

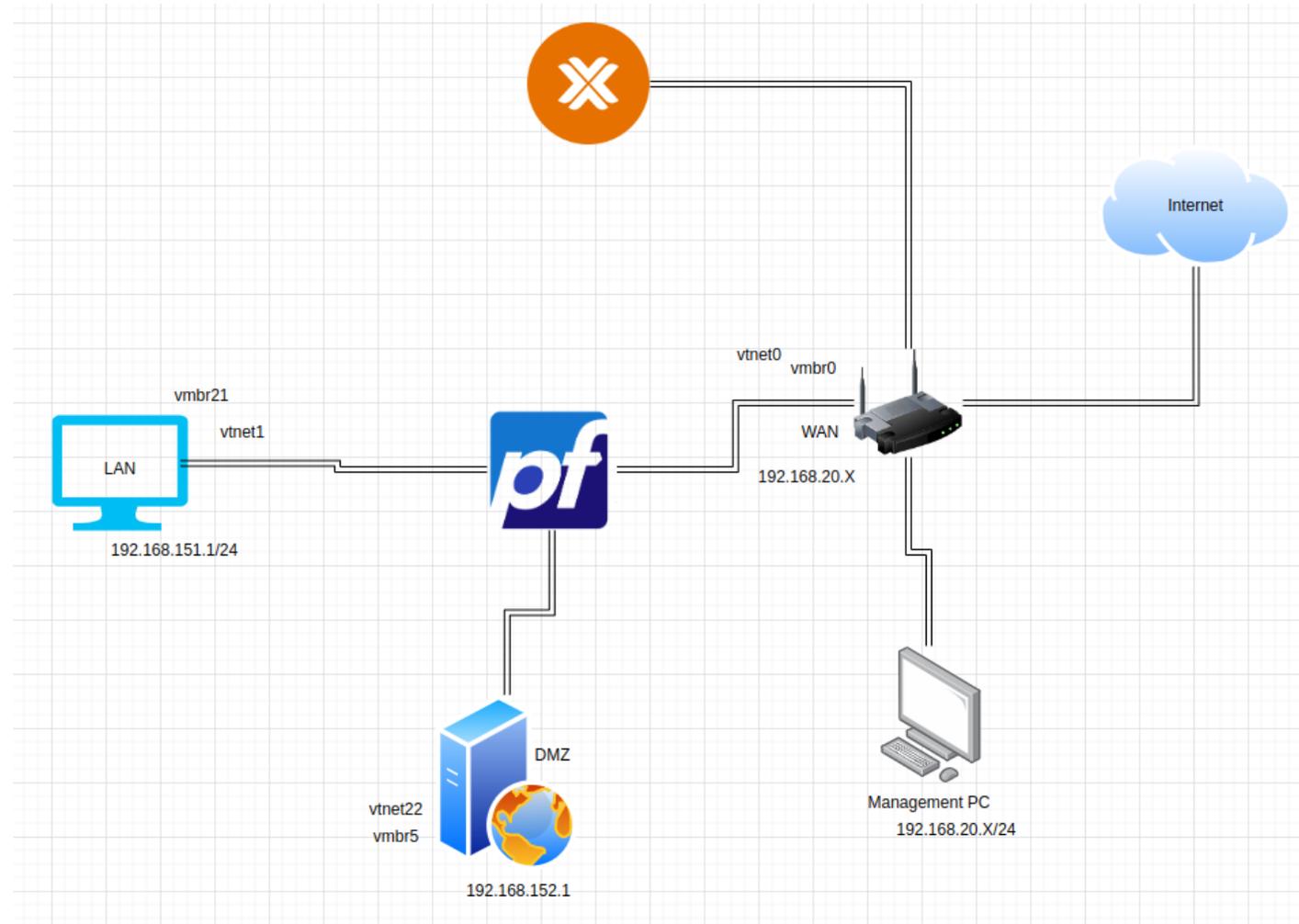


The main graphic is a large, stylized logo for PFSense. The word 'PFSense' is written in a white, sans-serif font at the top. Below it, the word 'pf' is written in a very large, bold, white, lowercase font. The background of the logo is a gradient of blue, transitioning from a lighter blue at the top to a darker blue at the bottom. At the bottom of the logo, the name 'GUYART Romain' is written in a white, sans-serif font.

