MikroTik SwOS Basic VLAN Configuration

By : Adhie Lesmana

Nairobi, Kenya – January 30, 2018

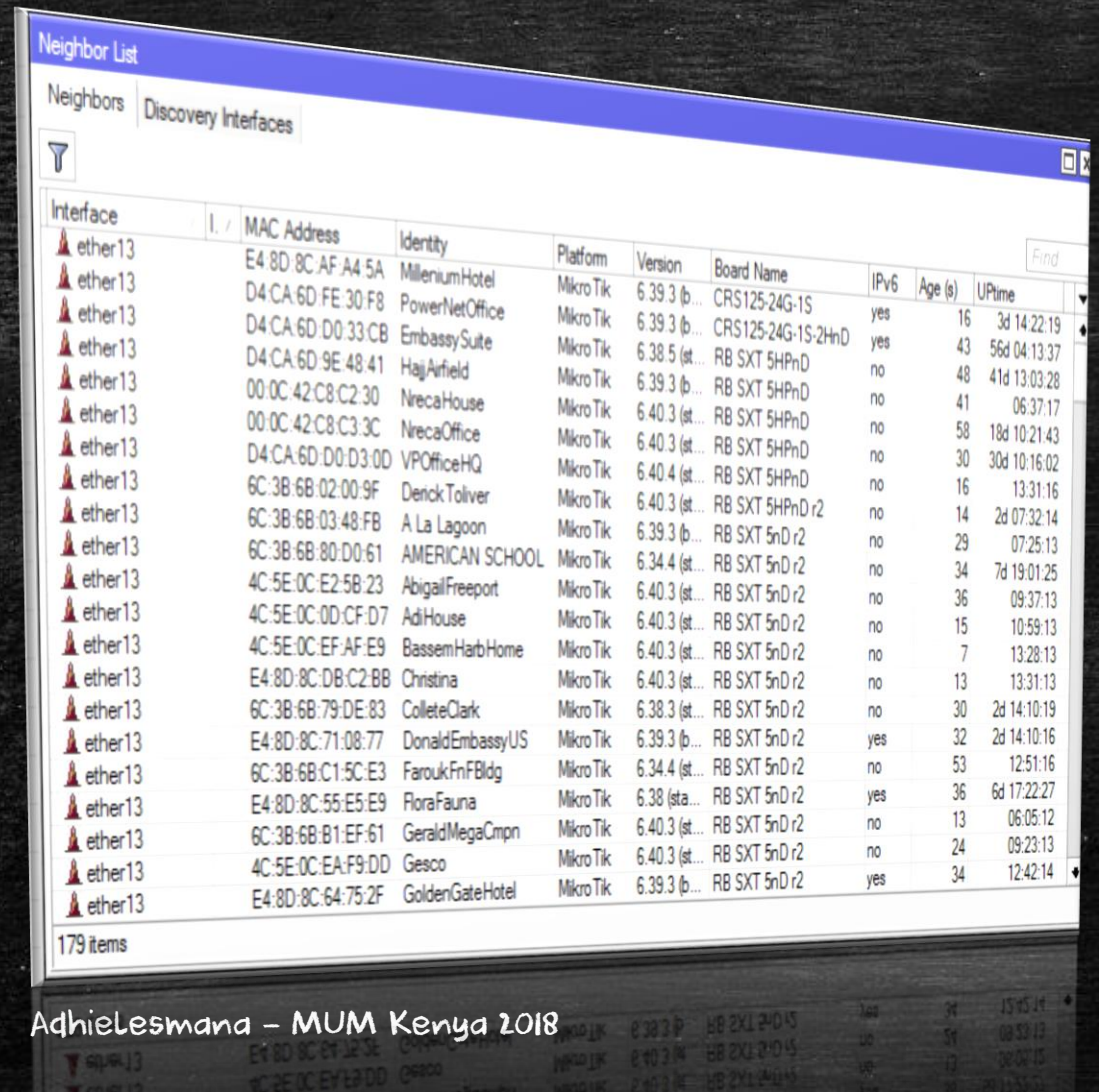
Speaker Profile

- Adhie Lesmana
  - MTCNA, MTCWE, MTCTCE, MTCRE, MTCINE
- PowerNet Liberia, West Africa
  - Technical & Operation Manager
  - 2015 – Now
- Using MikroTik Since 2008
- Forum MikroTik Indonesia
  - Forum Administrator
  - The First MikroTik User Forum in Asia
- Consultant & Networking Trainer

PowerNet Liberia

- ISP In Liberia, West Africa. since 1998.
- The First ISP with IPV6 in Liberia, West Africa.
- The Largest ISP Subscribers In Liberia. (NON GSM)
- The First ISP bring MikroTik in Liberia, West Africa.
- And we always introduce people to use MikroTik till today.

PowerNet Liberia



- Using more than 300 MikroTik Devices.
- Network Managed by Dude,
- Wireless Centralized by CapsMan
- User Authenticated by UserMan
- Core Routing, BGP, PPPoE Server, FULL MikroTik. End to End.

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SwOS

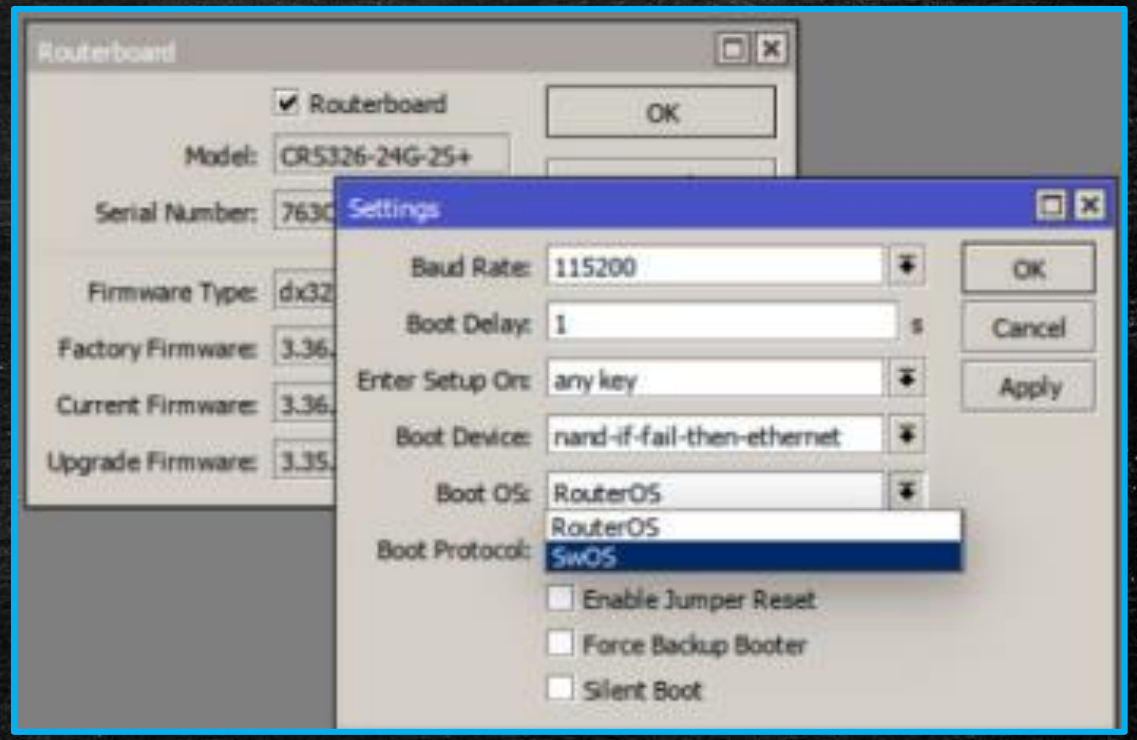
Software Operating System for MikroTik Switch

