INSTITUT UNIVERSITAIRE DES SCIENCES

Faculté des Sciences et de Technologies

(FST)

Td8 Réseau 2

Nom : BYRON

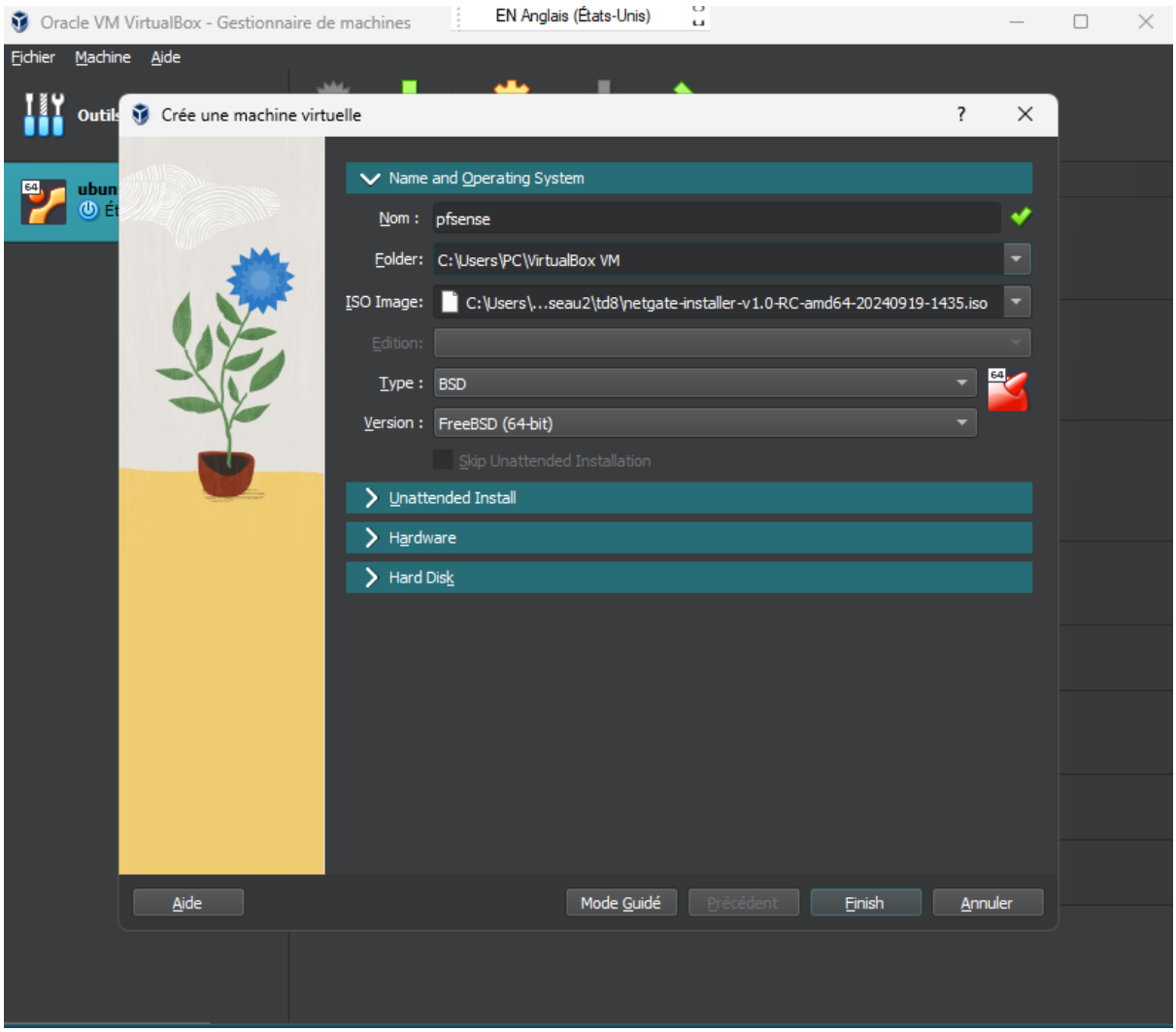
Prénom : Pierre Durell Naguiby

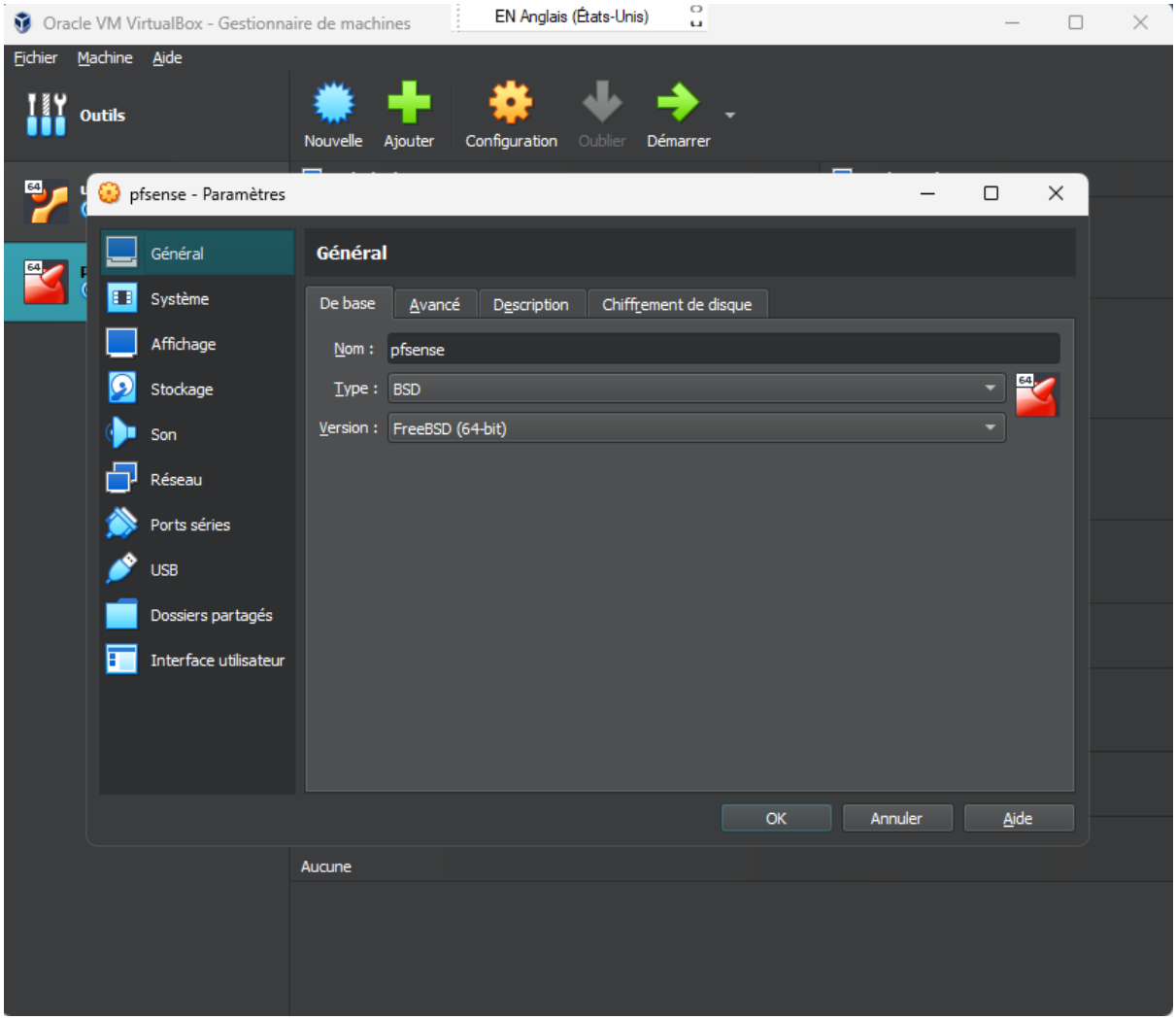
Niveau : L3- Sciences Informatiques

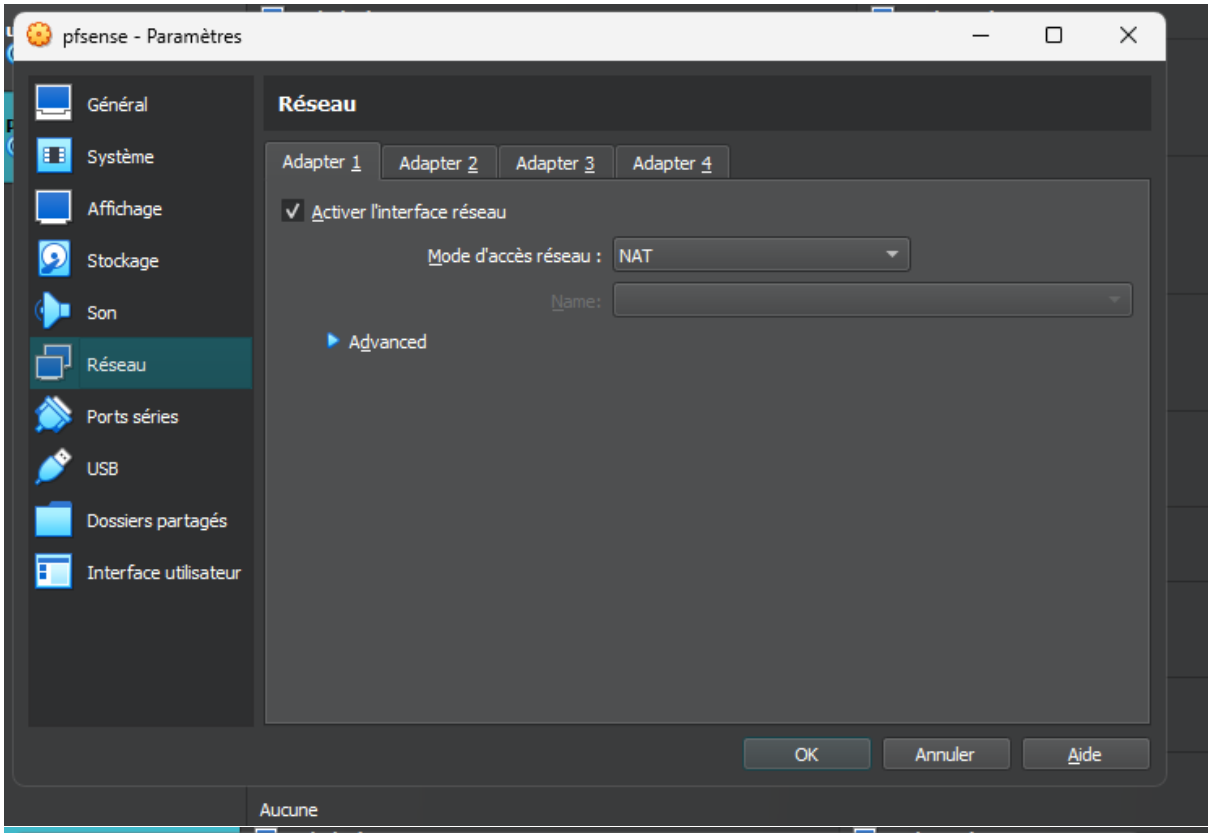
Prof.: Mr. Ismael Saint-AMOUR

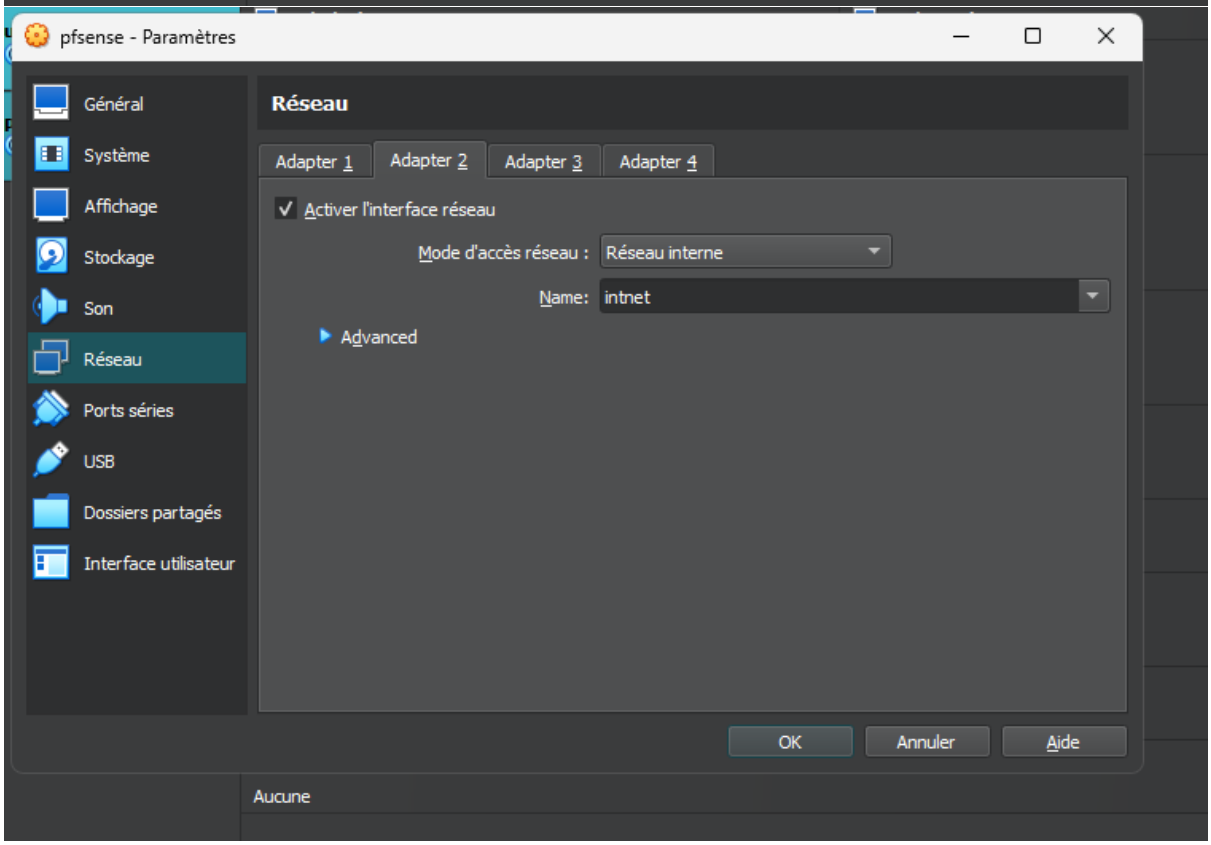
Date: 04/06/2025

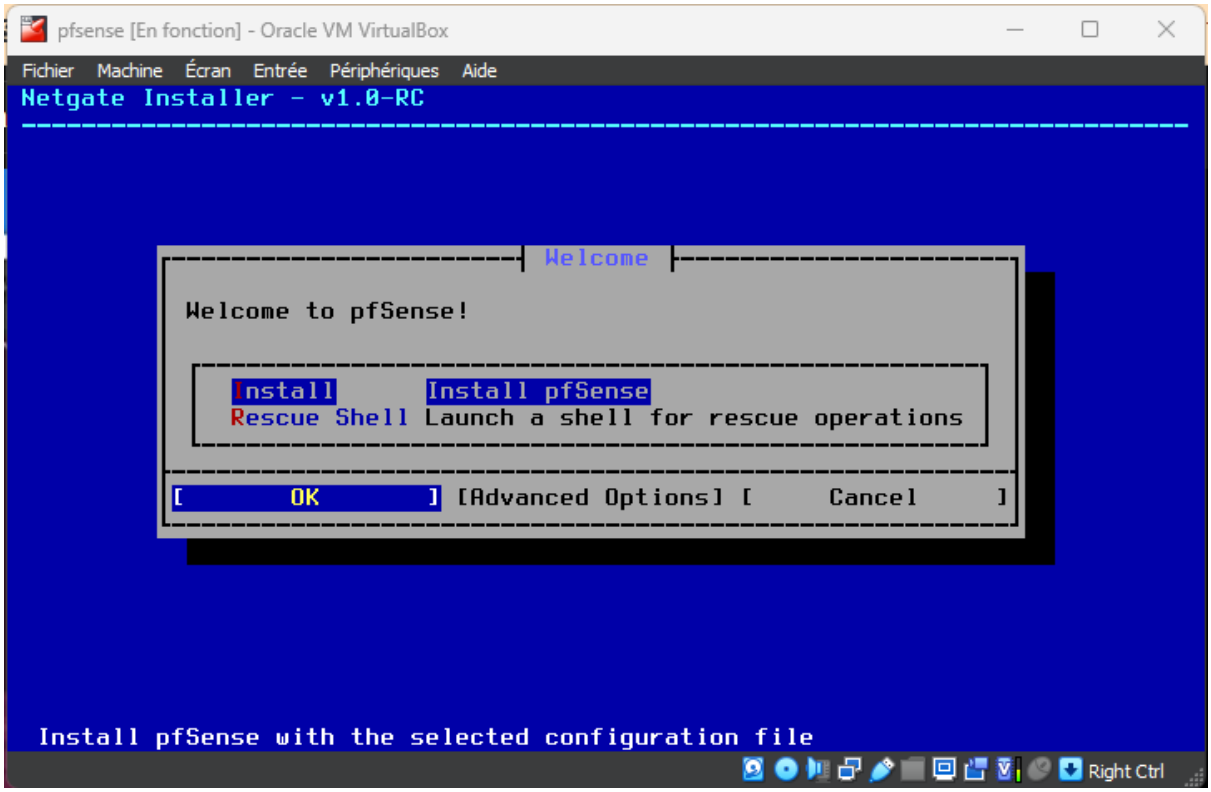
→ 1. Installer et Configurer PfSense sur un VM