# Sommaire

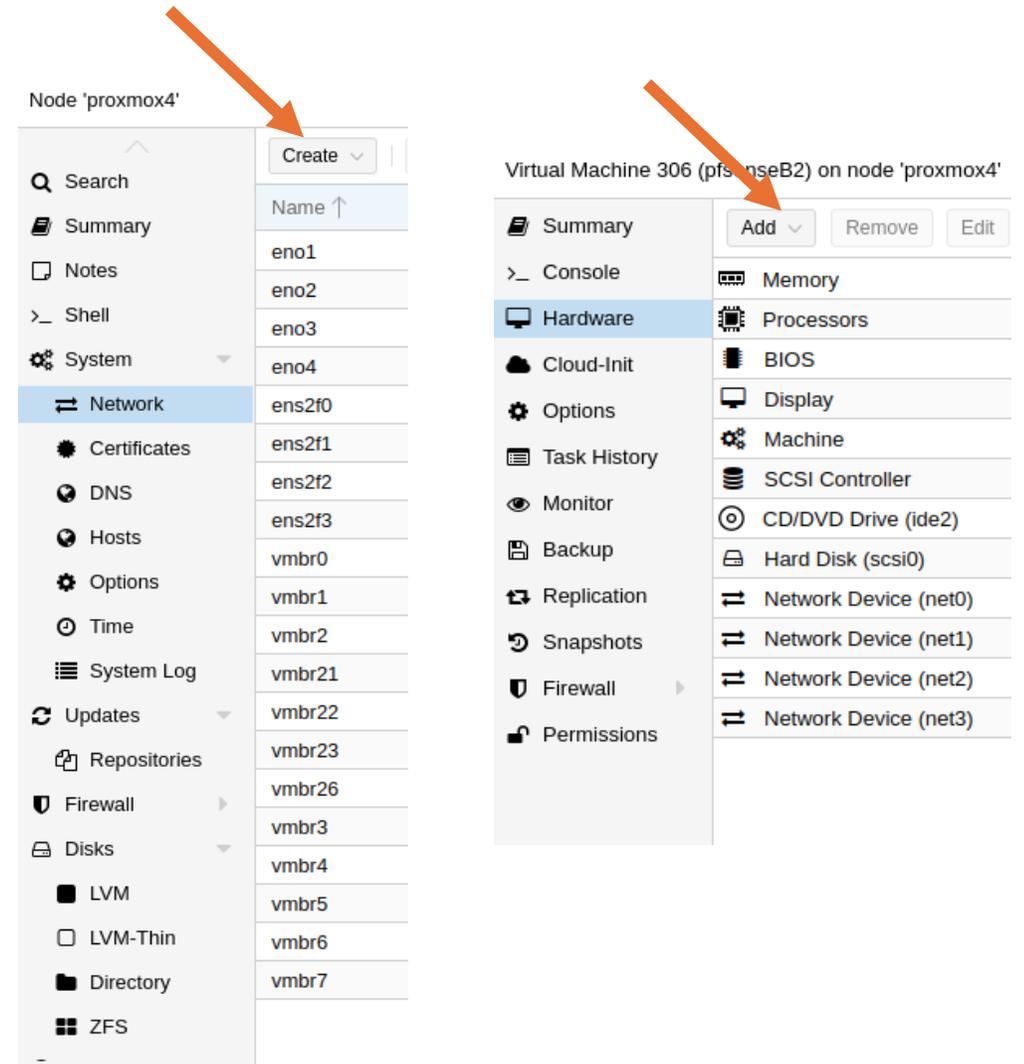
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# Infrastructure réseau



# Installation PFSense

- Sur Proxmox installez une VM avec l'ISO de PFSense,
- Dans l'espace Proxmox ajoutez 2 cartes réseaux (Linux Bridge : une pour le LAN et une pour la DMZ,
- Puis ajoutez les à votre VM (Network Device),
- Allez sur : machine cliente > navigateur > IP du PFSense ; afin de configurer votre PFSense.