MikroTik Software OS

- MikroTik SwOS
  - MikroTik Switch OS
  - Only for MikroTik Hardware Switch
  - Only Web Based Configuration
  - http://192.168.88.1
  - User = admin (without password)
- MikroTik ROS
  - MikroTik Router OS
  - Installed on MikroTik RouterBoard
  - Available For x86 PC and Similar
  - Also For Cloud Hosted Router

MikroTik SwOS

- SwOS Version 1.17
  - RB260GS – RB260GSP
- SwOS Version 2.6
  - Only For CSS Family
  - RB260GS (CSS106-5G-1S)
  - RB260GSP (CSS106-1G-4P-1S)
  - CSS326-24G-2S+
  - CRS326-24G-2S+
    - Dual Boot Option
    - SwOS or RouterOS
  - CRS317-1G-16S+
    - Fiber SFP Switch



MikroTik SwOS

No.	Service	Available
1	Web Configuration	Yes
2	SSH / Telnet / Console	No
3	SNMP	Yes
4	MikroTik Discovery	Yes

SwOS Version 1.17

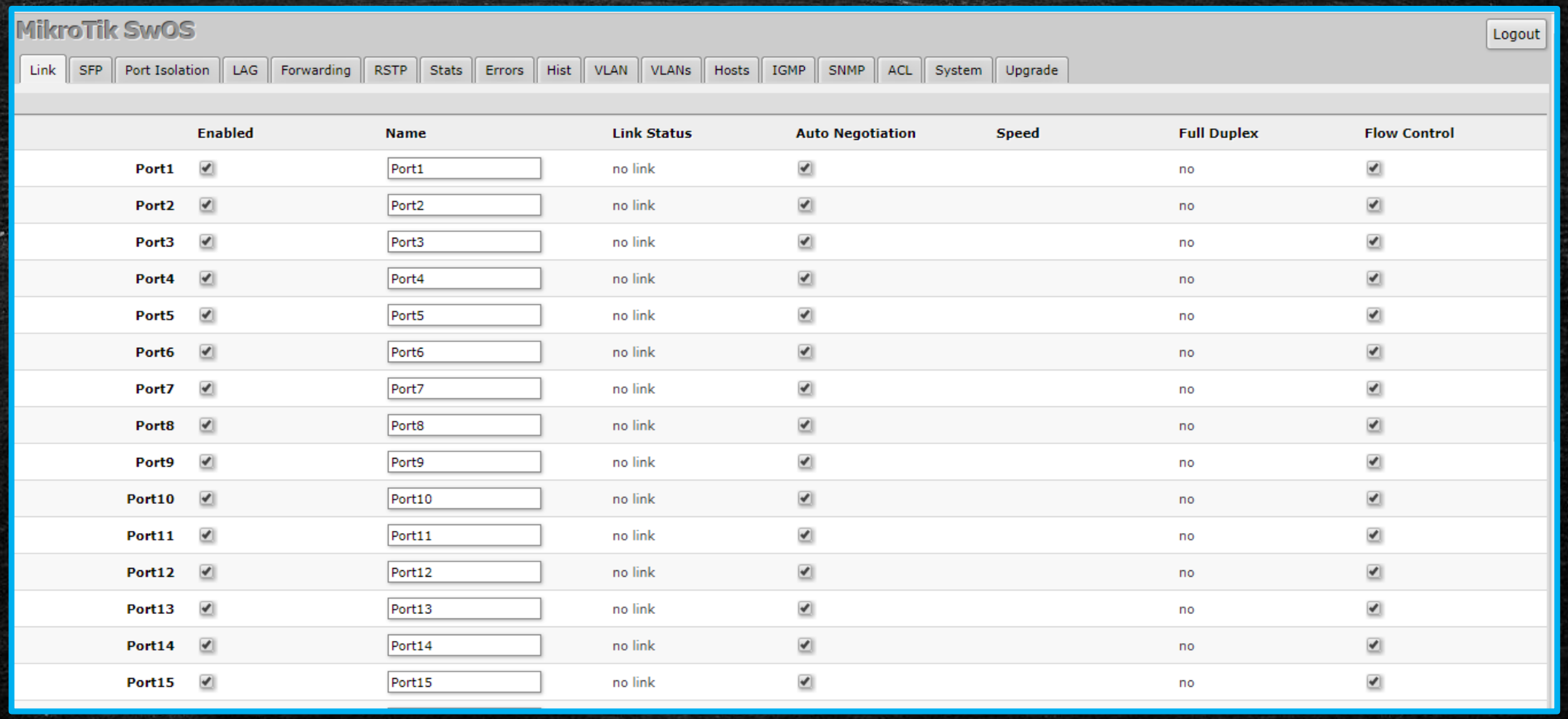
MikroTik SwOS

Logout

Link | SFP | Forwarding | Statistics | VLAN | VLANs | Static Hosts | Hosts | SNMP | ACL | System

	Port 1	Port 2	Port 3	Port 4	Port 5
Link					
Enabled	☑	☑	☑	☑	☑
Name	Port1	Port2	Port3	Port4	Port5
Link Status	link on	link on	link on	link on	no link
Auto Negotiation	☑	☑	☑	☑	☑
Speed	100	1000	1000	1000	
Full Duplex	yes	yes	yes	yes	no
Flow Control	☑	☑	☑	☐	☑
PoE					
PoE Out		off	on	off	auto
PoE Priority		4	1	2	3
PoE Status	disabled	disabled	powered on	disabled	waiting for load
PoE Current			101mA		
PoE Power			2.364W		