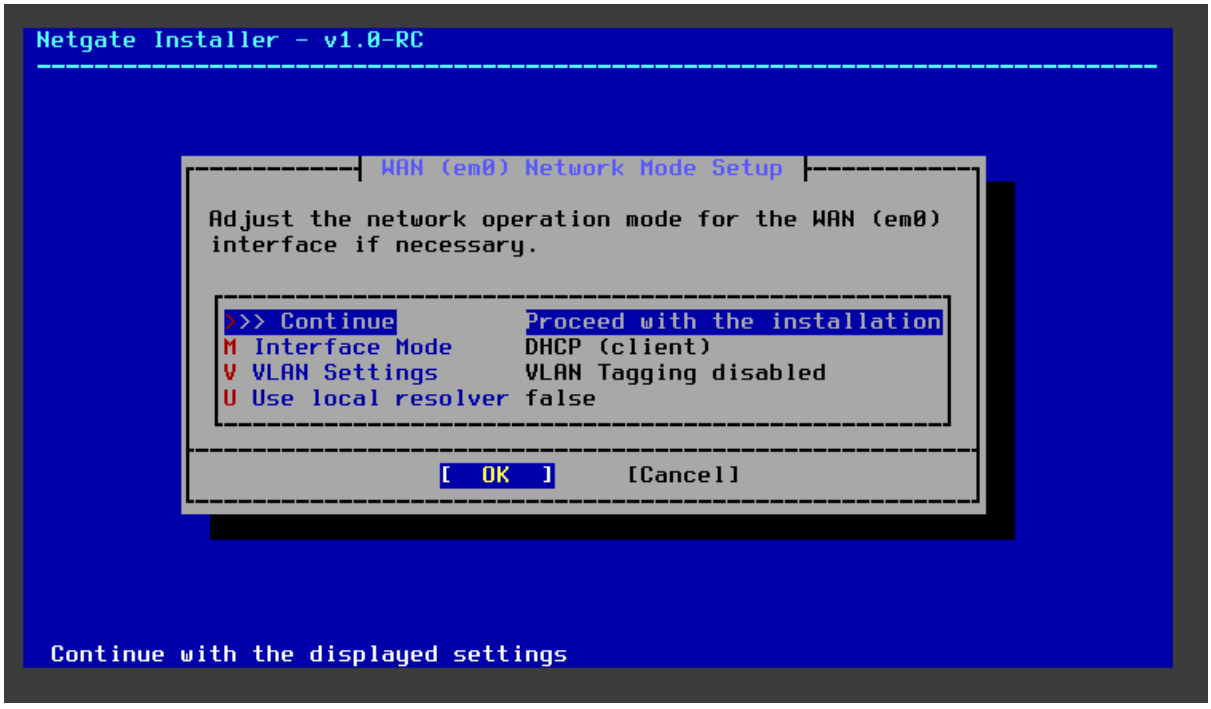


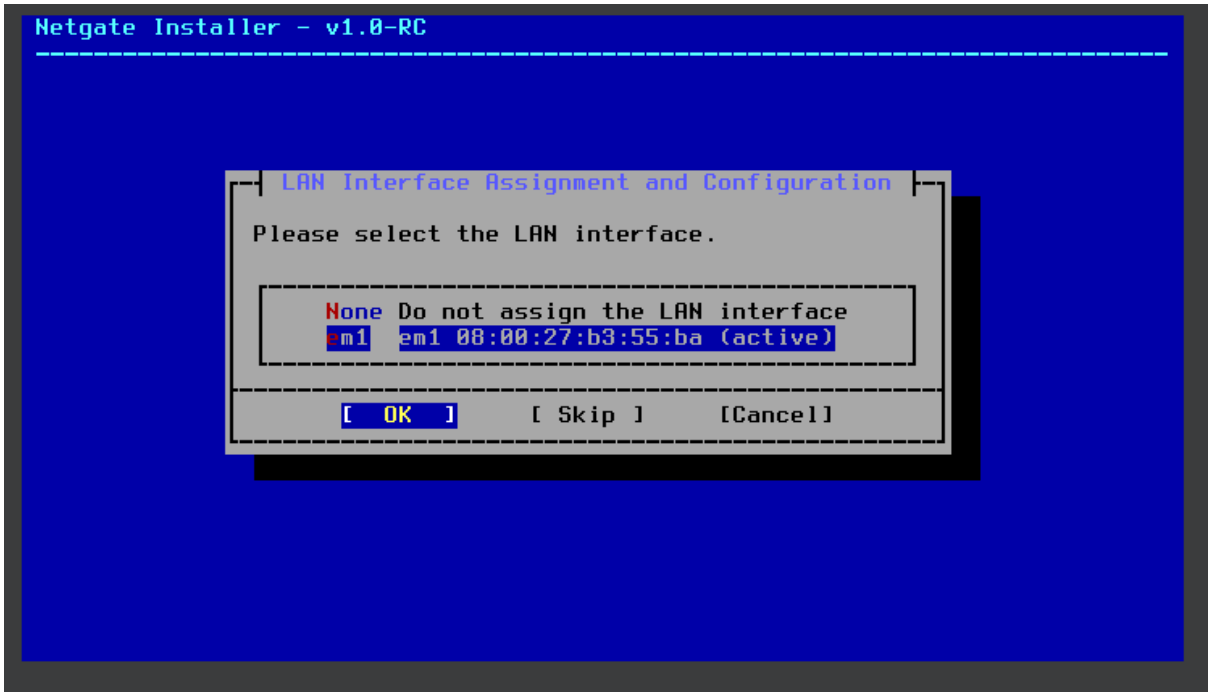

Oracle VM VirtualBox - Gestionnaire de machines
EN Anglais (États-Unis)
Fichier Machine Aide
Outils
Nouvelle
Ajouter
Configuration
Oublier
Démarrer
pfsense - Paramètres
Général
Système
Affichage
Stockage
Son
Réseau
Ports séries
USB
Dossiers partagés
Interface utilisateur
Général
De base
Avancé
Description
Chiffrement de disque
Nom : pfsense
Type : BSD
Version : FreeBSD (64-bit)
OK
Annuler
Aide
Aucune

