Switch Port Settings

Parameter	Description
Up	• You can enable or disable the port status
Egress Rate Limit	• You can set the limit (traffic shaper) on the selected port, for outgoing traffic, in Mbps, from 1 to 100 in increments of 1, from 100 to 1000 in increments of 10, or to set it unlimited

QoS mode	• You can select the traffic shaper policy for the port, WRR is selected by default
	  • "Weighted Round Robin" - weights are used for every queue of an interface, which allows different queues to have different service shares depending on the weight value
	  • "Strict" - packets within lower priority queue are not processed if the higher priority queue is not empty

Port Mode	• You can select the physical port operational mode from:
	  • auto: the speed and operational mode of the port will be negotiated between the 2 end points
	  • 10BaseT-halfduplex;10BaseT-halfduplexmanual; 10BaseT-fullduplex;10BaseT-fullduplex-manual
	  • 100BaseTX-halfduplex; 100BaseTX-halfduplex-manual; 100BaseTX-fullduplex; 100BaseTX-fullduplex-manual
	  • 1000BaseTX-fullduplex;1000BaseTX-fullduplex-manual

Table - Port parameters

> **NOTE**
>
> Manual settings for the "Port Mode" will disable the negotiation and detection for speed and duplex. Use them in case that the interconnected 3rd party switches have fixed speed and duplex settings.

- "Connectivity Matrix" allows you to enable or disable switching between internal and external ports of the switch.