SwOS Version 2.6



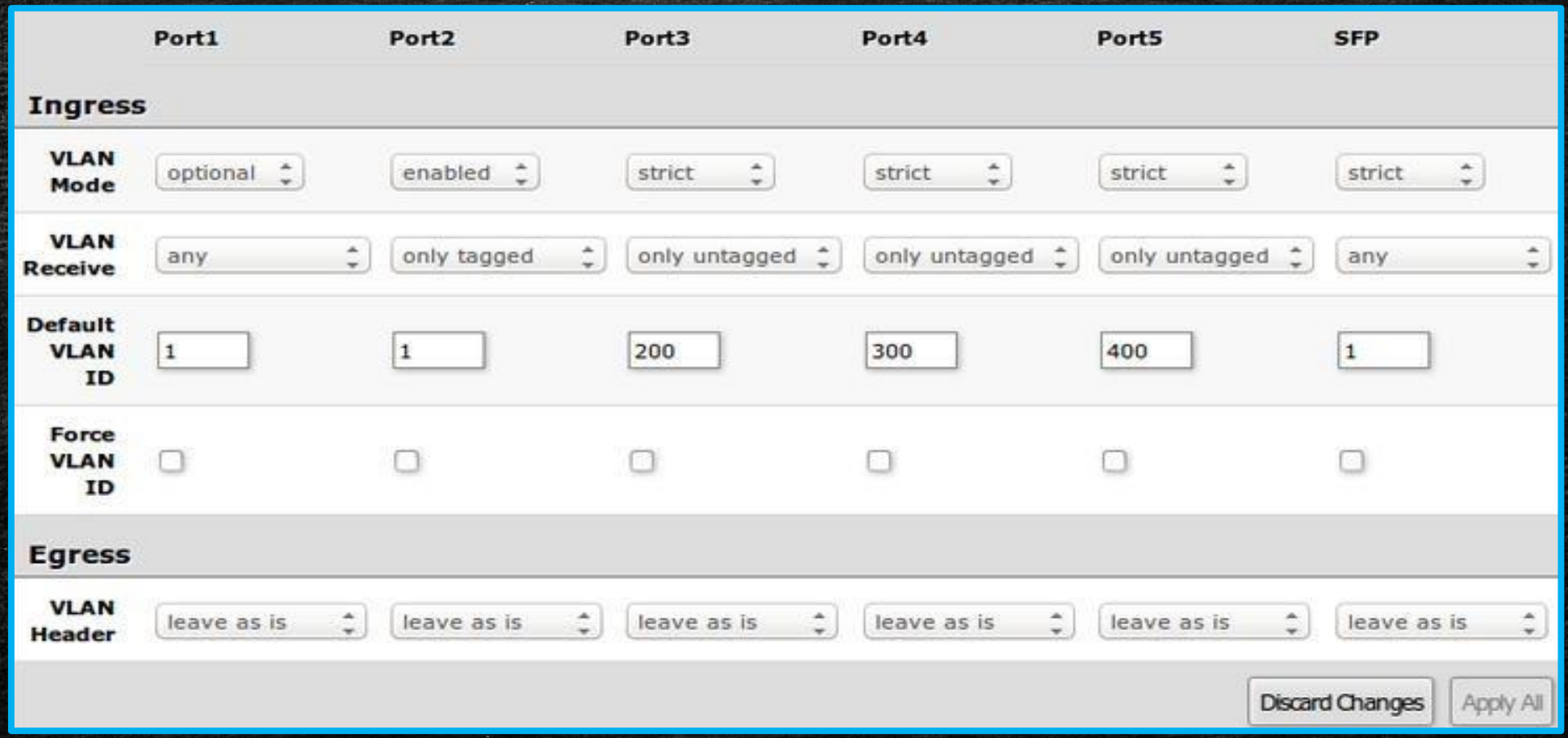
	Enabled	Name	Link Status	Auto Negotiation	Speed	Full Duplex	Flow Control
Port1	☑	Port1	no link	☑		no	☑
Port2	☑	Port2	no link	☑		no	☑
Port3	☑	Port3	no link	☑		no	☑
Port4	☑	Port4	no link	☑		no	☑
Port5	☑	Port5	no link	☑		no	☑
Port6	☑	Port6	no link	☑		no	☑
Port7	☑	Port7	no link	☑		no	☑
Port8	☑	Port8	no link	☑		no	☑
Port9	☑	Port9	no link	☑		no	☑
Port10	☑	Port10	no link	☑		no	☑
Port11	☑	Port11	no link	☑		no	☑
Port12	☑	Port12	no link	☑		no	☑
Port13	☑	Port13	no link	☑		no	☑
Port14	☑	Port14	no link	☑		no	☑
Port15	☑	Port15	no link	☑		no	☑

VLAN Configurations

SwOS VLAN Configuration under VLAN and VLANs Menu

Vlan Tab Configuration

SwOS 1.17



	Port1	Port2	Port3	Port4	Port5	SFP
Ingress						
VLAN Mode	optional	enabled	strict	strict	strict	strict
VLAN Receive	any	only tagged	only untagged	only untagged	only untagged	any
Default VLAN ID	1	1	200	300	400	1
Force VLAN ID	☐	☐	☐	☐	☐	☐
Egress						
VLAN Header	leave as is	leave as is	leave as is	leave as is	leave as is	leave as is