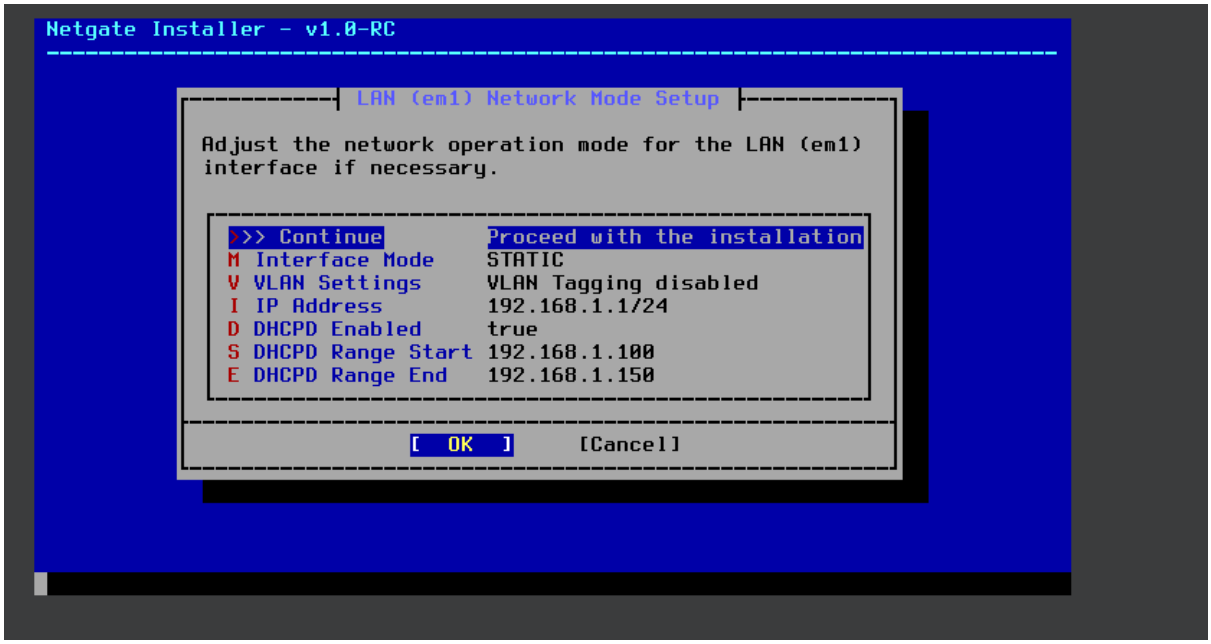

pfsense - Paramètres
Général
Système
Affichage
Stockage
Son
Réseau
Ports séries
USB
Dossiers partagés
Interface utilisateur
Réseau
Adapter 1
Adapter 2
Adapter 3
Adapter 4
Activer l'interface réseau
Mode d'accès réseau :
NAT
Name:
Advanced
OK
Annuler
Aide
Aucune

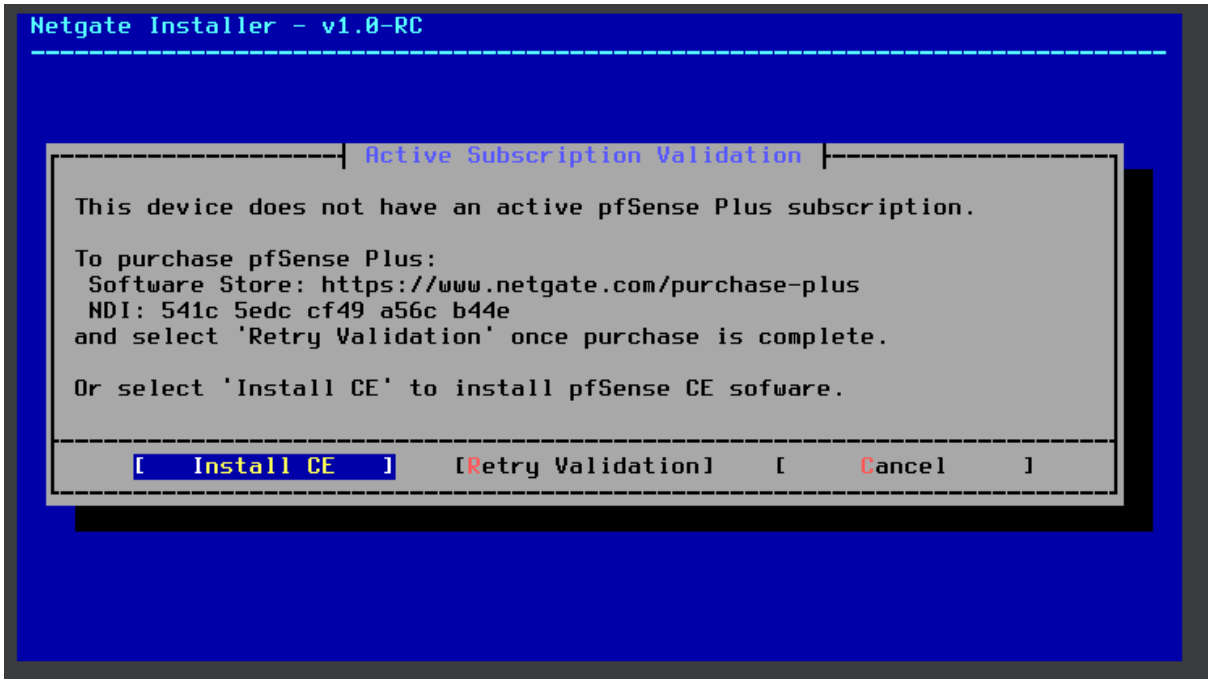

pfsense - Paramètres
Général
Système
Affichage
Stockage
Son
Réseau
Ports séries
USB
Dossiers partagés
Interface utilisateur
Réseau
Adapter 1
Adapter 2
Adapter 3
Adapter 4
Activer l'interface réseau
Mode d'accès réseau :
Réseau interne
Name:
intnet
Advanced
OK
Annuler
Aide
Aucune

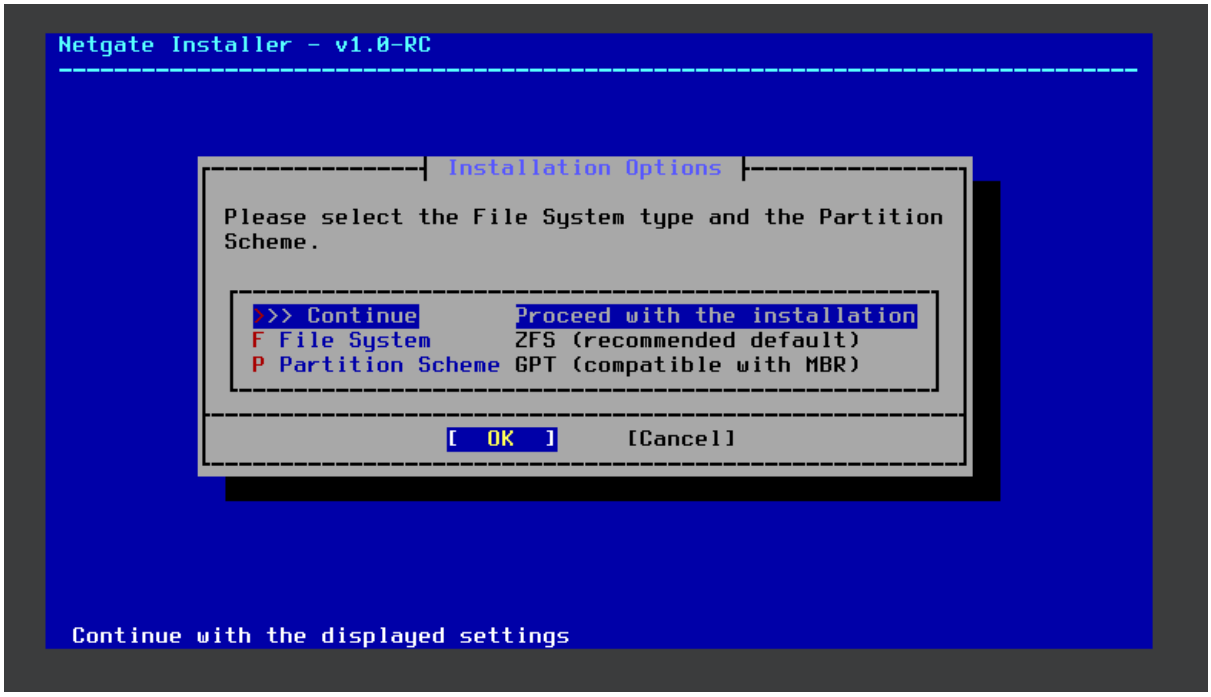

pfsense [En fonction] - Oracle VM VirtualBox
Fichier Machine Écran Entrée Périphériques Aide
Netgate Installer - v1.0-RC
Welcome
Welcome to pfSense!
Install Install pfSense
Rescue Shell Launch a shell for rescue operations
[OK] [Advanced Options] [Cancel]
Install pfSense with the selected configuration file
Right Ctrl

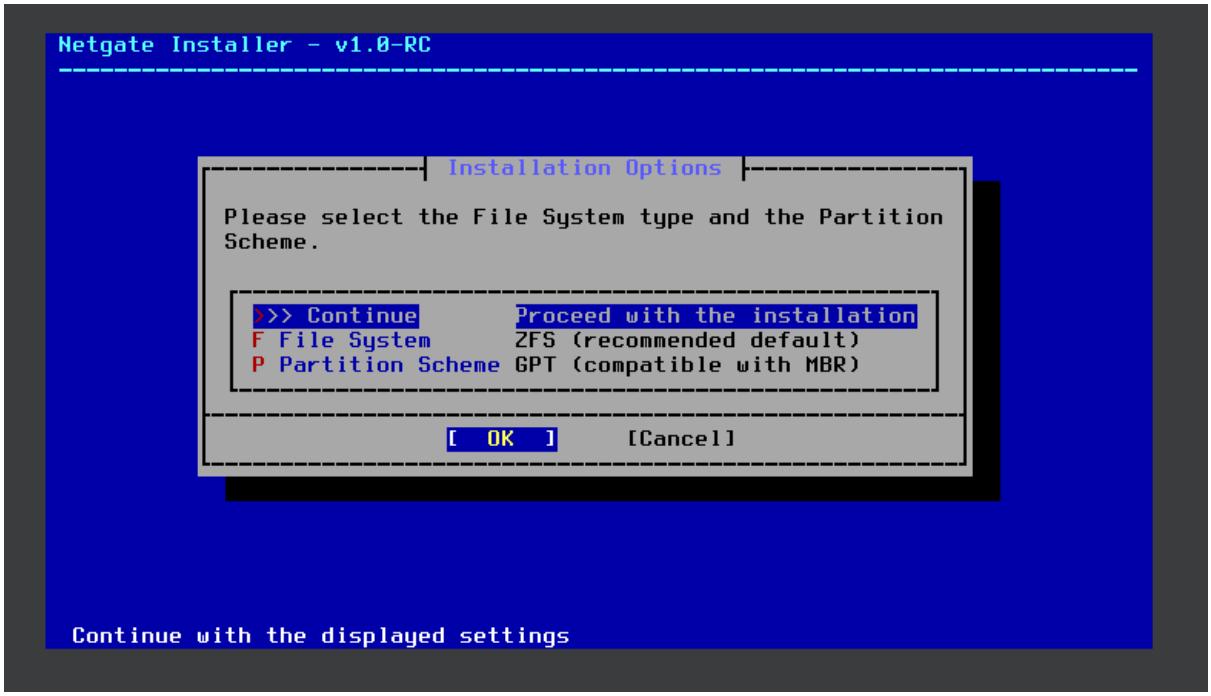

Netgate Installer - v1.0-RC
WAN (em0) Network Mode Setup
Adjust the network operation mode for the WAN (em0) interface if necessary.
>>> Continue Proceed with the installation
M Interface Mode DHCP (client)
V VLAN Settings VLAN Tagging disabled
U Use local resolver false
[OK] [Cancel]
Continue with the displayed settings