The image shows two screenshots of the Proxmox VE interface. The left screenshot shows the 'Node proxmox4' configuration page. The 'Network' tab is selected in the left sidebar, and a list of network interfaces is displayed on the right. An orange arrow points to the 'Create' button at the top right of the interface. The right screenshot shows the configuration page for 'Virtual Machine 306 (pfsenseB2) on node proxmox4'. The 'Hardware' tab is selected in the left sidebar, and a list of hardware components is displayed on the right. An orange arrow points to the 'Add' button at the top right of the interface.

Node 'proxmox4'

Create

Search

Summary

Notes

Shell

System

Network

Certificates

DNS

Hosts

Options

Time

System Log

Updates

Repositories

Firewall

Disks

LVM

LVM-Thin

Directory

ZFS

Name ↑

eno1

eno2

eno3

eno4

ens2f0

ens2f1

ens2f2

ens2f3

vmbr0

vmbr1

vmbr2

vmbr21

vmbr22

vmbr23

vmbr26

vmbr3

vmbr4

vmbr5

vmbr6

vmbr7

Virtual Machine 306 (pfsenseB2) on node 'proxmox4'

Summary

Console

Hardware

Cloud-Init

Options

Task History

Monitor

Backup

Replication

Snapshots

Firewall

Permissions

Add

Remove

Edit

Memory

Processors

BIOS

Display

Machine

SCSI Controller

CD/DVD Drive (ide2)

Hard Disk (scsi0)

Network Device (net0)

Network Device (net1)

Network Device (net2)

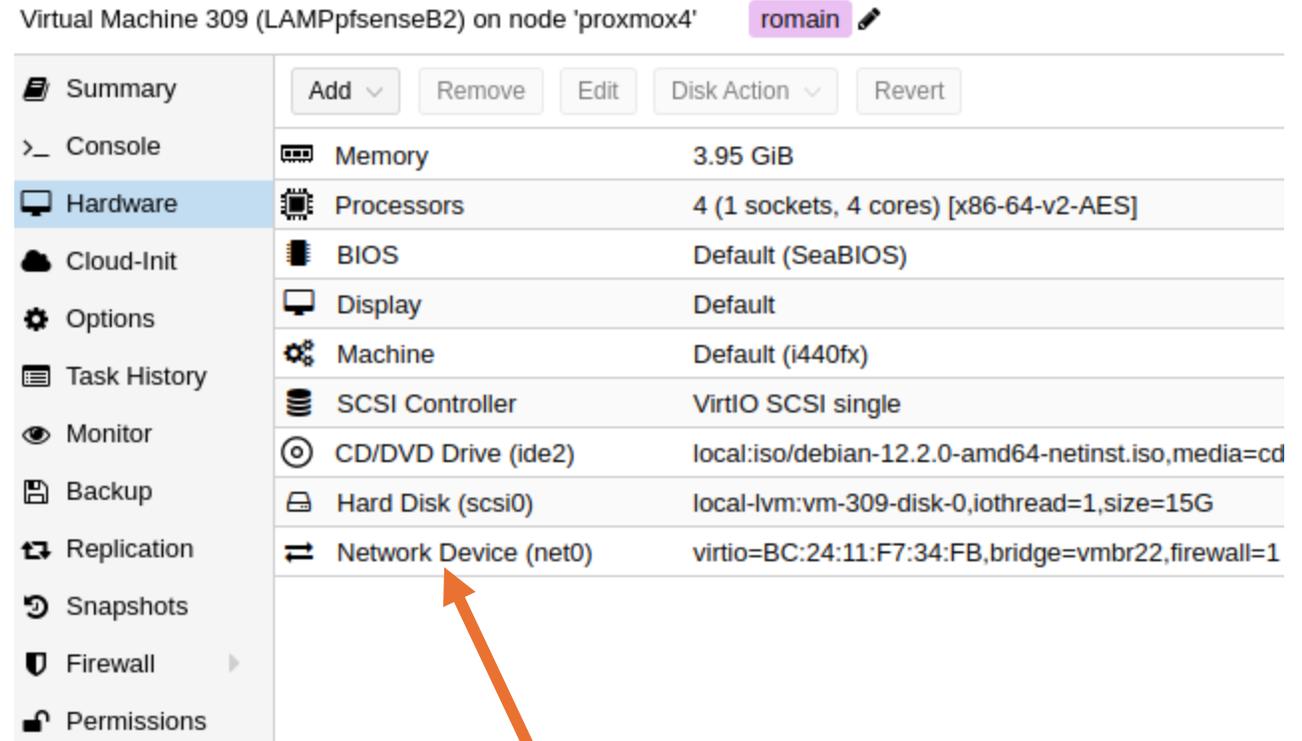
Network Device (net3)

