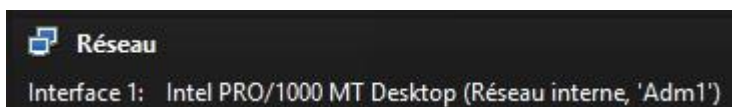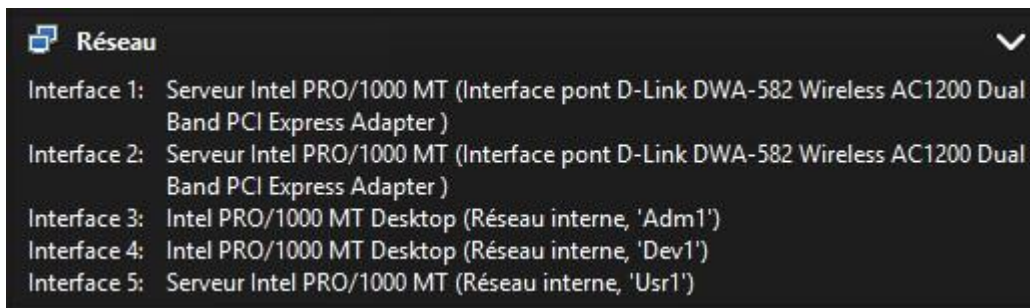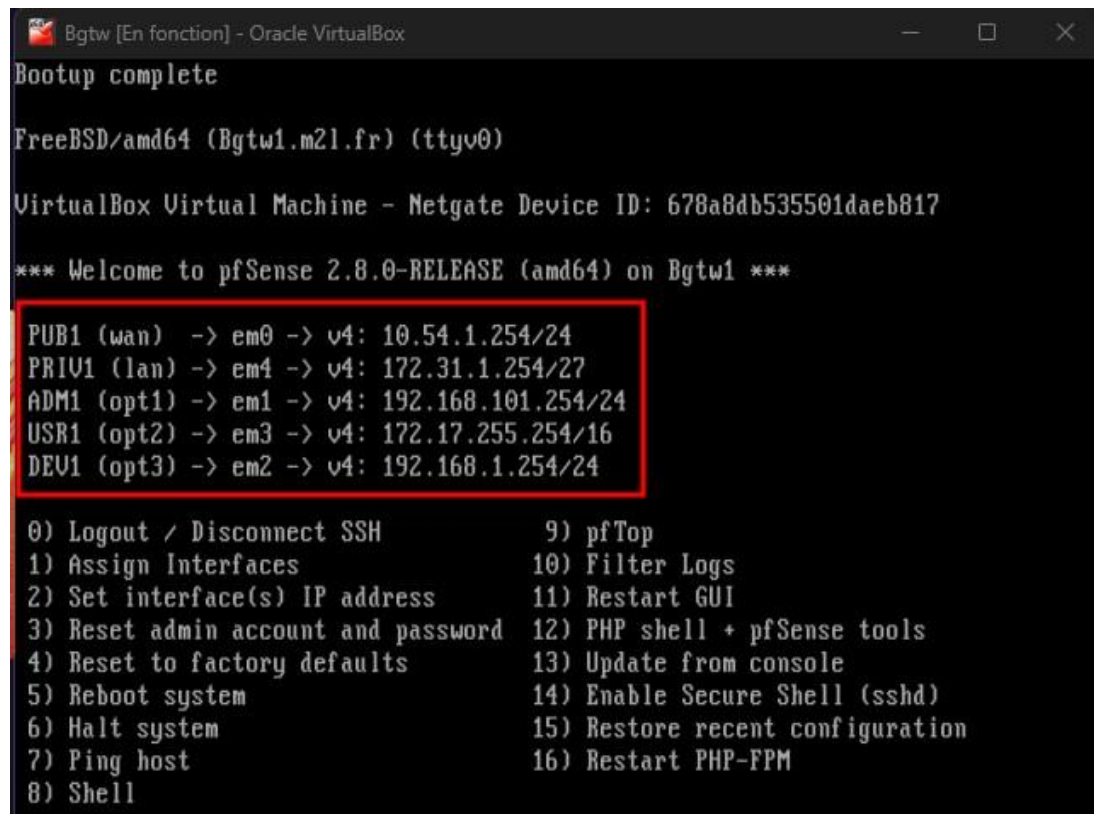# DOCUMENTATION BGTW

Installation des machines virtuelles :

Les cartes réseaux sont différent car je réalise les rendus chez moi.