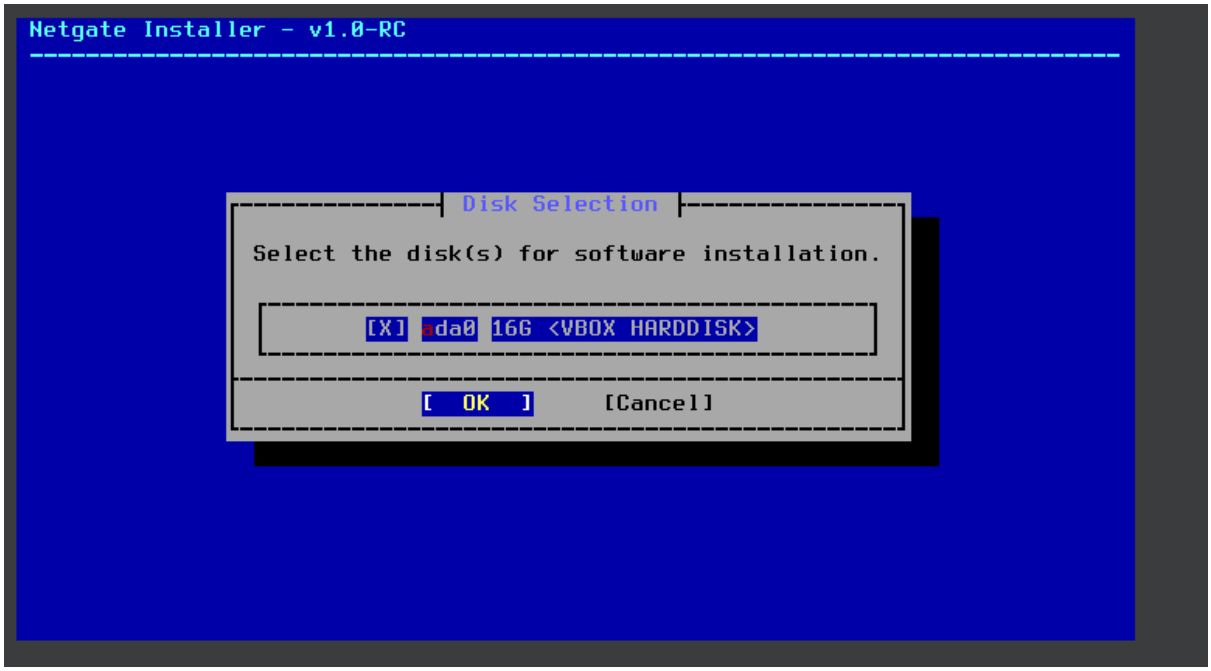

Netgate Installer - v1.0-RC
LAN Interface Assignment and Configuration
Please select the LAN interface.
None Do not assign the LAN interface
em1 em1 08:00:27:b3:55:ba (active)
[OK]
[Skip]
[Cancel]

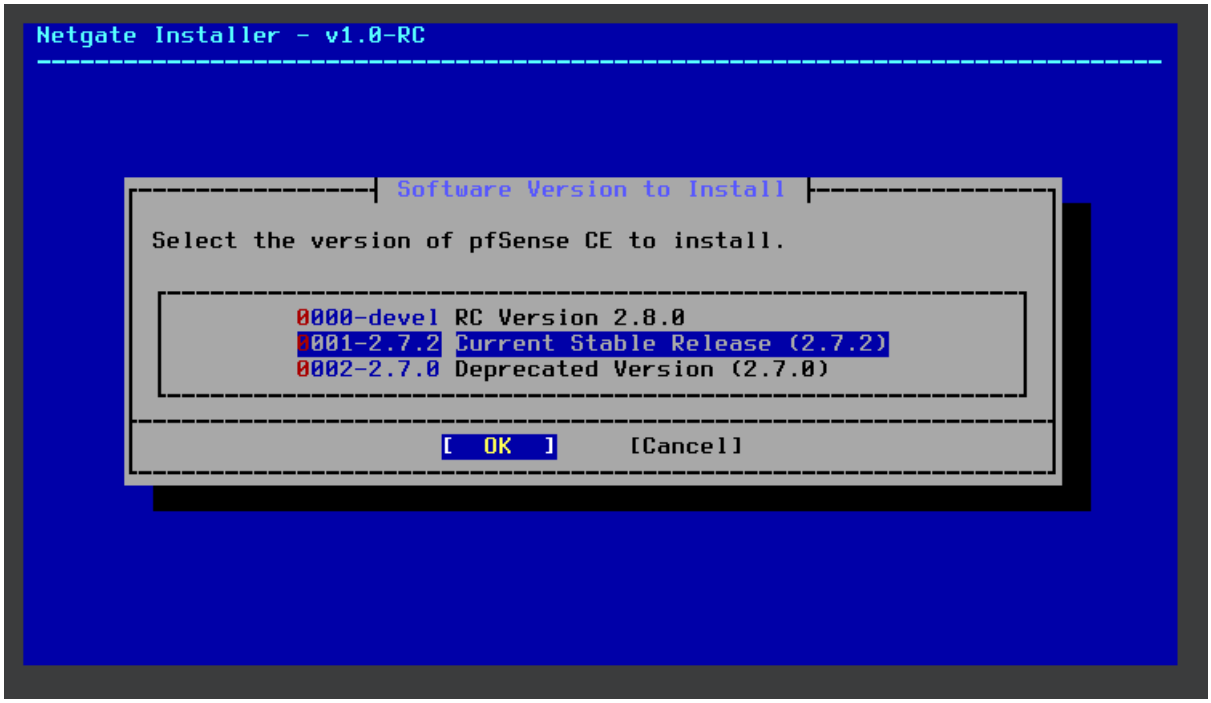

Netgate Installer - v1.0-RC
LAN (em1) Network Mode Setup
Adjust the network operation mode for the LAN (em1) interface if necessary.
>>> Continue Proceed with the installation
M Interface Mode STATIC
V VLAN Settings VLAN Tagging disabled
I IP Address 192.168.1.1/24
D DHCPD Enabled true
S DHCPD Range Start 192.168.1.100
E DHCPD Range End 192.168.1.150
[OK]
[Cancel]

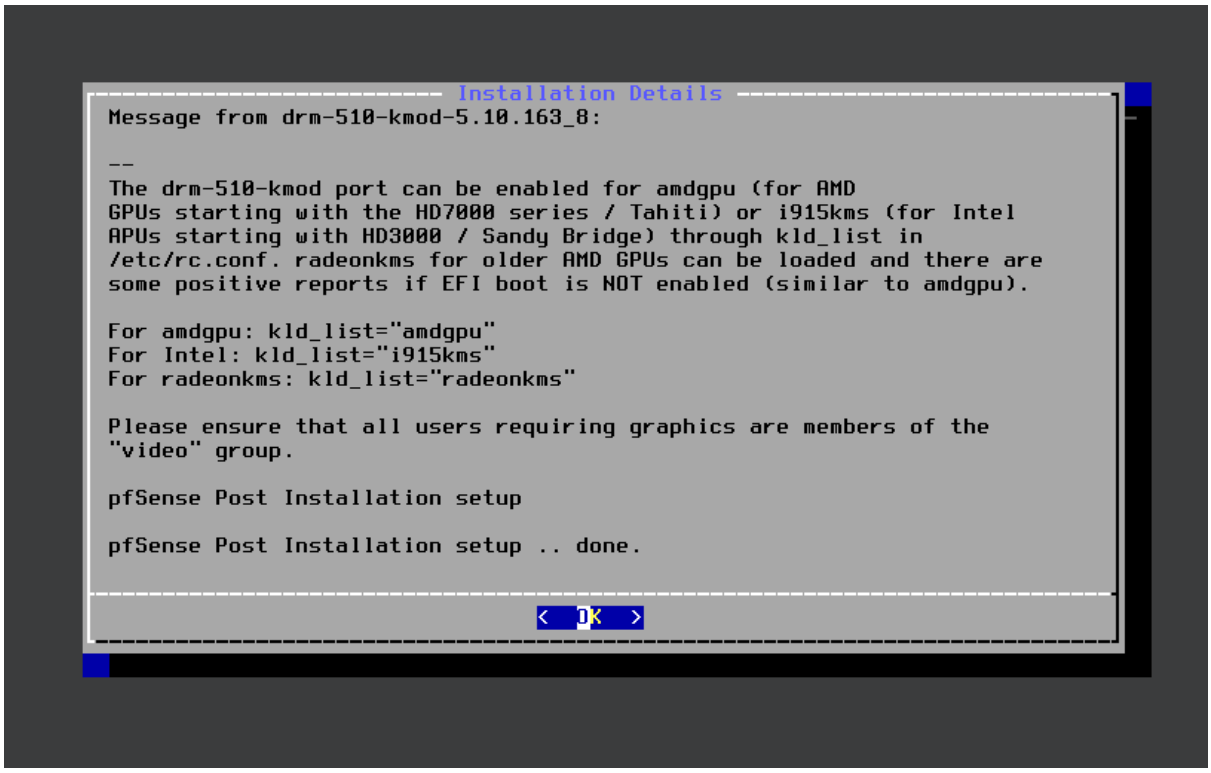

Netgate Installer - v1.0-RC
Active Subscription Validation
This device does not have an active pfSense Plus subscription.
To purchase pfSense Plus:
Software Store: https://www.netgate.com/purchase-plus
NDI: 541c 5edc cf49 a56c b44e
and select 'Retry Validation' once purchase is complete.
Or select 'Install CE' to install pfSense CE sofware.
[Install CE]
[Retry Validation]
[Cancel]


Netgate Installer - v1.0-RC
Installation Options
Please select the File System type and the Partition Scheme.
>>> Continue Proceed with the installation
F File System ZFS (recommended default)
P Partition Scheme GPT (compatible with MBR)
[OK]
[Cancel]
Continue with the displayed settings