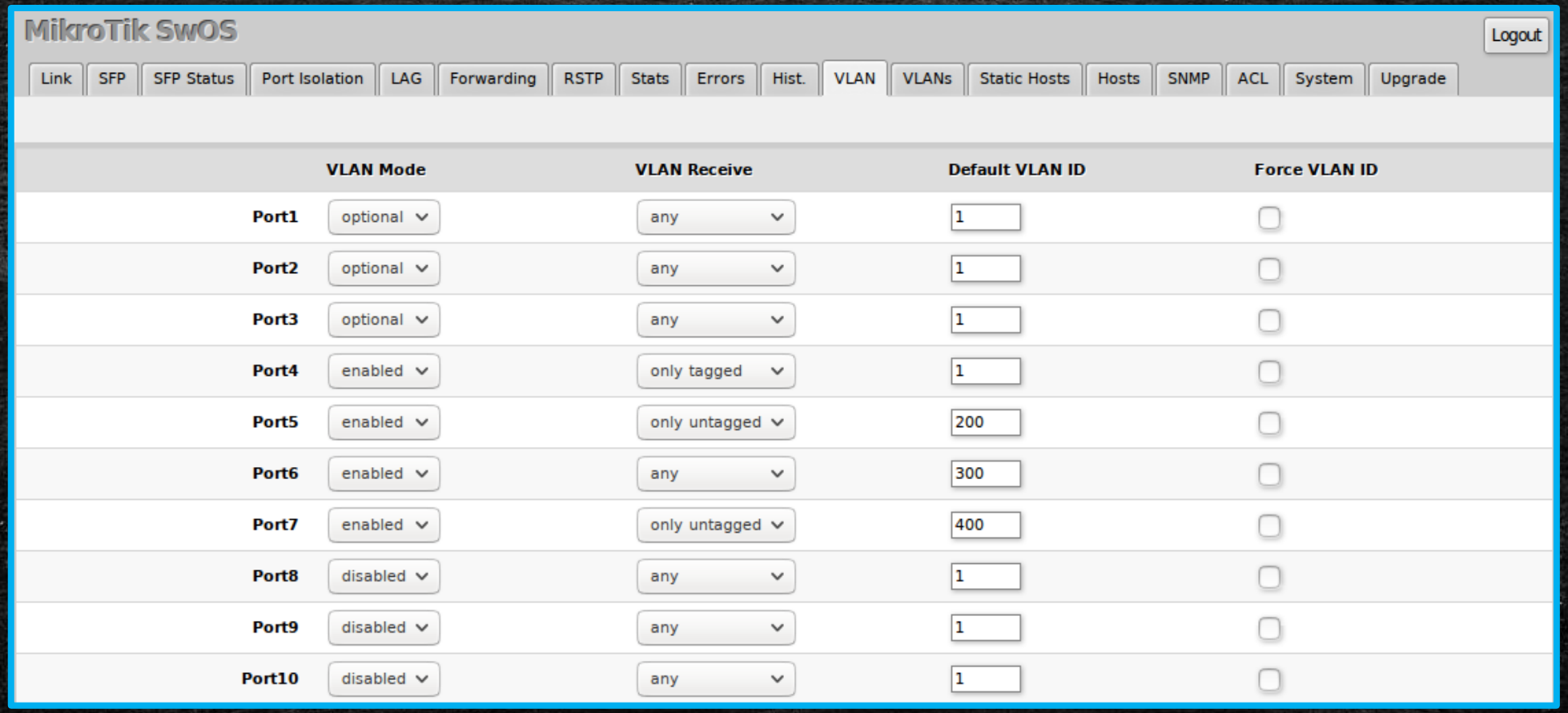
Discard Changes | Apply All

Vlan Tab Configuration

- VLAN Menu
  - VLAN Port Configuration
  - VLAN Mode
    - Select VLAN Mode the specific Port
    - Disabled, Optional, Enabled or Strict
  - VLAN Receive
    - Defines the allowed packets
    - Tagged, untagged, or any
  - VLAN ID
    - Setup the default VLAN ID
    - Force VLAN ID to default VLAN ID for any incoming packets
  - VLAN Header
    - To Add, Remove or Leave the VLAN as is.

Vlan Tab Configuration

SwOS 2.6

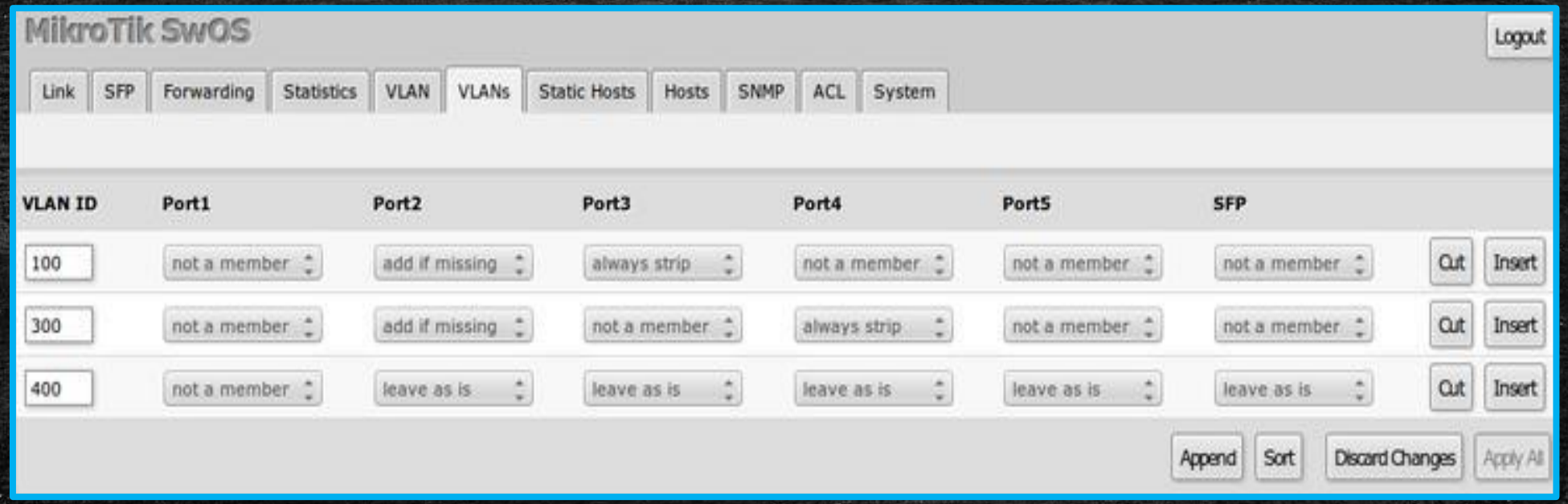


VLANs Tab Configuration

- VLANs MENU
  - VLAN TABLE
  - Specifies certain forwarding rules for packets with vlan-id tag.