# Installation du serveur LAMP

- Un serveur LAMP est demandé pour la DMZ,
  - Installez un DEBIAN 12 puis Apache2, MariaDB et PHP,
  - Votre serveur LAMP est prêt,
  - Changez sa carte réseau pour attribuer la même que dans PFSense.
- <https://www.it-connect.fr/installer-un-serveur-lamp-linux-apache-mariadb-php-sous-debian-11/>

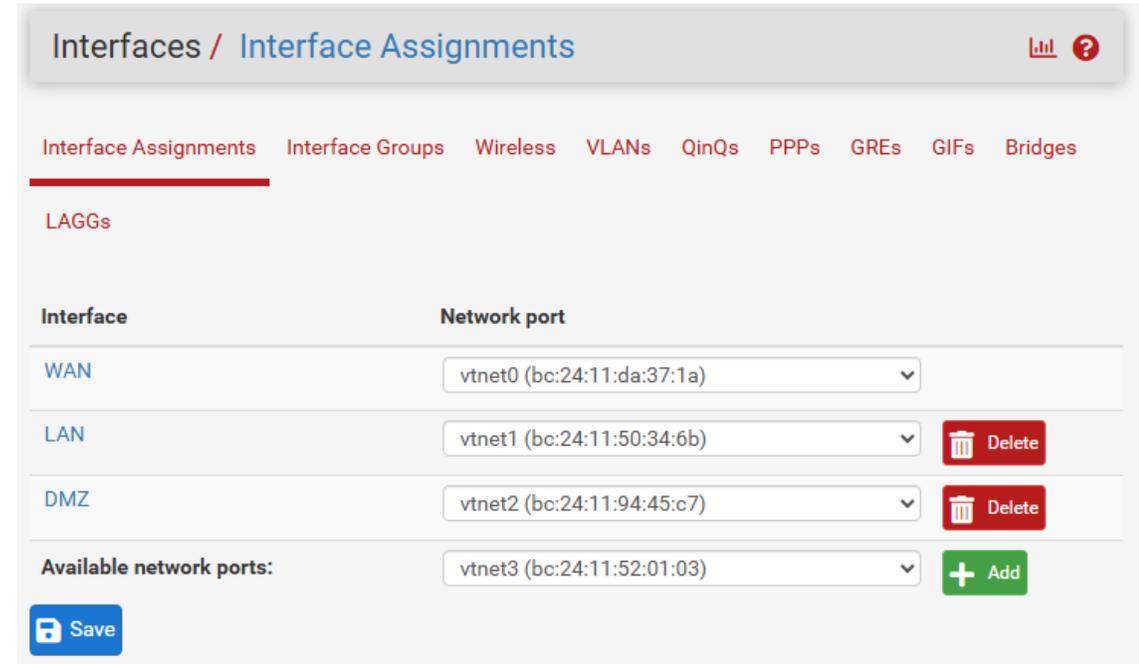
Virtual Machine 309 (LAMPpfsenseB2) on node 'proxmox4' romain

Summary	Add	Remove	Edit	Disk Action	Revert
Console	Memory	3.95 GiB			
Hardware	Processors	4 (1 sockets, 4 cores) [x86-64-v2-AES]			
Cloud-Init	BIOS	Default (SeaBIOS)			
Options	Display	Default			
Task History	Machine	Default (i440fx)			
Monitor	SCSI Controller	VirtIO SCSI single			
Backup	CD/DVD Drive (ide2)	local:iso/debian-12.2.0-amd64-netinst.iso,media=cd			
Replication	Hard Disk (scsi0)	local-lvm:vm-309-disk-0,iosthread=1,size=15G			
Snapshots	Network Device (net0)	virtio=BC:24:11:F7:34:FB,bridge=vmbr22,firewall=1			
Firewall					
Permissions					



# Ajout de la DMZ au PFSense

- Lancez une machine cliente (Windows 10), qui sera votre LAN, connectée à votre PFSense afin de le configurer depuis cette dernière,
- Allez dans interface > assignments > OPT1,
- Modifier le nom en DMZ puis attribuez une nouvelle adresse IP;
- Puis validez les modifications.