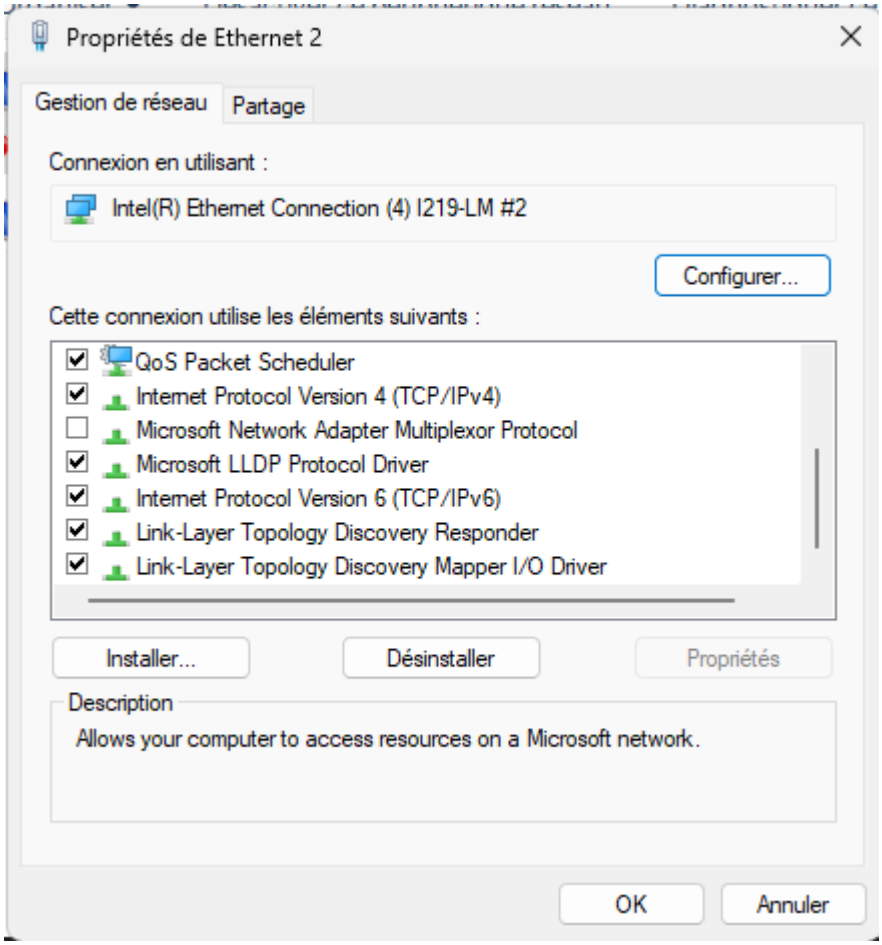

Netgate Installer - v1.0-RC
Installation Options
Please select the File System type and the Partition Scheme.
>>> Continue Proceed with the installation
F File System ZFS (recommended default)
P Partition Scheme GPT (compatible with MBR)
[OK] [Cancel]
Continue with the displayed settings

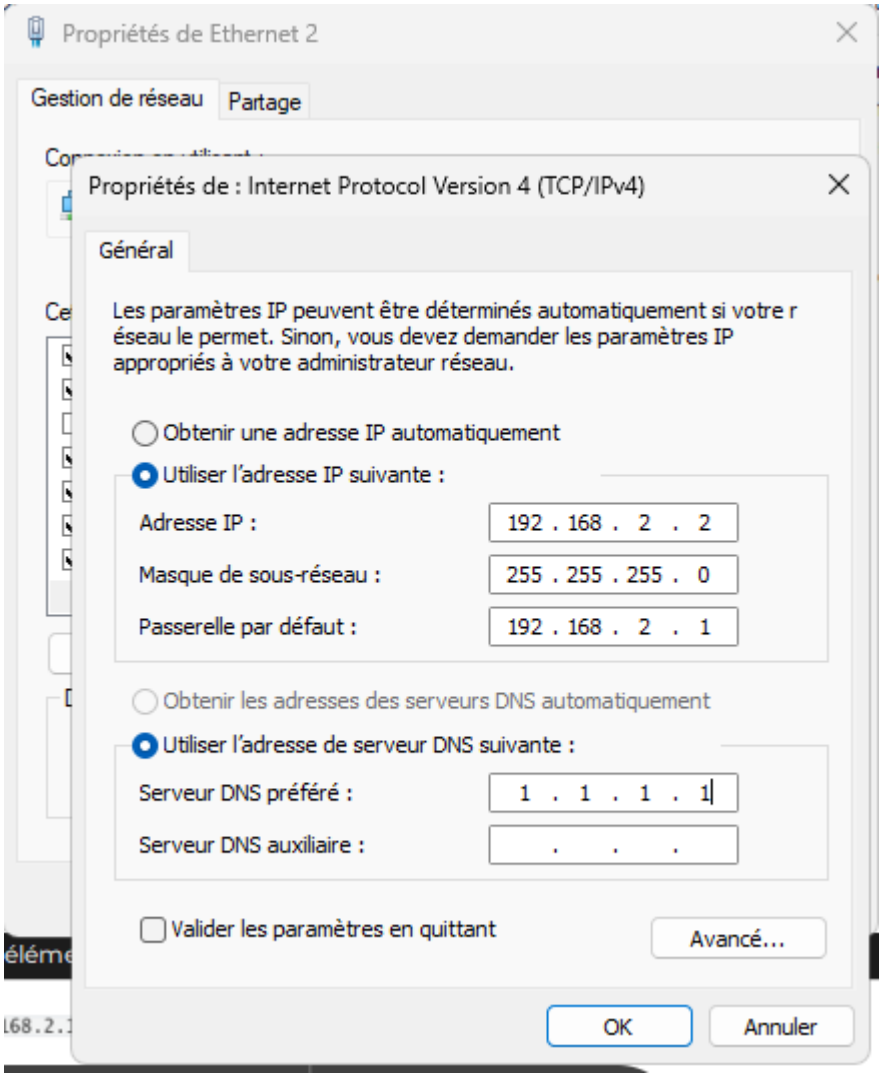

Netgate Installer - v1.0-RC
Disk Selection
Select the disk(s) for software installation.
[X] ada0 16G <VBOX HARDDISK>
[OK] [Cancel]

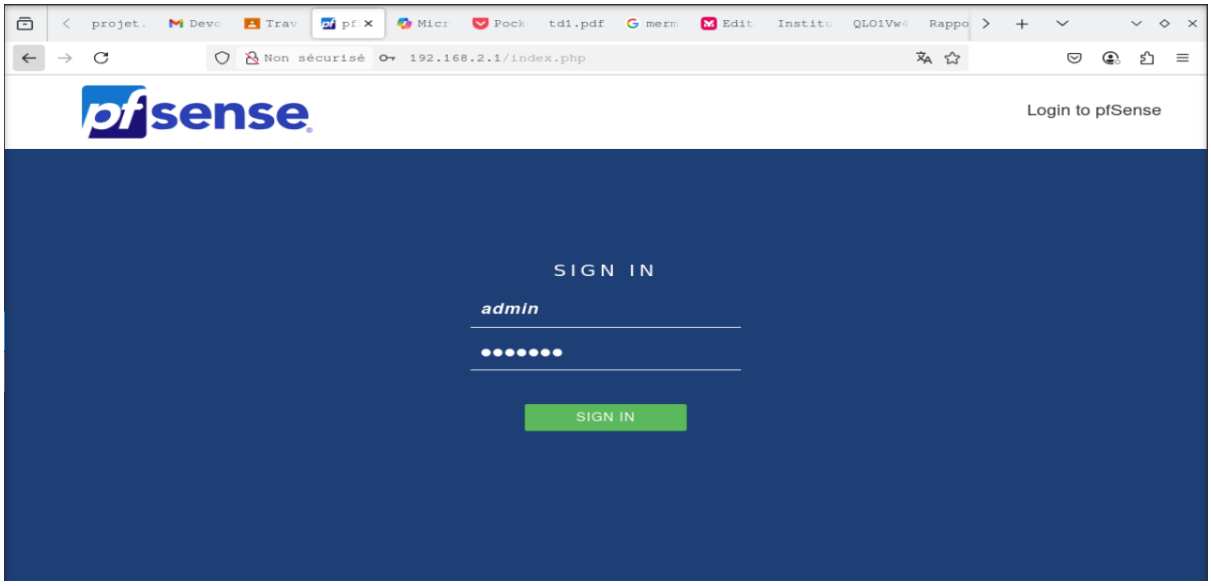

Netgate Installer - v1.0-RC
Software Version to Install
Select the version of pfSense CE to install.
0000-devel RC Version 2.8.0
0001-2.7.2 Current Stable Release (2.7.2)
0002-2.7.0 Deprecated Version (2.7.0)
[OK]
[Cancel]

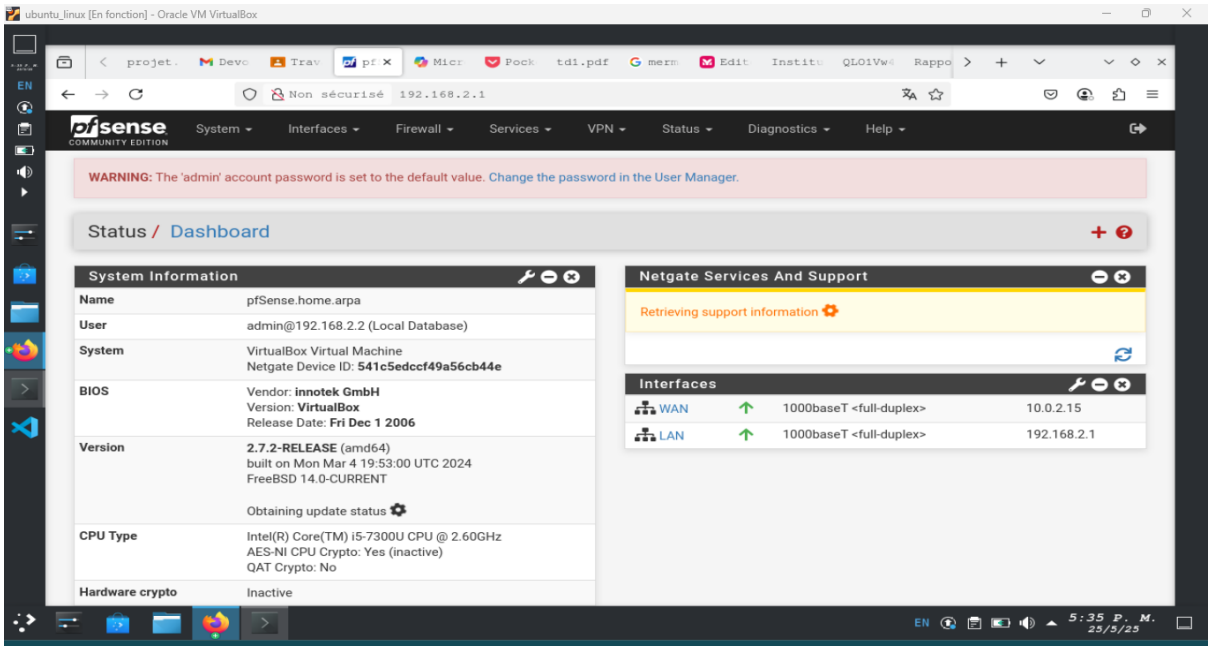

Installation Details
Message from drm-510-kmod-5.10.163_8:
--
The drm-510-kmod port can be enabled for amdgpu (for AMD
GPUs starting with the HD7000 series / Tahiti) or i915kms (for Intel
APUs starting with HD3000 / Sandy Bridge) through kld_list in
/etc/rc.conf. radeonkms for older AMD GPUs can be loaded and there are
some positive reports if EFI boot is NOT enabled (similar to amdgpu).
For amdgpu: kld_list="amdgpu"
For Intel: kld_list="i915kms"
For radeonkms: kld_list="radeonkms"
Please ensure that all users requiring graphics are members of the
"video" group.
pfSense Post Installation setup
pfSense Post Installation setup .. done.
< OK >

