

NOTE D'APPLICATION

APNFR006 - Exemple de configuration NAT
Pour WaveOS

CONFIGURATION D'UN PRODUIT WAVEOS EN MODE NAT

Configuration NAT souhaitée :

- Réseau privé (LAN) : 192.168.100.100/24
- Réseau public (WLAN) : 192.168.1.10/24

Règles de translation :

- PLC_MASTER : TCP 192.168.1.10:8080 translaté vers 192.168.100.101:80
- PLC_IO : UDP 192.168.1.10:4200 translaté vers 192.168.100.101:4200

Côté Privé (LAN) :

Gateway par défaut = 192.168.100.100 (ou route 192.168.1.0/24 vers 192.168.100.100)

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Après configuration des paramètres WiFi, allez dans **SETUP/NETWORK** et éditez le réseau par défaut (**lan**) :

NAME	ENABLED	IP ADDRESS	NETMASK	GATEWAY	PERSISTENCE	ACTIONS
lan	<input checked="" type="checkbox"/>	192.168.1.253	255.255.255.0		Enabled	

Renommez le réseau **PUBLIC** et renseignez les champs requis. Passez ensuite sur l'onglet **Interfaces Settings**

Décochez la case **Ethernet adapter**, puis **Save**

SETUP TOOLS STATUS

NETWORK - LAN

On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and tick the names of several network interfaces.

COMMON CONFIGURATION

General Setup | Interfaces Settings | Advanced Settings

Bridge interfaces Creates a bridge over specified interface(s)

Enable STP/RSTP Enables the Spanning Tree Protocol on this bridge
WARNING: Some cautions must be taken with wireless interfaces, please see user guide

Enable LLDP forwarding Enables the LLDP frame forwarding

bridge VLAN Enable VLAN management in bridge. You must configure the bridge VLANs before enabling this option (setup->briding)

Interface

- Ethernet adapter: LAN (lan) (selected)
- WiFi adapter: WiFi - NAT-CLIENT (lan) (unchecked)

MTU 1500

IP-ALIASES

This section contains no values yet

Add

Reset Save Save & Apply

Cliquez sur **NETWORK** à gauche pour revenir sur **NETWORK OVERVIEW**. Cliquez sur **Add Network**