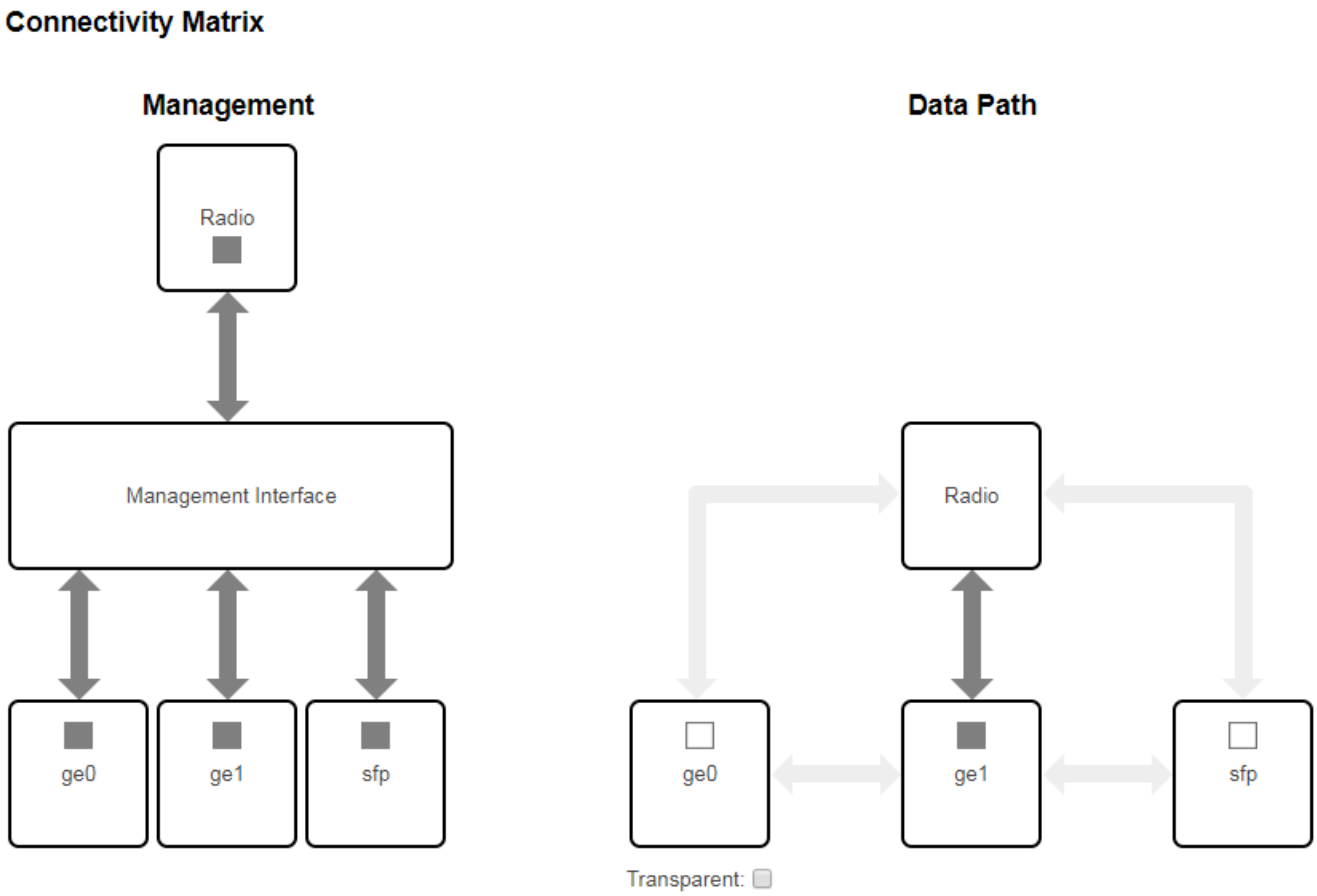


Figure - Connectivity matrix

In *"Transparent"* mode packet switching is allowed between external and internal ports, in case of VLAN-based Switching enabled switching is performed by VLAN tags.

- "VLAN-based Switching" allows to create list of allowed VLANs and their handling on the unit switch plane. Without such option active, wireless link works as transparent Layer 2 bridge. Thus, the link transport any frames with any VLAN tags set.

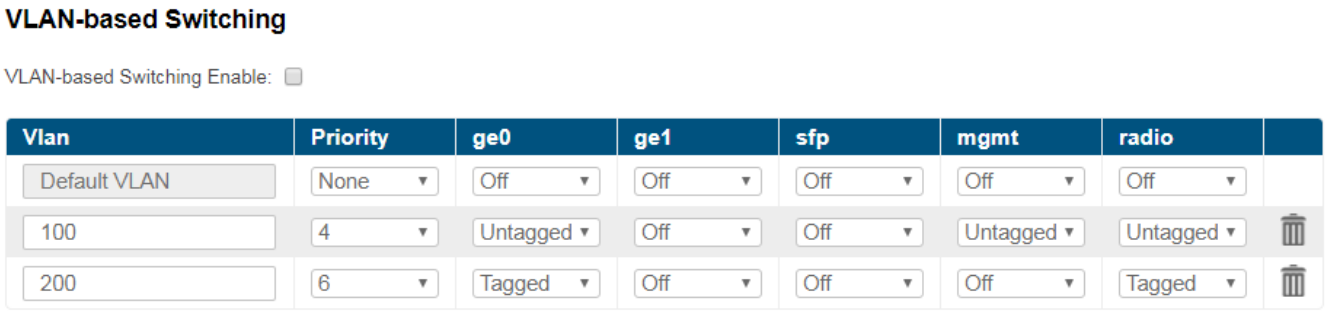


Figure - VLAN-based Switching

Mode	Description
off	• Denies all traffic of a specific VLAN
Tagged	• Operates as trunk port, allows tagged traffic of a specific VLAN to pass through this port

<table>
<tr><td>Untagged</td><td>• Operates as trunk port, allows untagged traffic of a specific VLAN to pass through this port</td></tr>
<tr><td>Access</td><td>• Operates as access port, allows only untagged traffic</td></tr>
<tr><td>Priority</td><td>• Allows to set the priority of a specific VLAN according to 802.1p ranging from 0 to 7, where 0 - the lowest priority level, 7 - the highest.
• There are four priority queues. The mapping between 802.1p priorities and 4 queues can be found below
<table>
<tr><th>802.1p priority</th><th>Traffic type</th><th>Unit priority queue</th></tr>
<tr><td>0</td><td>Background</td><td rowspan="2">1</td></tr>
<tr><td>1</td><td>Best Effort</td></tr>
<tr><td>2</td><td>Excellent Effort</td><td rowspan="2">2</td></tr>
<tr><td>3</td><td>Critical Applications</td></tr>
<tr><td>4</td><td>Video</td><td rowspan="2">3</td></tr>
<tr><td>5</td><td>Voice</td></tr>
<tr><td>6</td><td>Internetwork control</td><td rowspan="2">4</td></tr>
<tr><td>7</td><td>Network control</td></tr>
</table></td></tr>
</table>

Figure - VLAN modes

NOTE

The "*Default VLAN*" is configured by default as «*Untagged*» for all ports of the switch:

- In case the "VLAN-based Switching" is enabled, only untagged traffic will be transmitted through the unit ports in such configuration.
- In case the "VLAN-based Switching" is disabled, tagged and untagged traffic will be transmitted through the unit ports. In this case, the connectivity matrix between external interfaces and mgmt interface are enabled, device will be available through any of assigned IP addressess.

"*Default VLAN*" could not be deleted.

NOTE

VLANs could be created with ID from 2 to 4094. It is possible to set the ranges of VIDs not just individual tags when configuring VLANs.

For more detail information about VLAN configuration please refer to the section "VLAN Switching".