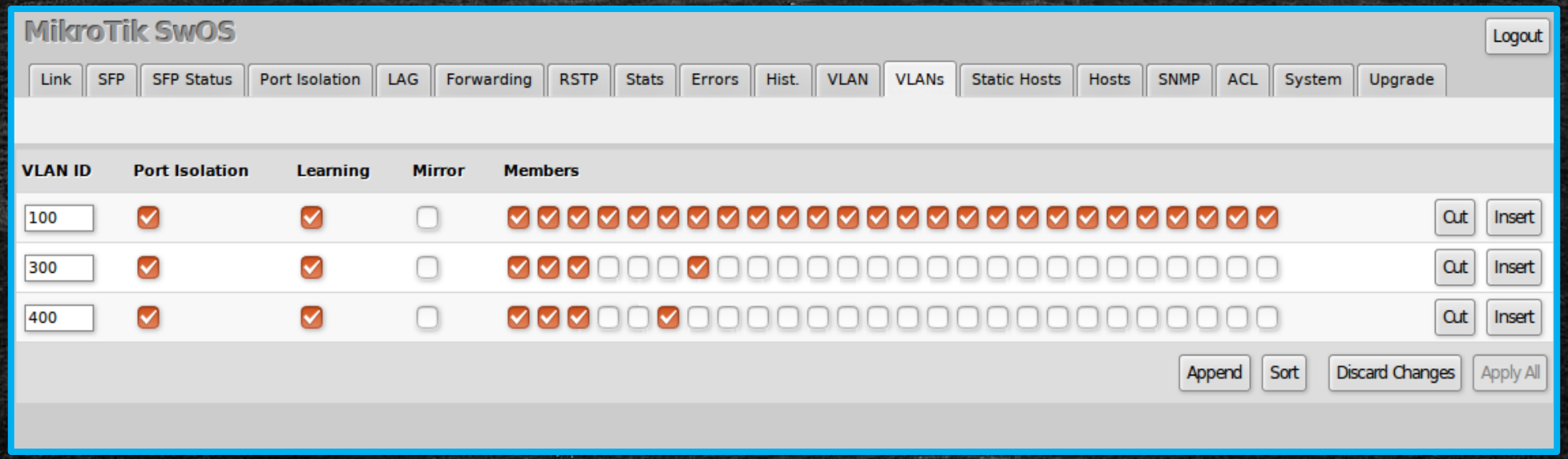
VLANs Tab Configuration

SwOS 1.17



VLANs Tab Configuration

SwOS 2.6



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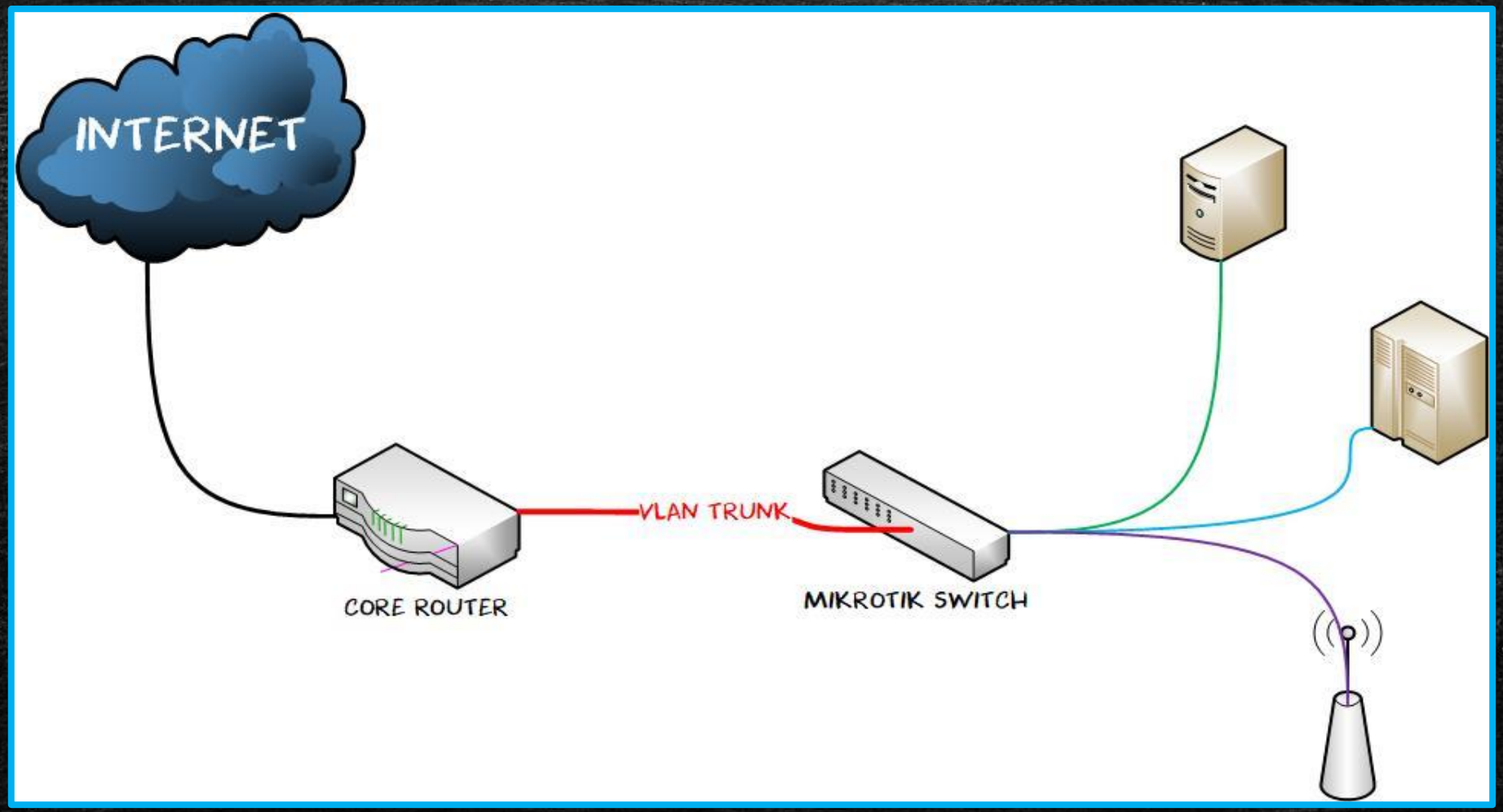
VLAN
Basic Practice