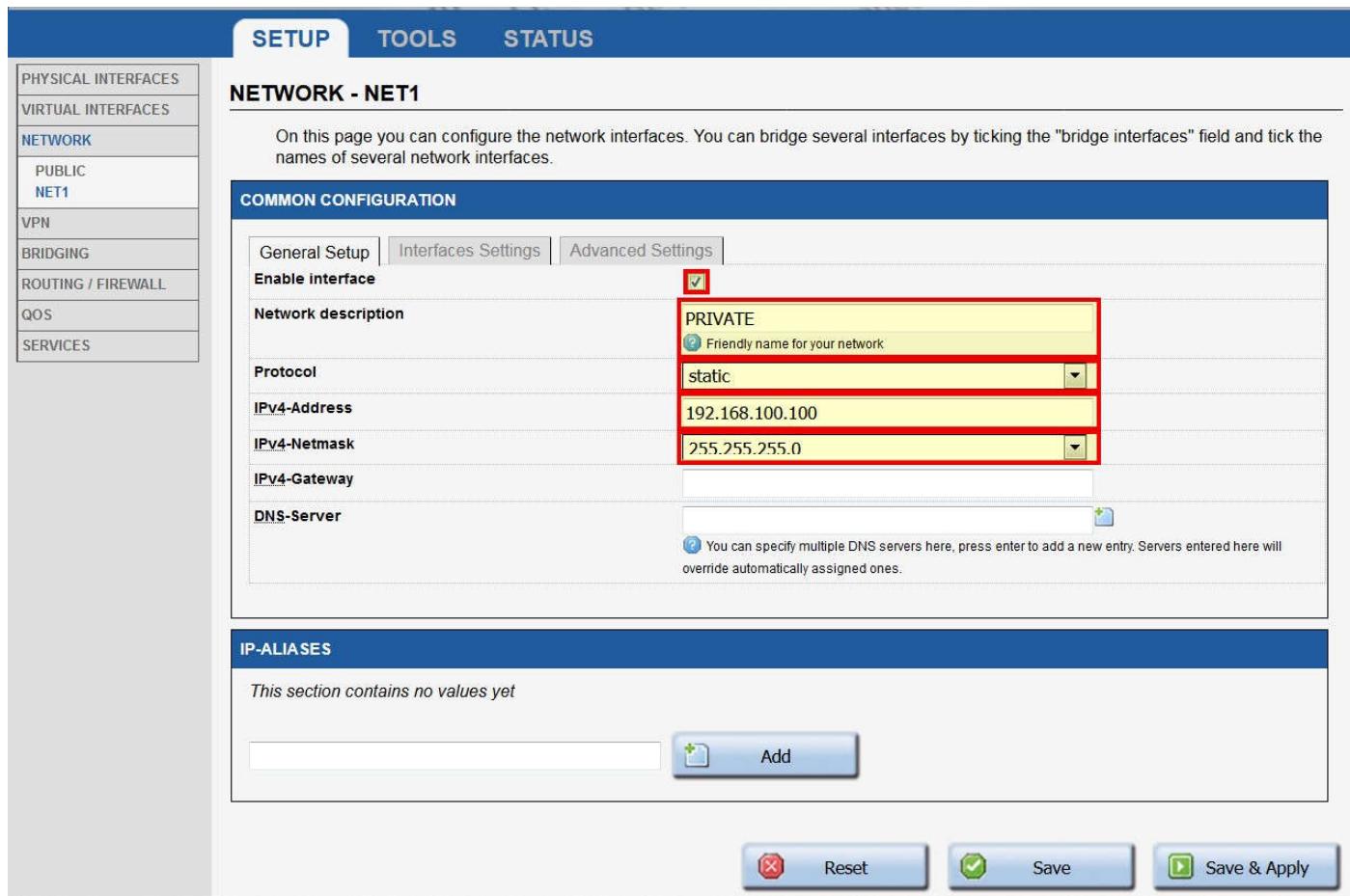
SETUP TOOLS STATUS

NETWORK OVERVIEW

NAME	ENABLED	IP ADDRESS	NETMASK	GATEWAY	PERSISTENCE	ACTIONS
PUBLIC	<input checked="" type="checkbox"/>	192.168.1.10	255.255.255.0		Enabled	

