

VLAN configuration

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By default **Infinet Wireless R5000** devices have a single switch group configured. Such configuration allows for unrestricted management access and transparent forwarding of all traffic.

"*config show switch*" command output:

```
#MAC Switch config
switch group 1 add eth0 rf5.0
    # group 1 attached to 'svi1'
switch group 1 start

switch start
```

Command	Description
<i>switch group GROUP_ID add eth0 rf5.0</i>	Assigns interfaces to a switch group
<i>switch list VLANS_LIST numrange add 10 20</i>	Creates a list of VID, named "VLANS_LIST", including VID 10 and 20
<i>switch group GROUP_ID vlan VLANS_LIST</i>	Creates a rule for the switch group "GROUP_ID" that only allows VID from "VLANS_LIST"
<i>switch group GROUP_ID start</i>	Enables switch group
<i>switch start</i>	Enables switching

Table - Basic VLAN configuration commands

Configuration scenario

This document uses the following network setup:

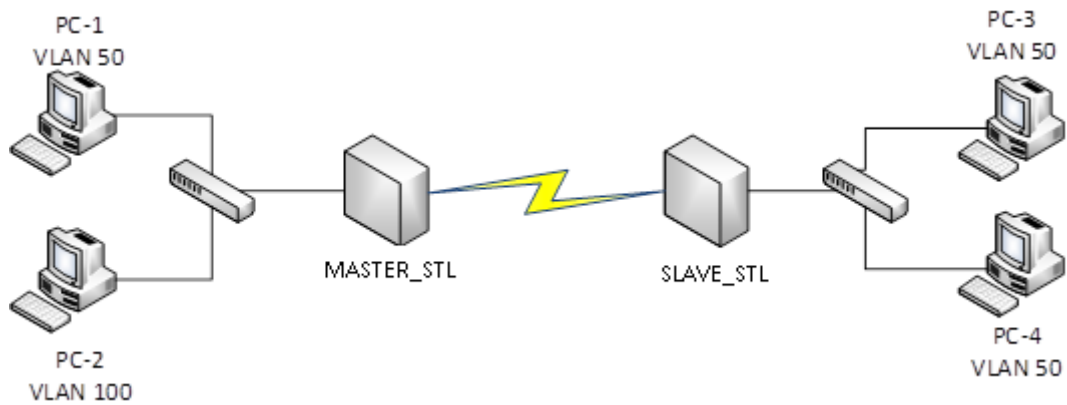


Figure - Connection scheme

- VLAN 100 is a management vlan

- VLAN 50 is a data vlan.

Configuration steps:

- [Prepare](#)
- [Set up management](#)
- [Set up traffic forwarding](#)
- [Verify](#)
- [View configurations.](#)

Prepare

Make sure the radio link between the devices is up using “*mint map*” command.

 **NOTE**

In case you have difficulties establishing a wireless link, please refer to “[Setting up a basic Ptp link](#)” for detailed instructions.

```
MASTER_STL#1> mint map
=====
Interface rf5.0
Node  00043513075E  "MASTER_STL", Id 08494, Nid 0, (Master)
Freq 4870, Band 40, Sid 10101010, autoBitrate 300000 (min 30000), Noise -97

 1 Neighbors
-----
  Id      Name           Node      Level  Bitrate  Retry  Options
-----
 56757 SLAVE_STL      000435100DB5 18/17   180/240  0/0    /S/
-----
Total nodes in area: 2
```

Figure - "mint map" command output

The highlighted string indicates that the radio link between "MASTER_STL" and "SLAVE_STL" devices is active.

Set up management

Configure «sviX» and «vlanX» interfaces. Refer to «[Network Settings](#)» for detailed description.

By default, all **InfiNet Wireless R5000** devices have a management interface “svi1” configured. You can change this interface’s parameters, add a new SVI interface, or replace the current interface with a new one.

For the purpose of this article, interface "svi1" and switch group 1 will be replaced by the interface "svi100" and switch group "100".

To set up a new SVI interface and a new switch group issue the following commands:

Command	Description
<i>ifc sviX up</i>	• Creates SVI interface. “X” is an interface identifier ranging from 0 to 4999
<i>ifc vlanX vlan Y vlantdev eth0 up</i>	• Creates “vlanX” interface: • "X" - interface identifier ranging from 0 to 4999 • "Y" - VID • "eth0" - physical parent interface
<i>switch group Y add vlanX rf5.0</i>	• Assigns interfaces to a switch group

<i>svi X group Y</i>	Assigns "sviX" interface to a switch group "Y"
<i>sw group 1 remove; ifc svi1 destroy; ifc sviX IP/mask; sw group Y start</i>	- All commands entered as a single line separated by ";" symbol will be executed sequentially. This feature is used to avoid losing access to the device, when the default management interface is deleted: "sw group 1 remove" – removes switch group 1 "ifc svi1 destroy" – removes interface "svi1" "ifc sviX IP/mask" – assigns an IP address and a subnet mask to an interface
<i>config save</i>	Saves the configuration

Command line configuration example:

- MASTER_STL

```
ifc svi100 up
ifc vlan100 vlan 100 vlandev eth0 up
sw group 100 add vlan100 rf5.0
svi 100 group 100
sw group 1 remove; ifc svi1 destroy; ifc svi100 10.10.10.1/24; sw group 100 start
config save
```

- SLAVE_STL

```
ifc svi100 up
ifc vlan100 vlan 100 vlandev eth0 up
sw group 100 add vlan100 rf5.0
svi 100 group 100
sw group 1 remove; ifc svi1 destroy; ifc svi100 10.10.10.2/24; sw group 100 start
config save
```



NOTE

In case a switch group has a vlan interface assigned, all traffic with respective VID will be forwarded within this switch group (no need to configure any additional rules). 802.1q tag will be stripped.

For detailed instructions on configuring management via Web GUI please refer to "[Remote management of the R5000 units](#)".

Set up traffic forwarding

Configuring data vlan:

Command	Description
<i>switch group GROUP_ID add eth0 rf5.0</i>	Creates a new switch group and assigns interfaces to it
<i>sw group GROUP_ID vlan X</i>	Creates a rule for the switch group "GROUP_ID" that only allows VID "X" to be forwarded by this switch group
<i>sw group GROUP_ID start</i>	Enables switch group

<code>config save</code>	• Saves the configuration
--------------------------	---

Command line configuration example:

```
sw group 50 add eth0 rf5.0
sw group 50 vlan 50
sw group 50 start
config save
```



NOTE

In order to forward two or more VLANs within a single switch group create a VLAN list and add a respective rule to a switch group:

```
switch list LISTNAME numrange add VALUE
sw group GROUP_ID vlan LISTNAME
```

Example:

```
switch list DATA numrange add 50-99
sw group 50 vlan DATA
```

Verify

After you apply the above configurations only devices from VLAN 100 will be able to access **InfiNet Wireless R5000** management interface.

To verify the operation use «*switch group GROUP_ID dump*».

Example: use «*switch group 50 dump*» to make sure that only frames with VID 50 are being forwarded within switch group 50 and MAC addresses belong to the devices from VLAN 50.

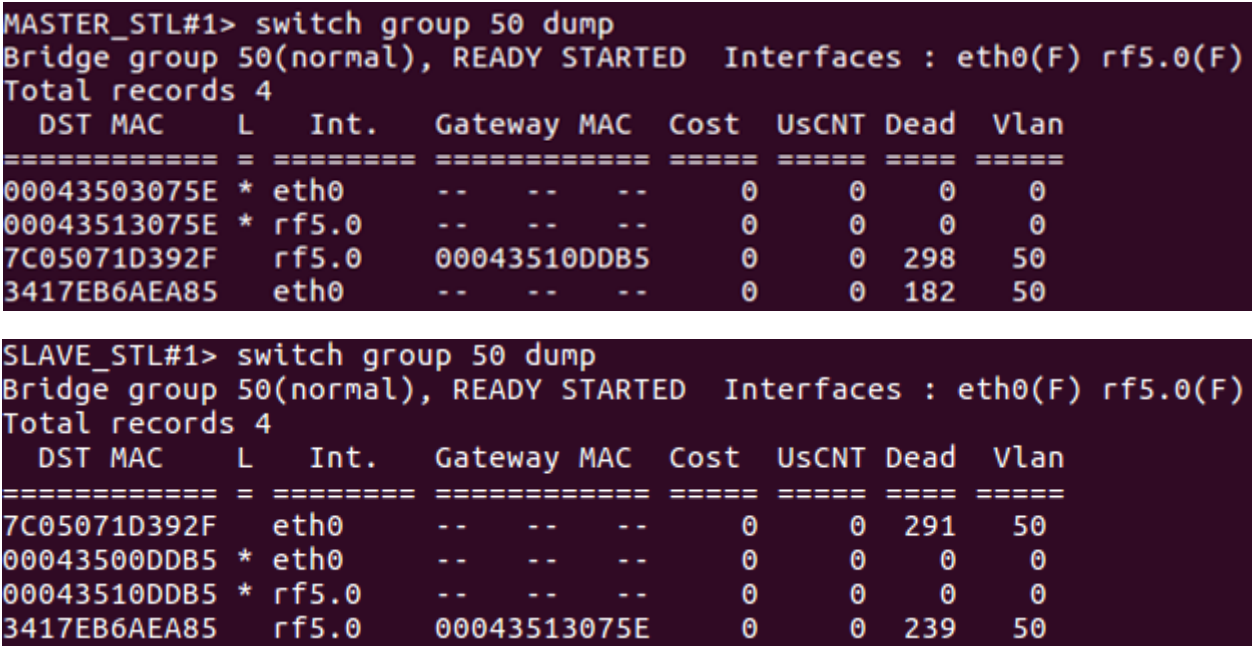


Figure - "switch group 50 dump" command output

The same for the switch group 100:

```

MASTER_STL#1> switch group 100 dump
Bridge group 100(normal), READY STARTED  Interfaces : rf5.0(F) vlan100(F)
Total records 3
  DST MAC      L   Int.   Gateway MAC  Cost  UsCNT  Dead  Vlan
=====
00043503075E * vlan100  --  --  --      0      0      0      0
00043513075E * rf5.0    --  --  --      0      0      0      0
7C05071D392F  rf5.0    00043510DDB5  0    136    300      0