– MikroTik Switch for Trunk Port and Edge Port –

VLAN Basic Practice

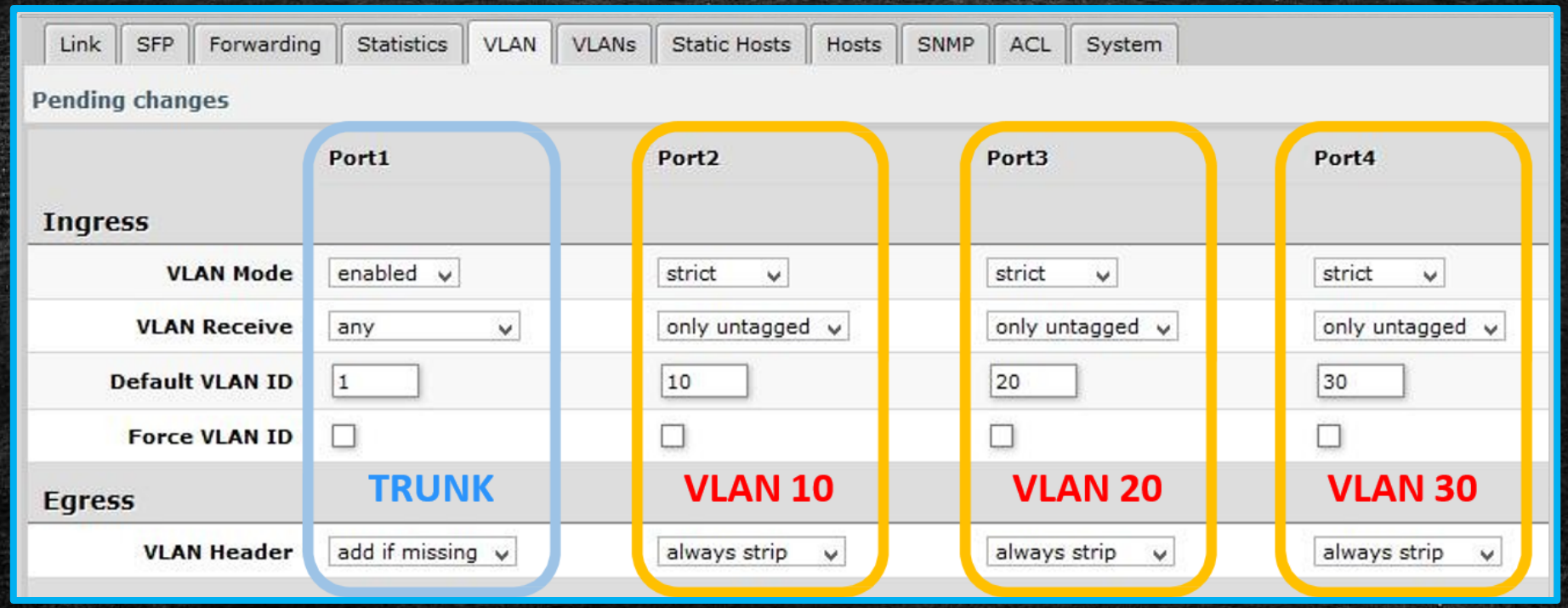
- We will setup vlan port configuration with three different vlan ID.
- One port as vlan Trunk
- Three more ports as edge port (access port).
- Connection coming from Router Core with VLANs and Trunk configured already.