Mise en place du routeur Bgtw :

D'abord nous avons ajouté les cartes réseaux 5 au total. Pour mettre en place le 5ème on devait utiliser un programme qui nous été fourni.

Il fallait faire attention à ne pas se tromper d'adresses IP pendant l'assignement. Sinon ça ne fonctionnera pas. Ensuite on utilise un Kali pour l'administrer.

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Dashboard :

System Information

Name	Bgtw1.m2l.fr
User	admin@192.168.101.28 (Local Database)
Version	**2.8.0-RELEASE** (amd64) built on Tue Aug 12 16:59:00 UTC 2025 FreeBSD 15.0-CURRENT *Error in version information*
Uptime	00 Hour 46 Minutes 50 Seconds
Current date/time	Sat Feb 7 14:15:52 UTC 2026
DNS server(s)	• 192.168.51.254
Last config change	Fri Jan 16 15:25:40 UTC 2026
State table size	0% (24/96000) Show states
MBUF Usage	1% (5334/1000000)
CPU usage	3%
Memory usage	31% of 968 MiB
SWAP usage	0% of 1024 MiB

Disks

Mount	Used	Size	Usage
/var	260K	41G	0% of 41G (zfs)
/	1.0G	42G	2% of 42G (zfs)

Interfaces

PUB1	↑	1000baseT <full-duplex>	10.54.1.254
PRIV1	↑	1000baseT <full-duplex>	172.31.1.254
ADM1	↑	1000baseT <full-duplex>	192.168.101.254
USR1	↑	1000baseT <full-duplex>	172.17.255.254
DEV1	↑	1000baseT <full-duplex>	192.168.1.254

Gateways

Name	RTT	RTTsd	Loss	Status
No gateways found.				

Services Status

	Service	Description	Action
✓	dnsmasq	DNS Forwarder	
✓	kea-dhcp4	Kea DHCP Server	
✓	syslogd	System Logger Daemon	

NTP Status

NTP Server is disabled

Installed Packages

No packages installed.

Packages may be added/managed here: System -> Packages

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Status.Interfaces :

Status / Interfaces

PUB1 Interface (wan, em0)

Status	up ↑
MAC Address	08:00:27:d9:39:24
IPv4 Address	10.54.1.254
Subnet mask IPv4	255.255.255.0
IPv6 Link Local	fe80::a00:27ff:fed9:3924%em0
MTU	1500
Media	1000baseT <full-duplex>
In/out packets	502/0 (125 KiB/0 B)
In/out packets (pass)	502/0 (125 KiB/0 B)
In/out packets (block)	28/0 (2 KiB/0 B)
In/out errors	0/0
Collisions	0

PRIV1 Interface (lan, em4)

Status	up ↑
MAC Address	08:00:27:da:d0:af
IPv4 Address	172.31.1.254
Subnet mask IPv4	255.255.255.224
IPv6 Link Local	fe80::a00:27ff:feda:d0af%em4
MTU	1500
Media	1000baseT <full-duplex>
In/out packets	1424/0 (333 KiB/0 B)
In/out packets (pass)	1424/0 (333 KiB/0 B)
In/out packets (block)	62/0 (5 KiB/0 B)
In/out errors	0/0
Collisions	0

ADM1 Interface (opt1, em1)

Status	up ↑
MAC Address	08:00:27:65:87:dd
IPv4 Address	192.168.101.254
Subnet mask IPv4	255.255.255.0
IPv6 Link Local	fe80::a00:27ff:fe65:87dd%em1
MTU	1500
Media	1000baseT <full-duplex>
In/out packets	632/885 (150 KiB/668 KiB)
In/out packets (pass)	632/885 (150 KiB/668 KiB)
In/out packets (block)	0/1 (0 B/88 B)
In/out errors	0/0
Collisions	0