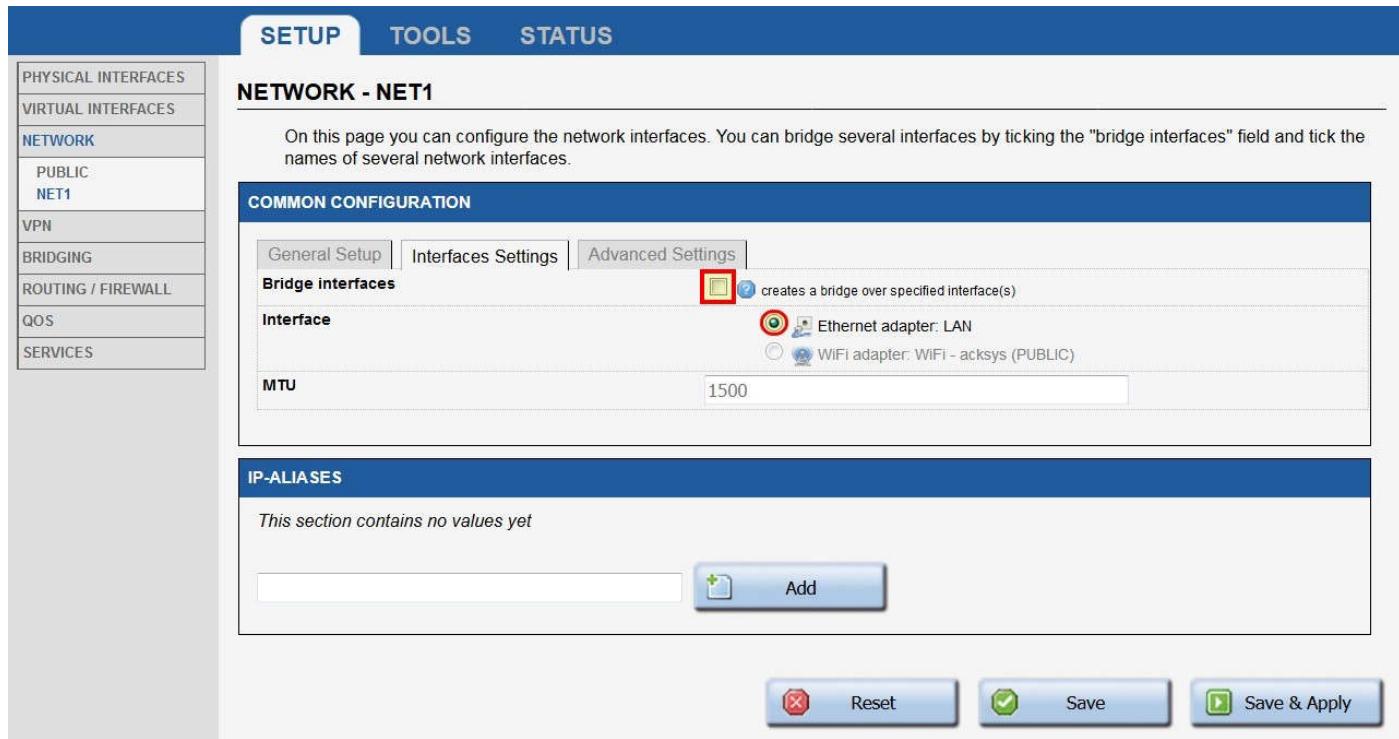
Add network

Nommez le réseau **PRIVATE** et renseignez les champs requis, puis passez sur l'onglet **Interfaces Settings**



The screenshot shows the 'NETWORK - NET1' configuration page. On the left sidebar, 'NETWORK' is selected. In the main area, under 'COMMON CONFIGURATION', the 'Enable interface' checkbox is checked (indicated by a red box). The 'Network description' field contains 'PRIVATE'. The 'Protocol' dropdown is set to 'static', and the 'IPv4-Address' and 'IPv4-Netmask' fields are filled with '192.168.100.100' and '255.255.255.0' respectively. A note below says: 'You can specify multiple DNS servers here, press enter to add a new entry. Servers entered here will override automatically assigned ones.' At the bottom right are 'Reset', 'Save', and 'Save & Apply' buttons.

Décochez la case **Bridge interfaces** et sélectionnez **Ethernet adapter LAN**



The screenshot shows the 'NETWORK - NET1' configuration page. On the left sidebar, 'NETWORK' is selected. In the main area, under 'COMMON CONFIGURATION', the 'Bridge interfaces' checkbox is unchecked (indicated by a red box). The 'Interface' dropdown shows 'Ethernet adapter: LAN' selected. The 'MTU' field is set to 1500. At the bottom right are 'Reset', 'Save', and 'Save & Apply' buttons.

Dans l'onglet **Advanced settings**, vérifiez que la persistance réseau est sur **Enabled** puis sauvez (**Save**)

The screenshot shows the 'Advanced settings' tab selected. In the 'Network persistence' dropdown, 'Enabled' is selected and highlighted with a red box. A tooltip below the dropdown says 'Avoid the network deletion after a link down.' At the bottom right are buttons for 'Reset', 'Save', and 'Save & Apply'. A blue circle with the number '5' is in the top right corner.

Cliquez sur **Routing/Firewall**

The screenshot shows the 'ROUTING / FIREWALL' menu item highlighted with a red arrow. Below it is a table titled 'NETWORK OVERVIEW' with two rows: 'PUBLIC' and 'PRIVATE'. The 'PUBLIC' row has an enabled status and IP address 192.168.1.10. The 'PRIVATE' row also has an enabled status and IP address 192.168.100.100. At the bottom left is a 'Add network' button.