VLAN Topology



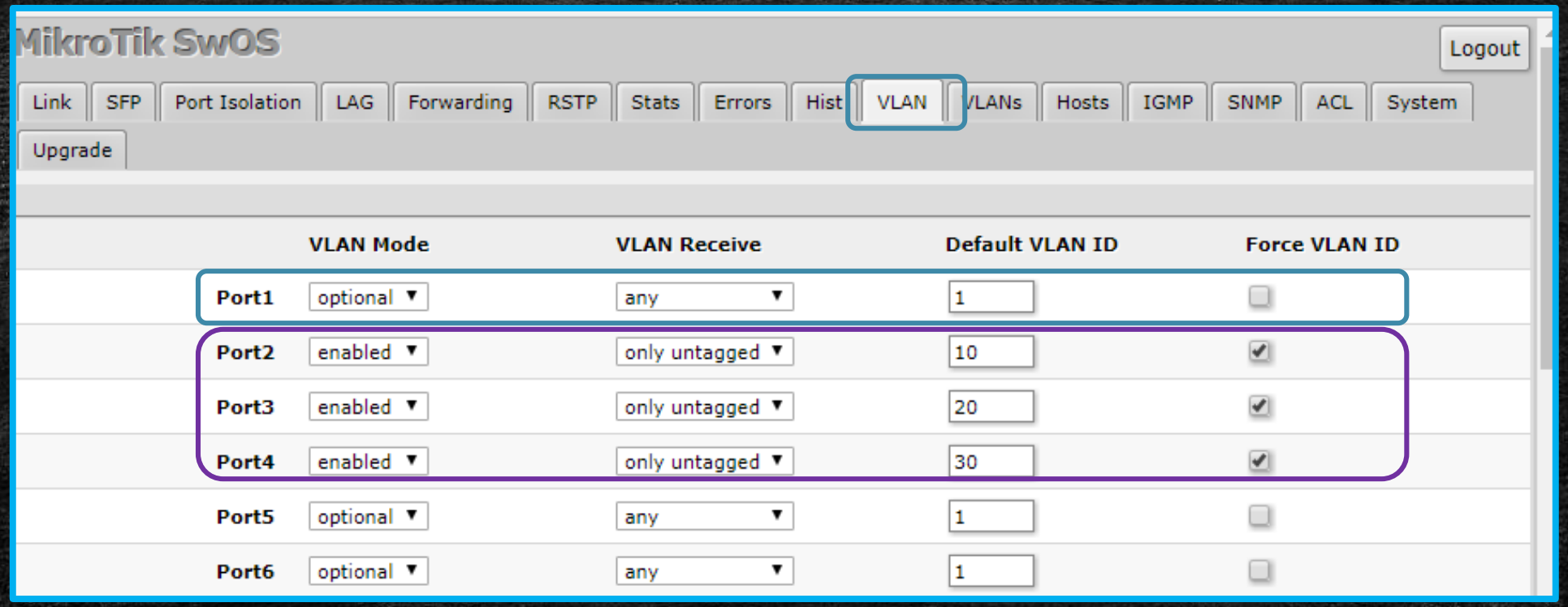
Trunk & Edge Port Setup

SwOS 1.17



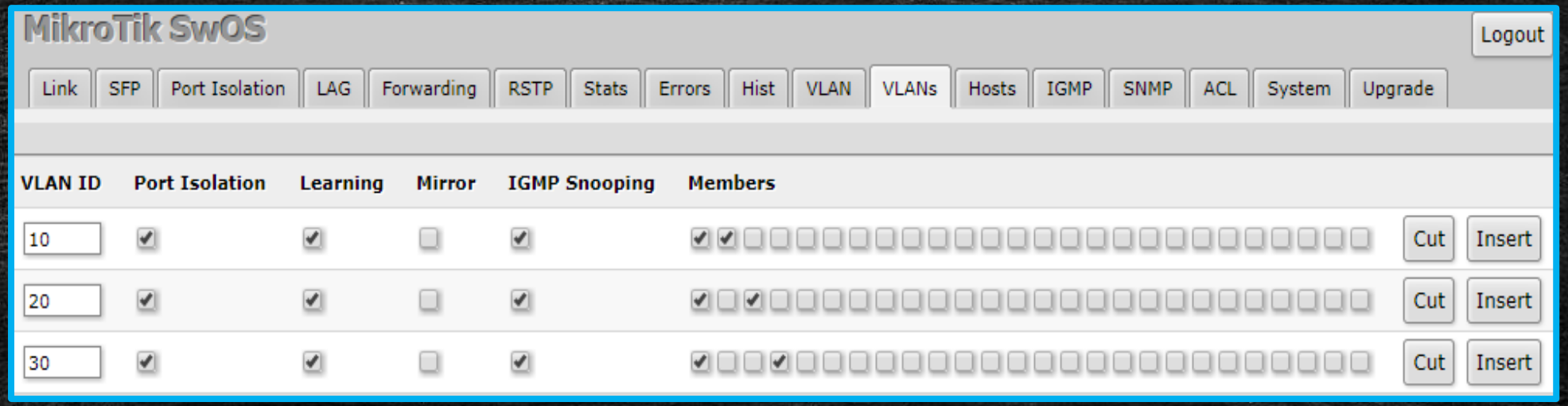
Trunk & Edge Port Setup

SwOS 2.6



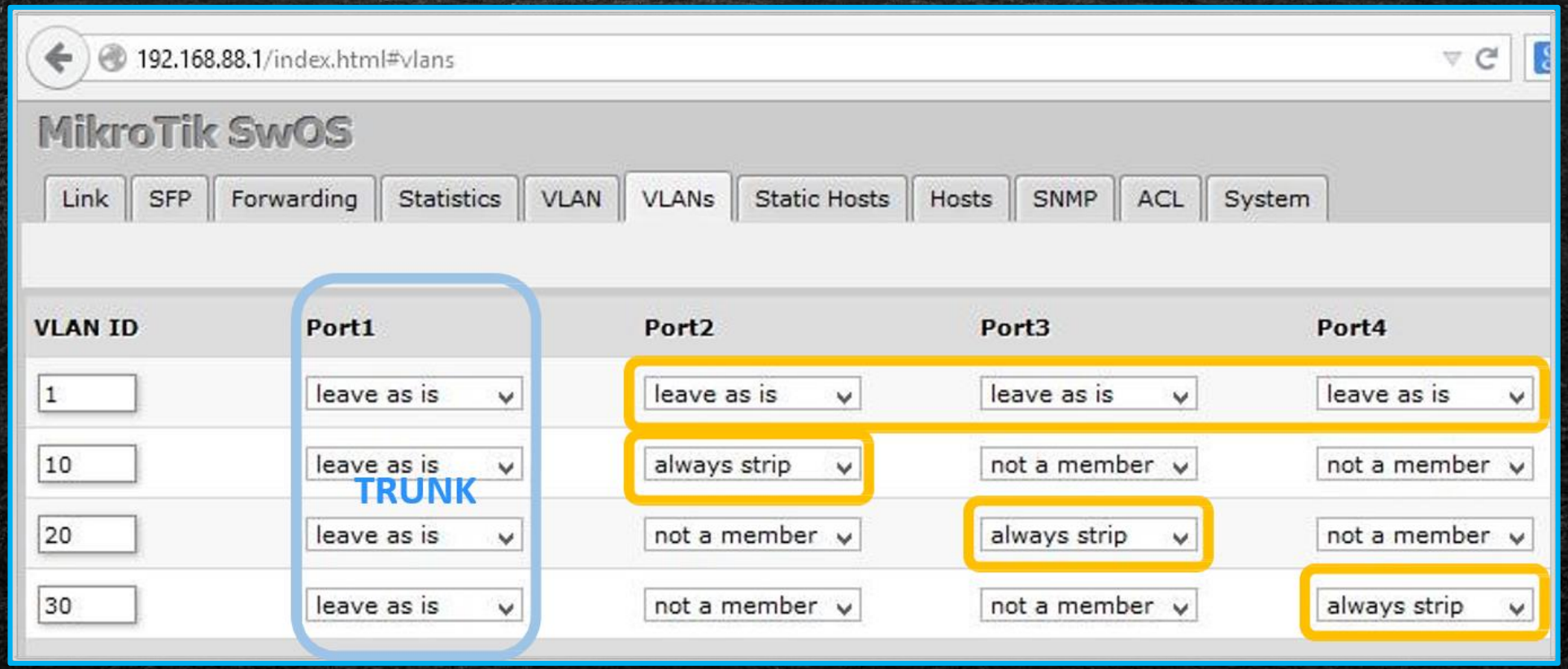
VLAN Table

SwOS 2.6



VLAN Table

SwOS 1.17



MikroTik Switch Advantages

- Cheapest manageable switch
- Full feature of advanced manageable switch
  - Isolation, Forwarding, Mirror, Vlan, Link Aggregation, RSTP, IGMP, ACL, SNMP, etc.
- Comes with Output POE Port (RB260GSP)
  - Easy to centralize power and control the POE output.
- Help you to Extend Physical Interfaces
  - If your router just have a few Ethernet port, and you need more Ethernet port, you can create trunk port and vlan between your Router and your MikroTik Switch, to get more additional interfaces.
  - Used for specific purposes. Like Hotspot, pppoe, L2 connection etc.