USR1 Interface (opt2, em3)

Status	up ↑
MAC Address	08:00:27:01:2f:de
IPv4 Address	172.17.255.254
Subnet mask IPv4	255.255.0.0
IPv6 Link Local	fe80::a00:27ff:fe01:2fde%em3
MTU	1500
Media	1000baseT <full-duplex>
In/out packets	0/0 (0 B/0 B)
In/out packets (pass)	0/0 (0 B/0 B)
In/out packets (block)	0/0 (0 B/0 B)
In/out errors	0/0
Collisions	0

DEV1 Interface (opt3, em2)

Status	up ↑
MAC Address	08:00:27:1f:4b:e0
IPv4 Address	192.168.1.254
Subnet mask IPv4	255.255.255.0
IPv6 Link Local	fe80::a00:27ff:fe1f:4be0%em2
MTU	1500
Media	1000baseT <full-duplex>
In/out packets	0/0 (0 B/0 B)
In/out packets (pass)	0/0 (0 B/0 B)
In/out packets (block)	0/5 (0 B/384 B)
In/out errors	0/0
Collisions	0

Voici les 5 cartes réseaux. Avec toutes les informations nécessaires.

Status.Services :

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Service.Dns-forwarder :

Il faut l'activer et choisir les interfaces dont on veut l'appliquer.

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Diagnostic.Routes :

IPv4 Routes

Destination	Gateway	Flags	Uses	MTU	Interface	Expire
10.54.1.0/24	link#1	U	1	1500	em0	
10.54.1.254	link#7	UHS	3	16384	lo0	
127.0.0.1	link#7	UH	2	16384	lo0	
172.17.0.0/16	link#4	U	8	1500	em3	
172.17.255.254	link#7	UHS	9	16384	lo0	
172.31.1.224/27	link#5	U	4	1500	em4	
172.31.1.254	link#7	UHS	5	16384	lo0	
192.168.1.0/24	link#3	U	10	1500	em2	
192.168.1.254	link#7	UHS	11	16384	lo0	
192.168.101.0/24	link#2	U	6	1500	em1	
192.168.101.254	link#7	UHS	7	16384	lo0	

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Diagnostics.Sockets :

IPv4 System Socket Information

USER	COMMAND	PID	FD	PROTO	LOCAL	FOREIGN
root	php-fpm	65015	4	udp4	*:*	*:*
root	kea-dhcp4	82610	16	udp4	192.168.101.254:67	*:*
root	kea-dhcp4	82610	18	udp4	192.168.1.254:67	*:*
root	kea-dhcp4	82610	20	udp4	172.17.255.254:67	*:*
root	php-fpm	37290	4	udp4	*:*	*:*
root	syslogd	93711	10	udp4	*:514	*:*
root	nginx	56945	5	tcp4	*:80	*:*
root	nginx	56828	5	tcp4	*:80	*:*
root	nginx	56540	5	tcp4	*:80	*:*
nobody	dnsmasq	11105	4	udp4	*:53	*:*
nobody	dnsmasq	11105	5	tcp4	*:53	*:*
root	php-fpm	428	4	udp4	*:*	*:*
root	php-fpm	427	4	udp4	*:*	*:*
root	php-fpm	426	4	udp4	*:*	*:*

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Firewall.nat.port-forward :

Il faut désactiver le firewall outbound du côté Back Gateaway.

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Services.dhcp-server :

Pub 1 :

Primary Address Pool	
Subnet	10.54.1.0/24
Subnet Range	10.54.1.1 - 10.54.1.254
Address Pool Range	[ ] [ ]
	From To
	The specified range for this pool must not be within the range configured on any other address pool for this interface.
Additional Pools	+ Add Address Pool
	If additional pools of addresses are needed inside of this subnet outside the above range, they may be specified here.