Cliquez **NETWORK ZONES** puis **Add zone**

The screenshot shows the 'NETWORK ZONES' menu item highlighted with a red arrow. Below it is a table titled 'NETWORK ZONES OVERVIEW' with a single 'Add zone' button at the top left.

Nommez la zone **PRIVATE** et sélectionnez le réseau **PRIVATE**

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SETUP TOOLS STATUS

NETWORK ZONES - ZONE SETTINGS

ZONE "ZONE_1"

This section defines common properties of "zone_1".
Covered networks specifies which available networks are members of this zone.

General Settings | Advanced Settings

Name PRIVATE

Enable NAT Only on public zones. Warning: if using VRRP, the NATed network must be set to protocol NONE

MSS clamping

Default acceptance policy for local services All enabled

(?) You can restrict or open the local services in the firewall section below

Covered networks

PUBLIC:

PRIVATE:

INTER-ZONE FORWARDING

Use this section only if NAT is disabled on this zone.
The options below control the forwarding policies between this zone (zone_1) and other zones. Destination zones cover forwarded traffic originating from "zone_1". The forwarding rule is unidirectional, e.g. a forward from lan to wan does not imply a permission to forward from wan to lan as well.

Allow forwarding to destination zones:

Sauvez puis ajoutez une nouvelle zone depuis **NETWORK ZONE**

SETUP TOOLS STATUS

NETWORK ZONES OVERVIEW

NAME	COVERED NETWORKS	FORWARD TO DESTINATION ZONE	NAT ENABLE	LOCAL SERVICES	ACTIONS
PRIVATE	"PRIVATE"	-	<input type="checkbox"/>	All enabled	

Add zone

Nommez la nouvelle zone **PUBLIC**, cochez **NAT** et sélectionnez le réseau **PUBLIC**, puis **Add** dans **TRAFFIC FORWARD**.

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SETUP **TOOLS** **STATUS**

NETWORK ZONES - ZONE SETTINGS

ZONE "ZONE_2"

This section defines common properties of "zone_2".
Covered networks specifies which available networks are members of this zone.

General Settings Advanced Settings

Name: PUBLIC

Enable NAT: Only on public zones. Warning: if using VRRP, the NATed network must be set to protocol NONE

MSS clamping:

Default acceptance policy for local services: All enabled

You can restrict or open the local services in the firewall section below

Covered networks: PUBLIC. PRIVATE

INTER-ZONE FORWARDING

Use this section only if NAT is disabled on this zone.
The options below control the forwarding policies between this zone (zone_2) and other zones. Destination zones cover forwarded traffic originating from "zone_2". The forwarding rule is *unidirectional*, e.g. a forward from lan to wan does *not* imply a permission to forward from wan to lan as well.

Allow forwarding to destination zones:

PRIVATE PRIVATE

TRAFFIC FORWARD

Use this section only if NAT is enabled on this zone
This section allow to redirect the input traffic on this zone to a device on other zone

SOURCE ZONE	NAME	SOURCE IP	FRAME PROTOCOL	PUBLIC PORT	PRIVATE PORT	DESTINATION IP	SORT
		Blank any ip source		Blank, all ports	Blank, all ports		
<i>This section contains no values yet.</i>							
<input type="button" value="Add"/>							

Renseignez les champs pour la première règle de translation, puis ajoutez la seconde règle

TRAFFIC FORWARD

Use this section only if NAT is enabled on this zone
This section allow to redirect the input traffic on this zone to a device on other zone

SOURCE ZONE	NAME	SOURCE IP	FRAME PROTOCOL	PUBLIC PORT	PRIVATE PORT	DESTINATION IP	SORT
Public	PLC_IO	any	udp	4200	4200	192.168.100.101	
<input type="button" value="Add"/>							

TRAFFIC FORWARD

Use this section only if NAT is enabled on this zone
This section allow to redirect the input traffic on this zone to a device on other zone