Isolation Port

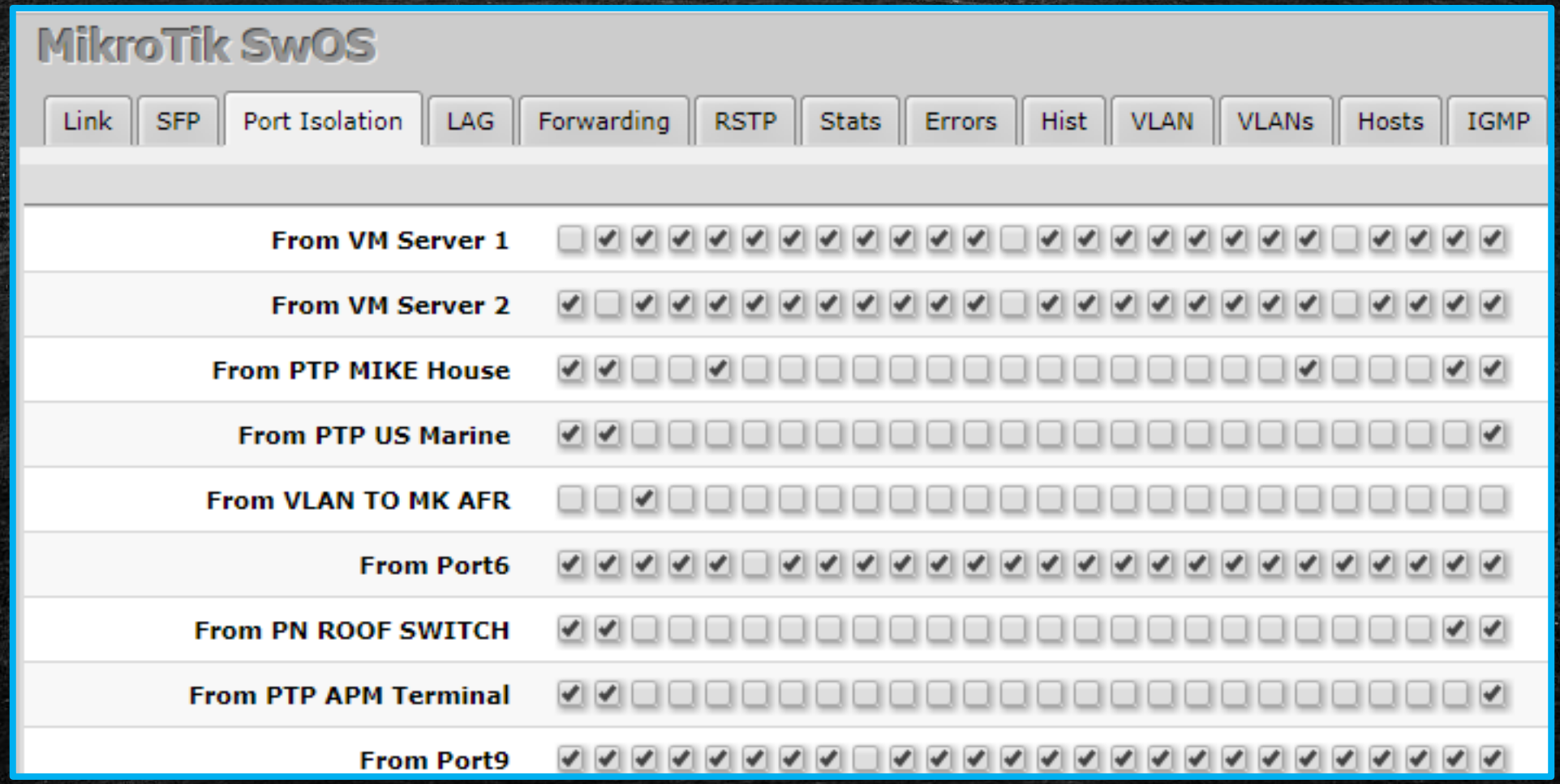
- Control port forwarding
- Prevent from Broadcast Loop
- Prevent from Unwanted Crossing traffic
  - from port to port.
- Secure Local Network from netcut, wireshark, reduce unnecessary ARP traffic, etc.
- Latest version of SwOS coming with RSTP menu and Isolation Port menu, but only for CSS version.
  - For the Previous Version (SwOS 1.17) isolation port managed on forwarding menu without RSTP feature.

Isolation Port

- We can also use Isolation Port as Port Grouping.
- Isolation Port WILL NOT BLOCK remote access to the switch it self.
  - To manage remote access, the option available on the system menu.

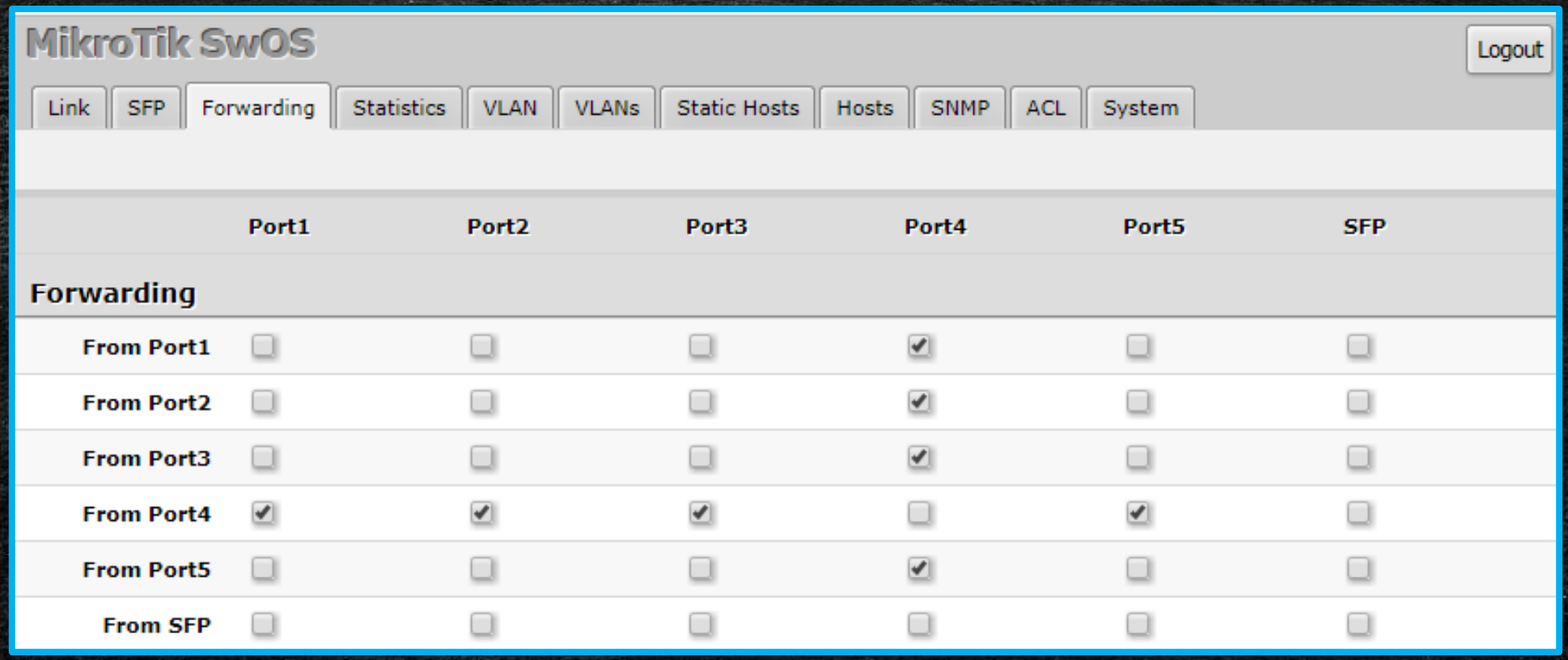
Isolation Port

SwOS 2.6



Isolation Port

SwOS 1.17



Thank You

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For MUM Kenya 2018