Priv 1 :

Primary Address Pool	
Subnet	172.31.1.224/27
Subnet Range	172.31.1.225 - 172.31.1.254
Address Pool Range	192.168.1.100 192.168.1.199
	From To
	The specified range for this pool must not be within the range configured on any other address pool for this interface.
Additional Pools	+ Add Address Pool
	If additional pools of addresses are needed inside of this subnet outside the above range, they may be specified here.

Adm 1 :

Primary Address Pool	
Subnet	192.168.101.0/24
Subnet Range	192.168.101.1 - 192.168.101.254
Address Pool Range	192.168.101.10 192.168.101.200
	From To
	The specified range for this pool must not be within the range configured on any other address pool for this interface.
Additional Pools	+ Add Address Pool
	If additional pools of addresses are needed inside of this subnet outside the above range, they may be specified here.

Usr 1 :

Primary Address Pool	
Subnet	172.17.0.0/16
Subnet Range	172.17.0.1 - 172.17.255.254
Address Pool Range	172.17.1.10 172.17.1.200
	From To
	The specified range for this pool must not be within the range configured on any other address pool for this interface.
Additional Pools	+ Add Address Pool
	If additional pools of addresses are needed inside of this subnet outside the above range, they may be specified here.

Dev 1 :

| Primary Address Pool	
Subnet	192.168.1.0/24
Subnet Range	192.168.1.1 - 192.168.1.254
Address Pool Range	192.168.1.10 192.168.1.200
	From To
	The specified range for this pool must not be within the range configured on any other address pool for this interface.
Additional Pools	➕ Add Address Pool
	If additional pools of addresses are needed inside of this subnet outside the above range, they may be specified here.

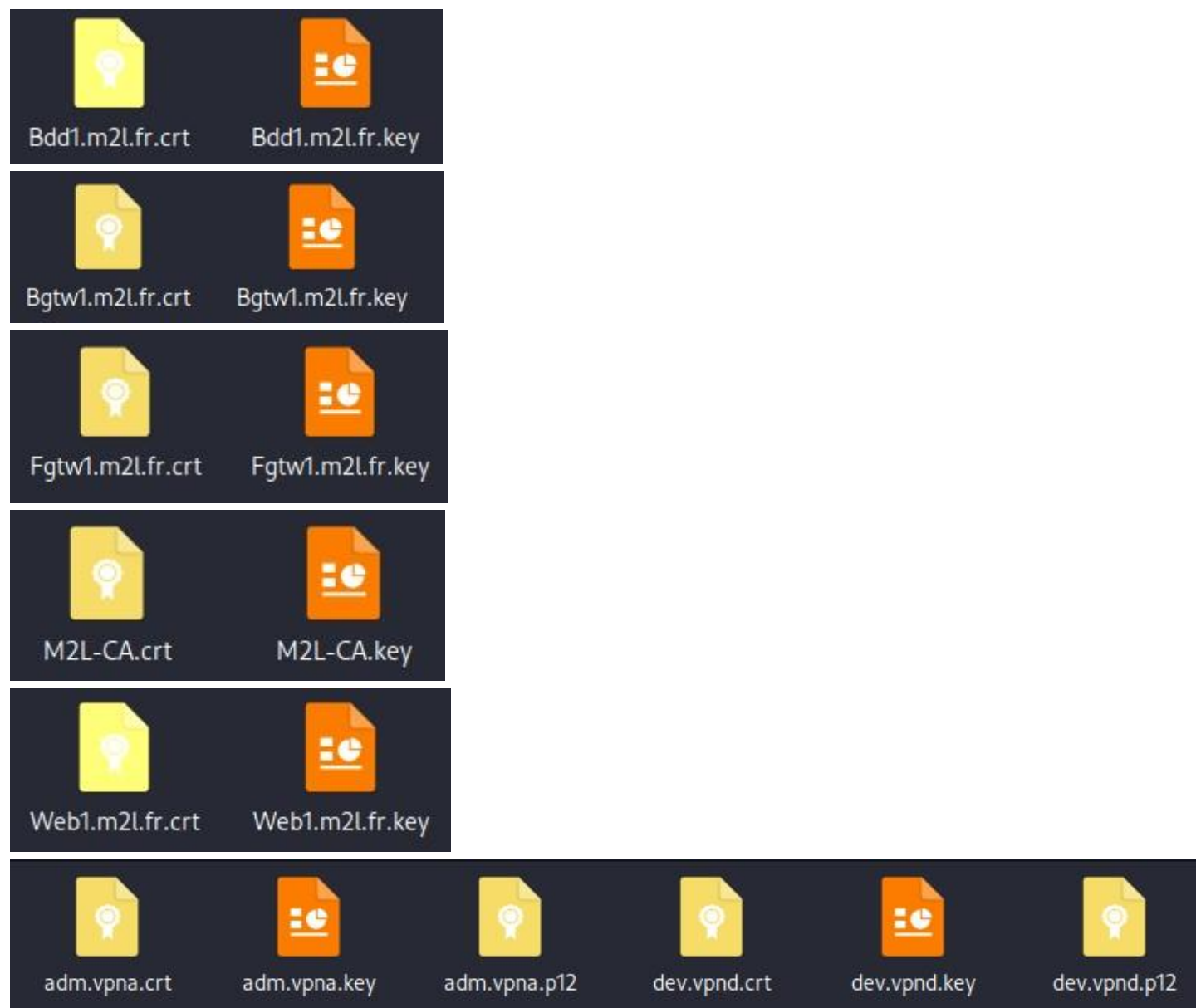Voici toutes les adresses IP et les plages de tous les réseaux.