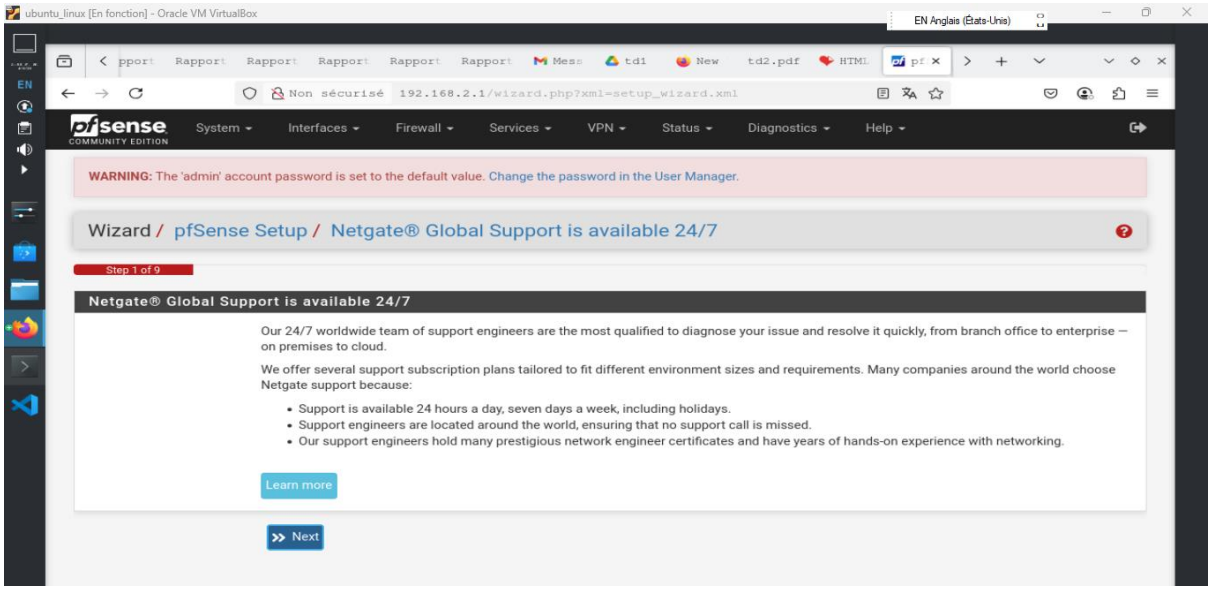
```
 0) Logout (SSH only)                  9) pfTop
 1) Assign Interfaces                 10) Filter Logs
 2) Set interface(s) IP address       11) Restart webConfigurator
 3) Reset webConfigurator password    12) PHP shell + pfSense tools
 4) Reset to factory defaults         13) Update from console
 5) Reboot system                     14) Enable Secure Shell (sshd)
 6) Halt system                       15) Restore recent configuration
 7) Ping host                         16) Restart PHP-FPM
 8) Shell

Enter an option: 2

Available interfaces:

1 - WAN (em0 - dhcp, dhcp6)
2 - LAN (em1 - dhcp, dhcp6)

Enter the number of the interface you wish to configure: 2

Configure IPv4 address LAN interface via DHCP? (y/n) y

Configure IPv6 address LAN interface via DHCP6? (y/n) n

Enter the new LAN IPv6 address.  Press <ENTER> for none:
> 192.168.2.1
```

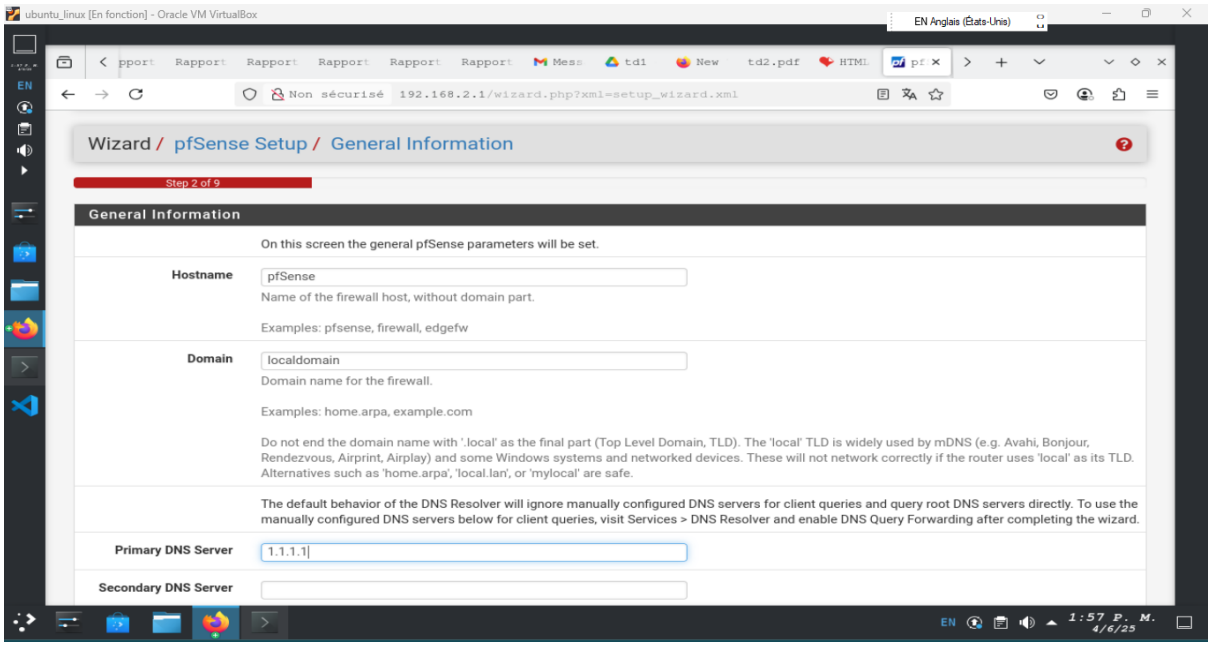


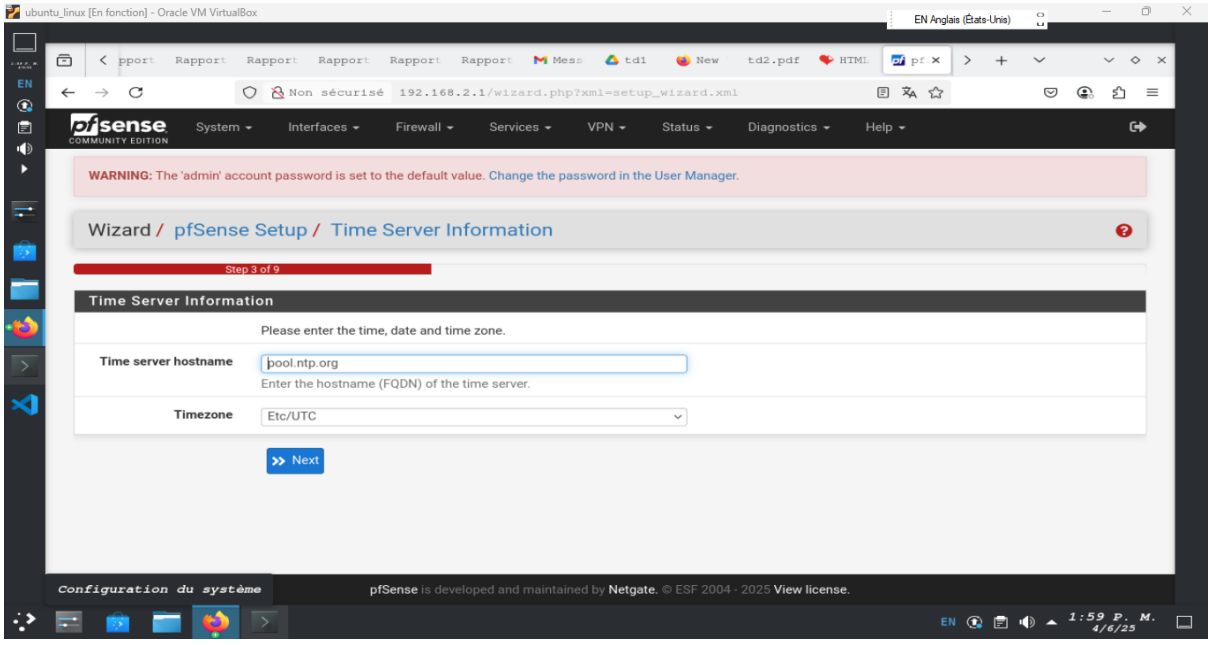

Propriétés de Ethernet 2
Gestion de réseau
Partage
Propriétés de : Internet Protocol Version 4 (TCP/IPv4)
Général
Les paramètres IP peuvent être déterminés automatiquement si votre r
éseau le permet. Sinon, vous devez demander les paramètres IP
appropriés à votre administrateur réseau.
Obtenir une adresse IP automatiquement
Utiliser l'adresse IP suivante :
Adresse IP : 192 . 168 . 2 . 2
Masque de sous-réseau : 255 . 255 . 255 . 0
Passerelle par défaut : 192 . 168 . 2 . 1
Obtenir les adresses des serveurs DNS automatiquement
Utiliser l'adresse de serveur DNS suivante :
Serveur DNS préféré : 1 . 1 . 1 . 1
Serveur DNS auxiliaire : . . .
Valider les paramètres en quittant
Avancé...
OK
Annuler

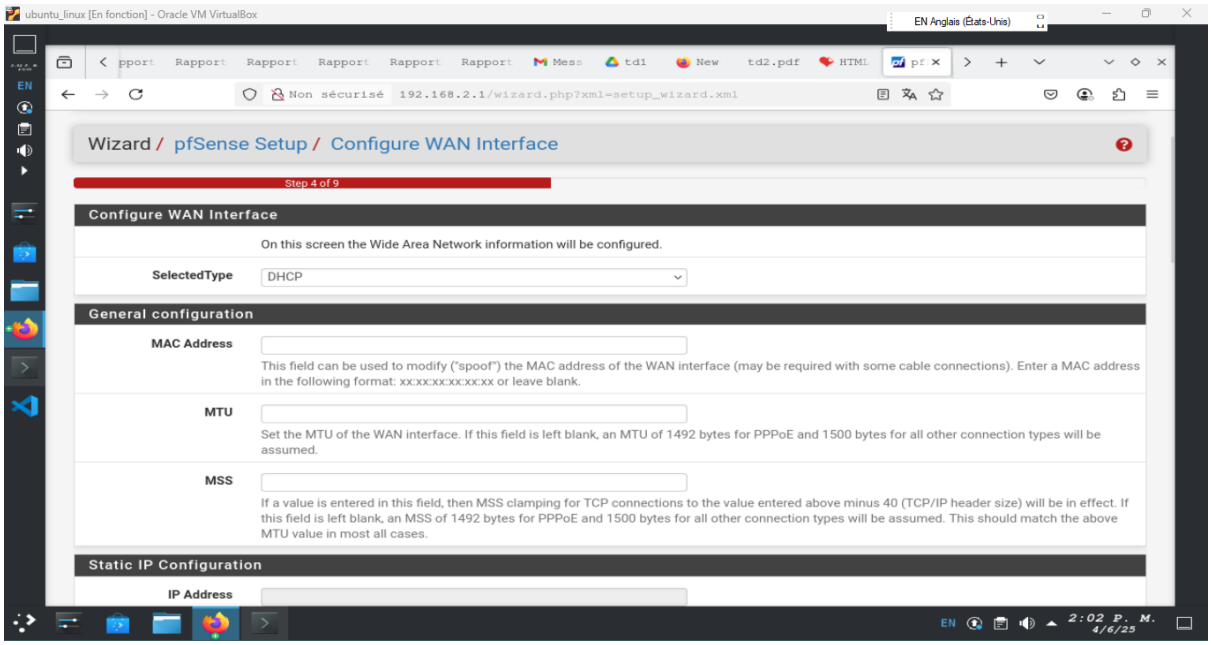

Non sécurisé
192.168.2.1/index.php
pfsense
Login to pfSense
SIGN IN
admin
SIGN IN