Interfaces / Interface Assignments

Interface Assignments Interface Groups Wireless VLANs QinQs PPPs GREs GIFs Bridges

LAGGs

Interface	Network port
WAN	vtnet0 (bc:24:11:da:37:1a)
LAN	vtnet1 (bc:24:11:50:34:6b) <span>Delete</span>
DMZ	vtnet2 (bc:24:11:94:45:c7) <span>Delete</span>
Available network ports:	vtnet3 (bc:24:11:52:01:03) <span>+</span> Add

Save

# Affichages après ajout DMZ

Virtual Machine 306 (pfsenseB2) on node 'proxmox4' romain

Start Shutdown

```
(Local Database)
FreeBSD/amd64 (pfSense.pfsense.local) (ttyv0)
KUM Guest - Netgate Device ID: 4b23752a7eab109a882d
*** Welcome to pfSense 2.5.2-RELEASE (amd64) on pfSense ***

WAN (wan)      -> vtnet0      -> v4/DHCP4: 192.168.20.56/24
LAN (lan)      -> vtnet1      -> v4: 192.168.151.1/24
DMZ (opt1)     -> vtnet2      -> v4: 192.168.152.1/24

0) Logout (SSH only)
1) Assign Interfaces
2) Set interface(s) IP address
3) Reset webConfigurator password
4) Reset to factory defaults
5) Reboot system

9) pfTop
10) Filter Logs
11) Restart webConfigurator
12) PHP shell + pfSense tools
13) Update from console
14) Enable Secure Shell (sshd)
15) Restore recent configuration
16) Restart PHP-FPM
```

Interfaces			
	WAN	↑	10Gbase-T <full-duplex> 192.168.20.56
	LAN	↑	10Gbase-T <full-duplex> 192.168.151.1
	DMZ	↑	10Gbase-T <full-duplex> 192.168.152.1

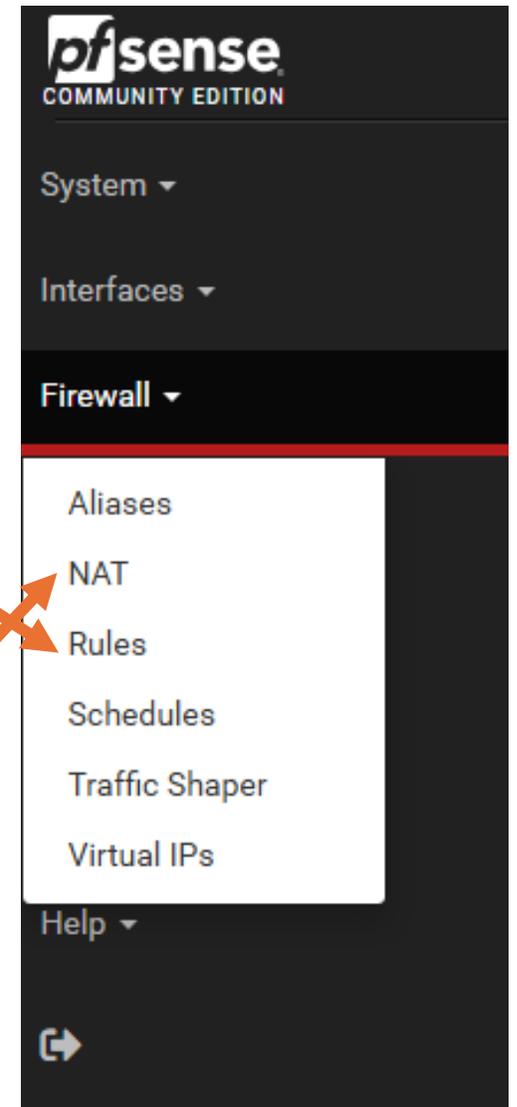
# Réglages des règles du pare feu

Ajoutez les règles dans Firewall > Rules > [sélectionnez le réseau]

- Première règle : autoriser la DMZ à envoyer des requêtes,
- Deuxième règle : autoriser le LAN à accéder au serveur LAMP (déjà autorisé de base normalement).