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System.Certificats :

Bgtw1.m2l.fr *Server Certificate* CA: **No** Server: **Yes**	M2L-CA	CN=Bgtw1.m2l.fr ℹ️ Valid From: **Sun, 14 Dec 2025 13:17:41 +0000** Valid Until: **Wed, 12 Dec 2035 13:17:41 +0000**	✏️✳️🔑📄🔄🗑️
Fgtw1.m2l.fr *Server Certificate* CA: **No** Server: **Yes**	M2L-CA	CN=Fgtw1.m2l.fr ℹ️ Valid From: **Sun, 14 Dec 2025 13:21:17 +0000** Valid Until: **Wed, 12 Dec 2035 13:21:17 +0000**	✏️✳️🔑📄🔄🗑️
Bdd1.m2l.fr *Server Certificate* CA: **No** Server: **Yes**	M2L-CA	CN=Bdd1.m2l.fr ℹ️ Valid From: **Sun, 14 Dec 2025 13:23:17 +0000** Valid Until: **Wed, 12 Dec 2035 13:23:17 +0000**	✏️✳️🔑📄🔄🗑️
Web1.m2l.fr *Server Certificate* CA: **No** Server: **Yes**	M2L-CA	CN=Web1.m2l.fr ℹ️ Valid From: **Sun, 14 Dec 2025 13:24:53 +0000** Valid Until: **Wed, 12 Dec 2035 13:24:53 +0000**	✏️✳️🔑📄🔄🗑️
adm.vpna *User Certificate* CA: **No** Server: **No**	M2L-CA	CN=adm.vpna ℹ️ Valid From: **Sun, 14 Dec 2025 13:27:09 +0000** Valid Until: **Wed, 12 Dec 2035 13:27:09 +0000**	✏️✳️🔑📄🔄🗑️
dev.vpnd *User Certificate* CA: **No** Server: **No**	M2L-CA	CN=dev.vpnd ℹ️ Valid From: **Sun, 14 Dec 2025 13:27:36 +0000** Valid Until: **Wed, 12 Dec 2035 13:27:36 +0000**	✏️✳️🔑📄🔄🗑️

Et certificat d'autorité,

M2L-CA	✓	*self-signed*	6	CN=internal-ca ℹ️ Valid From: **Sun, 14 Dec 2025 13:12:21 +0000** Valid Until: **Wed, 12 Dec 2035 13:12:21 +0000**		✏️✳️🔑🔄🗑️

Et voici tous les certificats :

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Firewall.rules :

Pub 1 :

Priv 1 :

Adm 1 :

Usr 1 :

Dev 1 :