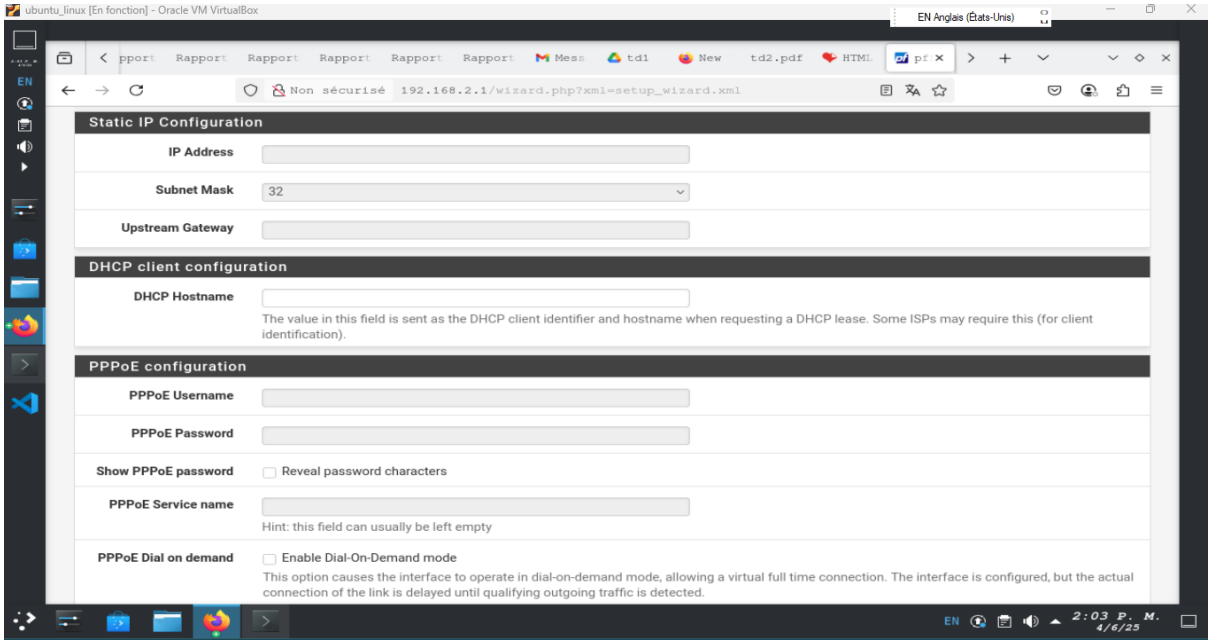

ubuntu_linux [En fonction] - Oracle VM VirtualBox
Non sécurisé 192.168.2.1
pfsense COMMUNITY EDITION
System Interfaces Firewall Services VPN Status Diagnostics Help
WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.
Status / Dashboard
System Information
Name pfSense.home.arpa
User admin@192.168.2.2 (Local Database)
System VirtualBox Virtual Machine
Netgate Device ID: 541c5edccf49a56cb44e
BIOS Vendor: innotek GmbH
Version: VirtualBox
Release Date: Fri Dec 1 2006
Version 2.7.2-RELEASE (amd64)
built on Mon Mar 4 19:53:00 UTC 2024
FreeBSD 14.0-CURRENT
Obtaining update status
CPU Type Intel(R) Core(TM) i5-7300U CPU @ 2.60GHz
AES-NI CPU Crypto: Yes (inactive)
QAT Crypto: No
Hardware crypto Inactive
Netgate Services And Support
Retrieving support information
Interfaces
WAN 1000baseT <full-duplex> 10.0.2.15
LAN 1000baseT <full-duplex> 192.168.2.1
5:35 P. M.
25/5/25

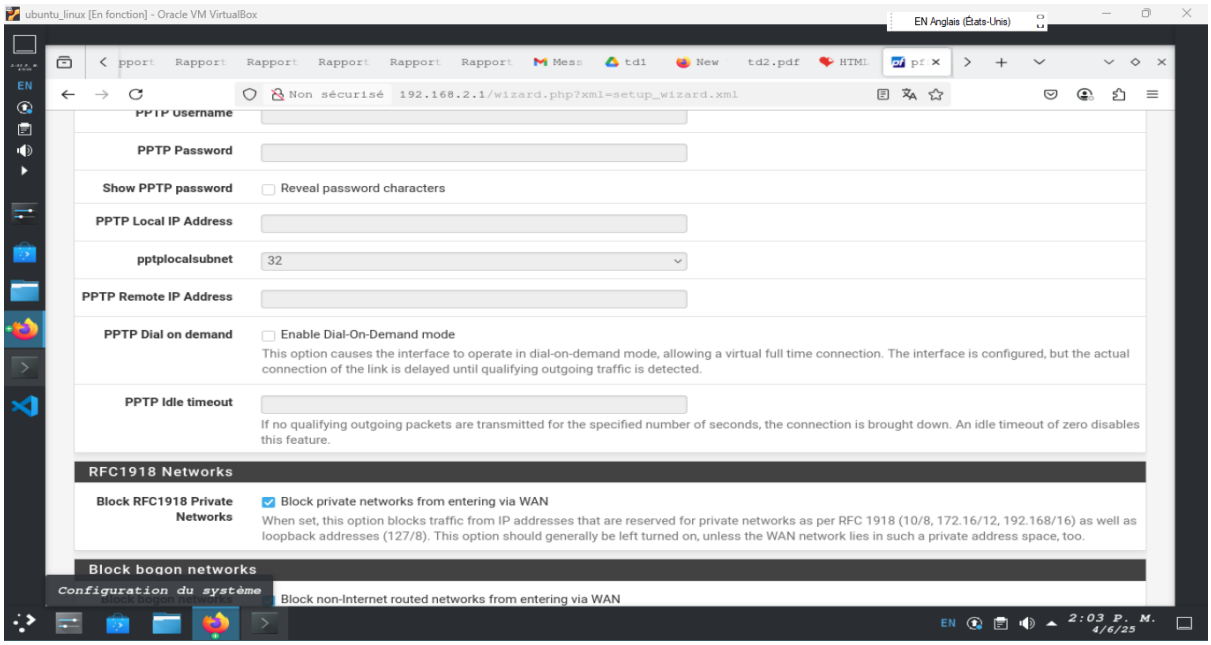

ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1/wizard.php?xml=setup_wizard.xml
pfsense COMMUNITY EDITION
System Interfaces Firewall Services VPN Status Diagnostics Help
WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.
Wizard / pfSense Setup / Netgate® Global Support is available 24/7
Step 1 of 9
Netgate® Global Support is available 24/7
Our 24/7 worldwide team of support engineers are the most qualified to diagnose your issue and resolve it quickly, from branch office to enterprise — on premises to cloud.
We offer several support subscription plans tailored to fit different environment sizes and requirements. Many companies around the world choose Netgate support because:
Support is available 24 hours a day, seven days a week, including holidays.
Support engineers are located around the world, ensuring that no support call is missed.
Our support engineers hold many prestigious network engineer certificates and have years of hands-on experience with networking.
Learn more
Next

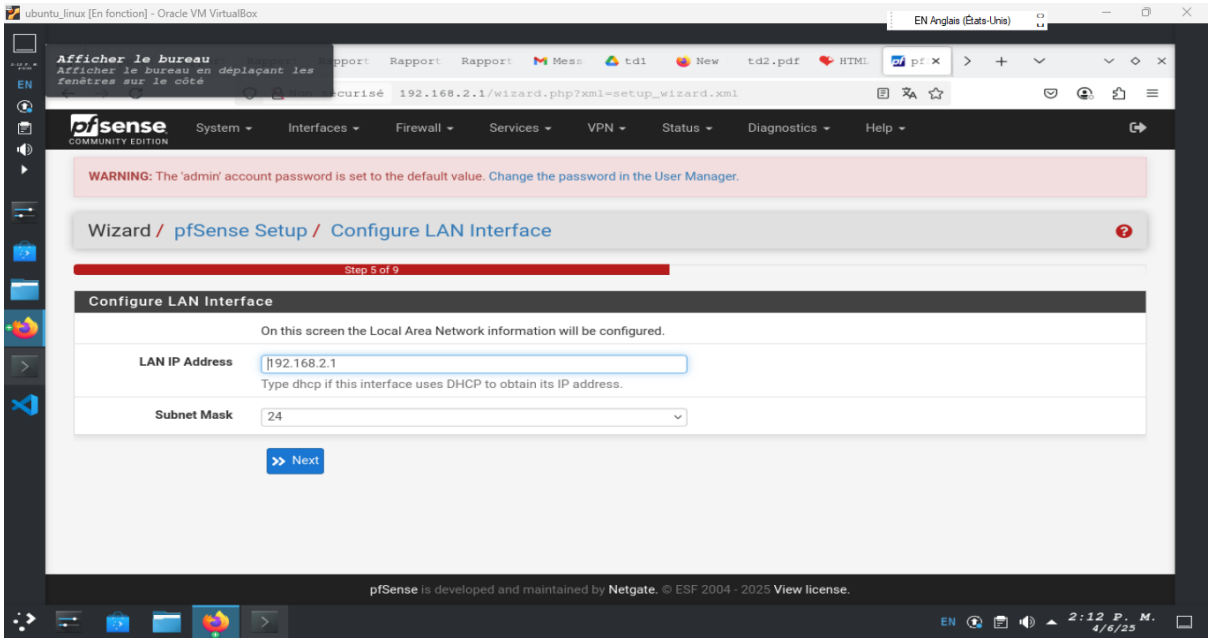

ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1/wizard.php?xml=setup_wizard.xml
Wizard / pfSense Setup / General Information
Step 2 of 9
General Information
On this screen the general pfSense parameters will be set.
Hostname
pfSense
Name of the firewall host, without domain part.
Examples: pfsense, firewall, edgefw
Domain
localdomain
Domain name for the firewall.
Examples: home.arpa, example.com
Do not end the domain name with '.local' as the final part (Top Level Domain, TLD). The 'local' TLD is widely used by mDNS (e.g. Avahi, Bonjour, Rendezvous, Airprint, Airplay) and some Windows systems and networked devices. These will not network correctly if the router uses 'local' as its TLD. Alternatives such as 'home.arpa', 'local.lan', or 'mylocal' are safe.
The default behavior of the DNS Resolver will ignore manually configured DNS servers for client queries and query root DNS servers directly. To use the manually configured DNS servers below for client queries, visit Services > DNS Resolver and enable DNS Query Forwarding after completing the wizard.
Primary DNS Server
1.1.1.1
Secondary DNS Server
1:57 P. M.
4/6/25