Ajoutez la règle dans Firewall > NAT > Port Forward :

- Sert à rediriger les ports 80 (HTTP) et 443 (HTTPS) vers l'IP du serveur dans la DMZ.



# Première règle + test

Rules (Drag to Change Order)											
<input type="checkbox"/>	States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
<input type="checkbox"/>	✓	0 / 0 B	IPv4 *	DMZ	*	*	*	*	none	Allow DMZ net to Any	   

 Add  Add  Delete  Save  Separator

```
root@debian:~# ping www.google.fr
PING www.google.fr (142.250.179.67) 56(84) bytes of data:
64 bytes from par21s19-in-f3.1e100.net (142.250.179.67): icmp_seq=1 ttl=115 time=11.4 ms
64 bytes from par21s19-in-f3.1e100.net (142.250.179.67): icmp_seq=2 ttl=115 time=11.3 ms
64 bytes from par21s19-in-f3.1e100.net (142.250.179.67): icmp_seq=3 ttl=115 time=12.4 ms
64 bytes from par21s19-in-f3.1e100.net (142.250.179.67): icmp_seq=4 ttl=115 time=11.7 ms
^X64 bytes from par21s19-in-f3.1e100.net (142.250.179.67): icmp_seq=5 ttl=115 time=11.1 ms
64 bytes from par21s19-in-f3.1e100.net (142.250.179.67): icmp_seq=6 ttl=115 time=11.9 ms
64 bytes from par21s19-in-f3.1e100.net (142.250.179.67): icmp_seq=7 ttl=115 time=9.43 ms
^C
--- www.google.fr ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 8391ms
rtt min/avg/max/mdev = 9.426/11.327/12.443/0.882 ms
```

# Deuxième règle + test

Firewall / Rules / WAN

Floating **WAN** LAN DMZ

Rules (Drag to Change Order)

<input type="checkbox"/>	States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description
<input type="checkbox"/>	0 /2.01 MiB	*	Reserved Not assigned by IANA	*	*	*	*	*		Block bogon networks
<input type="checkbox"/>	0 / 0 B	IPv4 TCP	*	*	192.168.152.100	80 (HTTP)	*	none		

QEMU (win10clientPFSENSEb2) - noVNC - Google Chrome

Non sécurisé | <https://192.168.20.204:8006/?console=kvm&novnc=1&vmid=308&vmname=win10clientPFSENSEb2&node=proxmox4&resize=off&>

pfSense.pfsense.local - Firewall: R x Apache2 Debian Default Page: It works!

Non sécurisé | 192.168.152.100

## Apache2 Debian Default Page

**It works!**

The default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server at this site is working properly. You should **replace this file** (located at `/usr/share/doc/apache2/README.Debian.gz`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means the site is currently unavailable due to maintenance. If the problem persists, please contact the system administrator.

### Configuration Overview

Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full configuration. Documentation for the web server itself can be found by accessing the **manual** if the doc package was installed on this server.

The configuration layout for an Apache2 web server installation on Debian systems is as follows:

# Dernière règle + test

Firewall / NAT / Port Forward

The changes have been applied successfully. The firewall rules are now reloading in the background. Monitor the filter reload progress.

Port Forward 1:1 Outbound NPT

Rules									
	Interface	Protocol	Source Address	Source Ports	Dest. Address	Dest. Ports	NAT IP	NAT Ports	Description
<input checked="" type="checkbox"/>	WAN	TCP	*	*	WAN address	80 (HTTP)	192.168.152.100	80 (HTTP)	



Firewall / Rules / WAN

Floating WAN LAN DMZ

Rules (Drag to Change Order)										
	States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description
<input type="checkbox"/>	0 /2.01 MiB	*	Reserved Not assigned by IANA	*	*	*	*	*	*	Block bogon networks
<input type="checkbox"/>	0/0 B	IPv4 TCP	*	*	192.168.152.100	80 (HTTP)	*	none		
<input type="checkbox"/>	0/0 B	IPv4 TCP	*	*	192.168.152.100	80 (HTTP)	*	none		NAT

192.168.20.56

## Apache2 Debian Default Page

debian

**It works!**

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

### Configuration Overview

Debian's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.