```

```

SLAVE_STL#1> switch group 100 dump
Bridge group 100(normal), READY STARTED  Interfaces : rf5.0(F) vlan100(F)
Total records 4
  DST MAC      L   Int.   Gateway MAC  Cost  UsCNT  Dead  Vlan
=====
02043503075E  rf5.0    00043513075E  0      1    257      0
7C05071D392F  vlan100  --  --  --      0    143    300      0
00043500DDB5 * vlan100  --  --  --      0      0      0      0
00043510DDB5 * rf5.0    --  --  --      0      0      0      0

```

Figure - "switch group 100 dump" command output

The displayed VIDs in the "Vlan" are "0" because the 802.1q tag "100" was stripped by the vlan interface.

View configurations

Use "config show" command to view and verify the configurations:

- MASTER_STL

```
#System parameters
#Factory password mode: single
sys name MASTER_STL
sys prompt MASTER_STL
sys user root
setpass

#Radio module parameters
rf rf5.0 band 40
rf rf5.0 mimo greenfield
rf rf5.0 freq 4870 bitr 300000 sid 10101010 burst
rf rf5.0 txpwr 10 pwrctl distance 1

#DFS configuration
dfs rf5.0 dfs off
dfs rf5.0 freq auto
dfs rf5.0 cot off

#Interfaces parameters
ifc lo0 127.0.0.1/32
ifc eth0 media auto mtu 1500 up
ifc rf5.0 mtu 1500 up
ifc svi100 mtu 1500 up
    # group 100
ifc svi100 10.10.10.1/24
ifc vlan100 mtu 1500 up
ifc vlan100 vlan 100 vlandev eth0

#QoS manager
qm option rtp dot1p notos icmp notcpack nostrict

#MINT configuration
mint rf5.0 -name "MASTER_STL"
mint rf5.0 -nodeid 08494
mint rf5.0 -type master
mint rf5.0 -mode fixed
mint rf5.0 -scrambling
mint rf5.0 -autobitrate
mint rf5.0 -minbitrate 30000
mint rf5.0 -hiamp 2 -loamp 0
mint rf5.0 -log
mint rf5.0 -roaming disable
mint rf5.0 -authmode public
mint rf5.0 -airupdate passive normal
mint rf5.0 -rcmdserver enabled
mint rf5.0 poll start
mint rf5.0 start

#MAC Switch config
switch group 100 add 1 rf5.0 vlan100
    # group 100 attached to 'svi100'
switch group 100 start

switch group 50 add 2 eth0 rf5.0
switch group 50 vlan 50
switch group 50 start

switch start

#Switch Virtual Interface config
svi 100 group 100

#WEB configurator
webcfg start

#LLDP parameters
lldp eth0 enable txrx
```

- SLAVE_STL

```
#System parameters
#Factory password mode: single
sys name SLAVE_STL
sys prompt SLAVE_STL
sys user root
setpass

#Radio module parameters
rf rf5.0 band 40
rf rf5.0 mimo greenfield
rf rf5.0 freq 4870 bitr 300000 sid 10101010 burst
rf rf5.0 txpwr 10 pwrctl distance 1

#DFS configuration
dfs rf5.0 dfsoff
dfs rf5.0 freq auto
dfs rf5.0 cot off

#Interfaces parameters
ifc lo0 127.0.0.1/32
ifc eth0 media auto mtu 1500 up
ifc rf5.0 mtu 1500 up
ifc svi100 mtu 1500 up
    # group 100
ifc svi100 10.10.10.2/24
ifc vlan100 mtu 1500 up
ifc vlan100 vlan 100 vlandev eth0

#QoS manager
qm option rtp dot1p notos icmp notcpack nostrict

#MINT configuration
mint rf5.0 -name "SLAVE_STL"
mint rf5.0 -nodeid 56757
mint rf5.0 -type slave
mint rf5.0 -mode fixed
mint rf5.0 -scrambling
mint rf5.0 -autobitrate
mint rf5.0 -minbitrate 30000
mint rf5.0 -hiamp 2 -loamp 0
mint rf5.0 -log
mint rf5.0 -roaming disable
mint rf5.0 -authmode public
mint rf5.0 -airupdate passive normal
mint rf5.0 -rcmdserver enabled
mint rf5.0 start

#MAC Switch config
switch group 100 add 1 rf5.0 vlan100
    # group 100 attached to 'svi100'
switch group 100 start
switch group 50 add 3 eth0 rf5.0
switch group 50 vlan 50
switch group 50 start

switch start

#Switch Virtual Interface config
svi 100 group 100

#WEB configurator
webcfg start

#Add-on devices control
ctl heater -8

#LLDP parameters
lldp eth0 enable txrx
```