SOURCE ZONE	NAME	SOURCE IP	FRAME PROTOCOL	PUBLIC PORT	PRIVATE PORT	DESTINATION IP	SORT
Public	PLC_IO	any	udp	4200	4200	192.168.100.101	
Public	PLC_MASTER	any	tcp	8080	80	192.168.100.101	
<input type="button" value="Add"/>							

Sauvez et revenez dans **NETWORK ZONE** pour éditer la zone **PRIVATE**

NAME	COVERED NETWORKS	FORWARD TO DESTINATION ZONE	NAT ENABLE	LOCAL SERVICES	ACTIONS
PRIVATE	"PRIVATE"	-	<input type="checkbox"/>	All enabled	
PUBLIC	"PUBLIC"	-	<input checked="" type="checkbox"/>	All enabled	

Add zone

Dans **INTER-ZONE FORWARDING**, autorisez l'acheminement vers la zone **PUBLIC**, puis sauvez

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ZONE "PRIVATE"

This section defines common properties of "PRIVATE".
Covered networks specifies which available networks are members of this zone.

General Settings

Name: PRIVATE

Enable NAT: Only on public zones. Warning: if using VRRP, the NATed network must be set to protocol NONE

MSS clamping:

Default acceptance policy for local services: All enabled
You can restrict or open the local services in the firewall section below

Covered networks: PUBLIC PRIVATE

INTER-ZONE FORWARDING

Use this section only if NAT is disabled on this zone.
The options below control the forwarding policies between this zone (PRIVATE) and other zones. Destination zones cover forwarded traffic originating from "PRIVATE". The forwarding rule is unidirectional, e.g. a forward from lan to wan does not imply a permission to forward from wan to lan as well.

Allow forwarding to destination zones:

Vous allez maintenant pouvoir rebooter pour que la nouvelle configuration soit activée. Dans **TOOLS/SAVE CONFIG**, cliquez sur **REBOOT**. A ce point, assurez-vous que votre PC est bien configuré sur le subnet du réseau **PRIVATE** du produit (192.168.100.0/24) pour revenir dans l'administration.

CONFIGURATION MANAGEMENT

SAVE AND RESTORE CONFIGURATION

Configuration file: Aucun fichier sélectionné.

Restore configuration from file:

Backup settings to file:

RESET AND REBOOT

Reset to factory settings:

Reboot your device:

Après reboot, vous pouvez vérifier que les interfaces physiques sont bien fonctionnelles dans la page **STATUS/NETWORK**

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INTERFACES

PRIVATE						
IP CONFIGURATION						
IPv4: 192.168.100.100 Netmask: 24 MTU: 1500						
DNS server: 0.0.0.1						
GRAPH	PHYSICAL INTERFACE	MAC ADDRESS	TX COUNT (IN BYTES)	RX COUNT (IN BYTES)	INTERFACE MODE	MTU
	LAN	00:09:90:00:90:d4	2256162	4792868	Negotiated 1000 baseTX FD, link ok	1500
PUBLIC						
IP CONFIGURATION						
IPv4: 192.168.1.10 Netmask: 24 MTU: 1500						
DNS server: 0.0.0.1						
GRAPH	PHYSICAL INTERFACE	MAC ADDRESS	TX COUNT (IN BYTES)	RX COUNT (IN BYTES)	INTERFACE MODE	MTU
	WiFi	c4:93:00:08:a0:76	153832	156724	Role: Client (infrastructure) SSID: NAT-CLIENT Channel: 48	1500

Si le point d'accès est à portée, vous pouvez vérifier dans **STATUS/WIRELESS/ASSOC STATIONS** que le produit est bien associé

SETUP
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ASSOCIATED STATIONS

ASSOCIATED STATIONS RESULTS : 1								
GRAPH	RADIO	NAME / SSID	MODE	MAC	CHANNEL	SIGNAL	NOISE	SIGNAL/NOISE
	WiFi	NAT-CLIENT	Infrastructure	00:80:48:7A:80:63	48		-45 dBm	-91 dBm

Reset