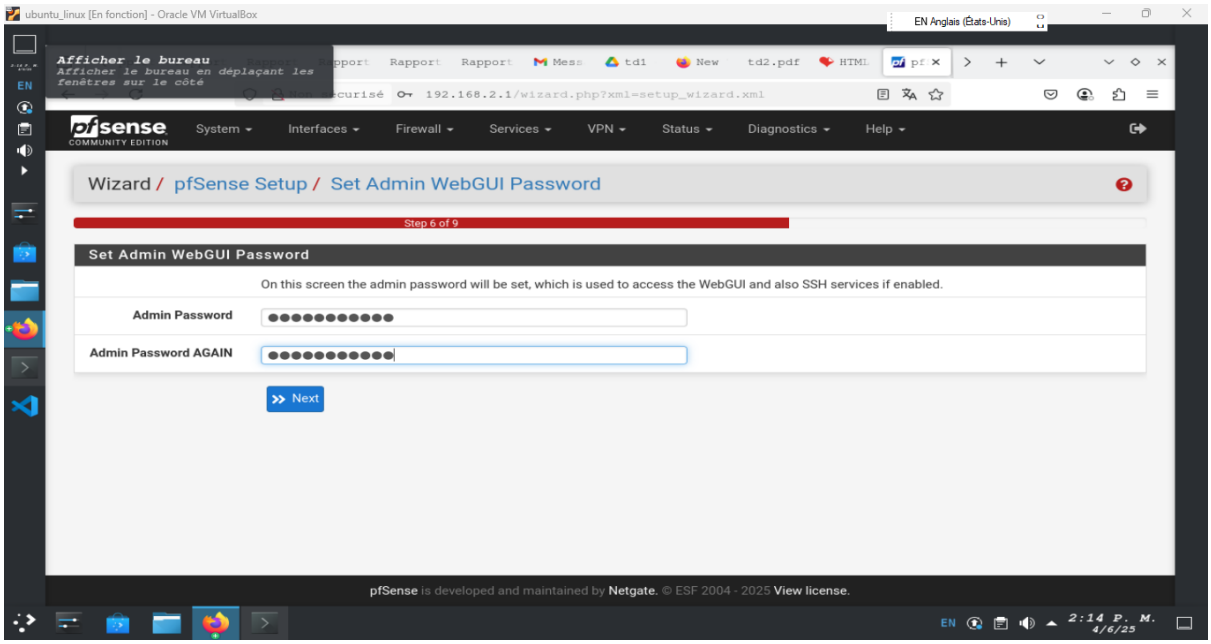

ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1/wizard.php?xml=setup_wizard.xml
pfsense COMMUNITY EDITION
System
Interfaces
Firewall
Services
VPN
Status
Diagnostics
Help
WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.
Wizard / pfSense Setup / Time Server Information
Step 3 of 9
Time Server Information
Please enter the time, date and time zone.
Time server hostname
pool.ntp.org
Enter the hostname (FQDN) of the time server.
Timezone
Etc/UTC
Next
Configuration du système
pfSense is developed and maintained by Netgate. © ESF 2004 - 2025 View license.
1:59 P. M.
4/6/25


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1/wizard.php?xml=setup_wizard.xml
Wizard / pfSense Setup / Configure WAN Interface
Step 4 of 9
Configure WAN Interface
On this screen the Wide Area Network information will be configured.
SelectedType
DHCP
General configuration
MAC Address
This field can be used to modify ("spoof") the MAC address of the WAN interface (may be required with some cable connections). Enter a MAC address in the following format: xx:xx:xx:xx:xx:xx or leave blank.
MTU
Set the MTU of the WAN interface. If this field is left blank, an MTU of 1492 bytes for PPPoE and 1500 bytes for all other connection types will be assumed.
MSS
If a value is entered in this field, then MSS clamping for TCP connections to the value entered above minus 40 (TCP/IP header size) will be in effect. If this field is left blank, an MSS of 1492 bytes for PPPoE and 1500 bytes for all other connection types will be assumed. This should match the above MTU value in most all cases.
Static IP Configuration
IP Address
2:02 P. M.
4/6/25


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1/wizard.php?xml=setup_wizard.xml
Static IP Configuration
IP Address
Subnet Mask
32
Upstream Gateway
DHCP client configuration
DHCP Hostname
The value in this field is sent as the DHCP client identifier and hostname when requesting a DHCP lease. Some ISPs may require this (for client identification).
PPPoE configuration
PPPoE Username
PPPoE Password
Show PPPoE password
Reveal password characters
PPPoE Service name
Hint: this field can usually be left empty
PPPoE Dial on demand
Enable Dial-On-Demand mode
This option causes the interface to operate in dial-on-demand mode, allowing a virtual full time connection. The interface is configured, but the actual connection of the link is delayed until qualifying outgoing traffic is detected.
2:03 P. M.
4/6/25


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1/wizard.php?xml=setup_wizard.xml
PPTP Username
PPTP Password
Show PPTP password
Reveal password characters
PPTP Local IP Address
pptplocalsubnet
32
PPTP Remote IP Address
PPTP Dial on demand
Enable Dial-On-Demand mode
This option causes the interface to operate in dial-on-demand mode, allowing a virtual full time connection. The interface is configured, but the actual connection of the link is delayed until qualifying outgoing traffic is detected.
PPTP Idle timeout
If no qualifying outgoing packets are transmitted for the specified number of seconds, the connection is brought down. An idle timeout of zero disables this feature.
RFC1918 Networks
Block RFC1918 Private Networks
Block private networks from entering via WAN
When set, this option blocks traffic from IP addresses that are reserved for private networks as per RFC 1918 (10/8, 172.16/12, 192.168/16) as well as loopback addresses (127/8). This option should generally be left turned on, unless the WAN network lies in such a private address space, too.
Block bogon networks
Configuration du système
Block non-Internet routed networks from entering via WAN
2:03 P. M.
4/6/25


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Afficher le bureau
Afficher le bureau en déplaçant les fenêtres sur le côté
192.168.2.1/wizard.php?xml=setup_wizard.xml
pfsense
COMMUNITY EDITION
System
Interfaces
Firewall
Services
VPN
Status
Diagnostics
Help
WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.
Wizard / pfSense Setup / Configure LAN Interface
Step 5 of 9
Configure LAN Interface
On this screen the Local Area Network information will be configured.
LAN IP Address
192.168.2.1
Type dhcp if this interface uses DHCP to obtain its IP address.
Subnet Mask
24
Next
pfSense is developed and maintained by Netgate. © ESF 2004 - 2025 View license.
2:12 P. M.
4/6/25


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Afficher le bureau
Afficher le bureau en déplaçant les fenêtres sur le côté
Non sécurisé 192.168.2.1/wizard.php?xml=setup_wizard.xml
pfSense COMMUNITY EDITION
System Interfaces Firewall Services VPN Status Diagnostics Help
Wizard / pfSense Setup / Set Admin WebGUI Password
Step 6 of 9
Set Admin WebGUI Password
On this screen the admin password will be set, which is used to access the WebGUI and also SSH services if enabled.
Admin Password
Admin Password AGAIN
Next
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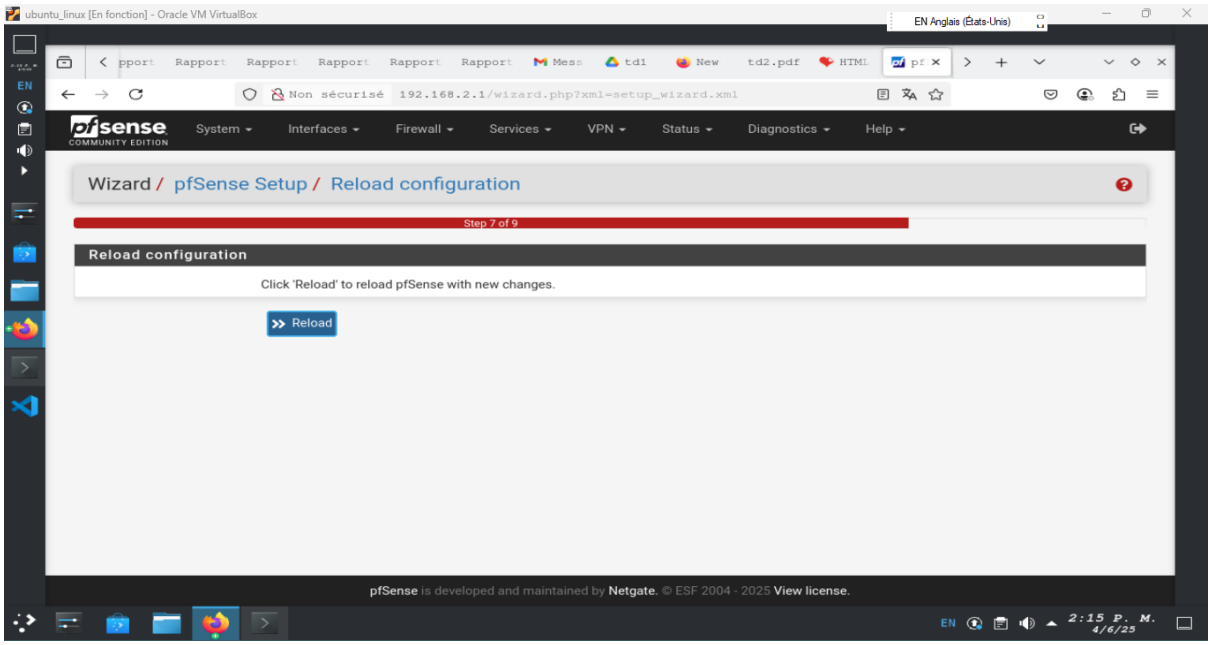
2:14 P. M. 4/6/25


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1/wizard.php?xml=setup_wizard.xml
pfSense COMMUNITY EDITION
System Interfaces Firewall Services VPN Status Diagnostics Help
Wizard / pfSense Setup / Reload configuration
Step 7 of 9
Reload configuration
Click 'Reload' to reload pfSense with new changes.
Reload
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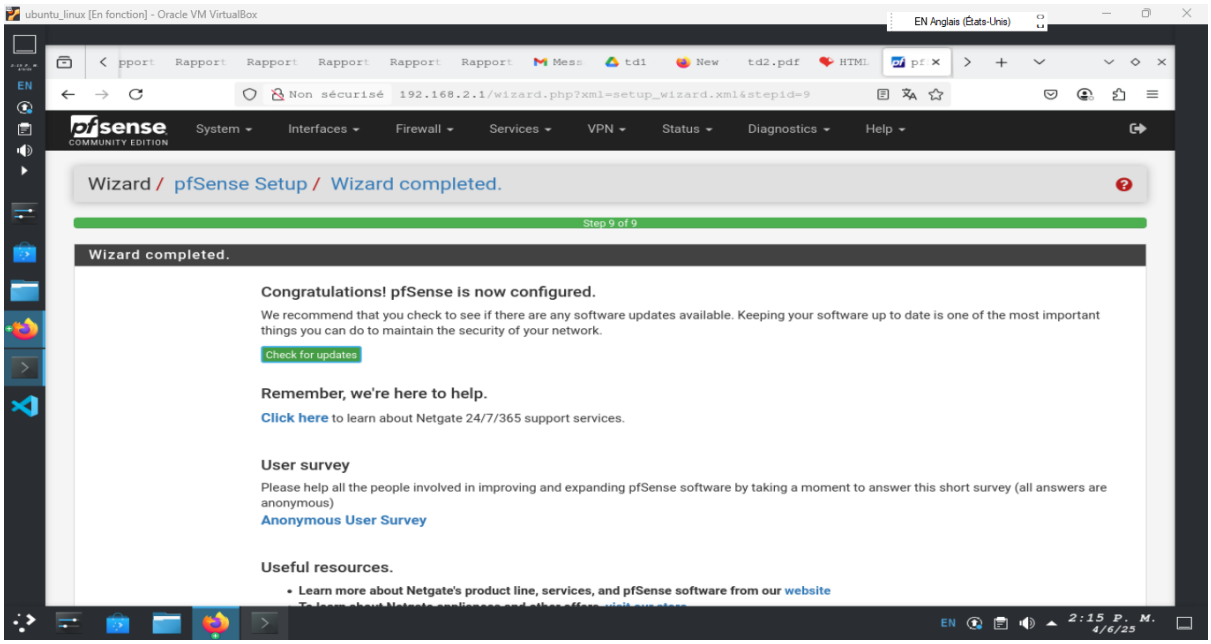
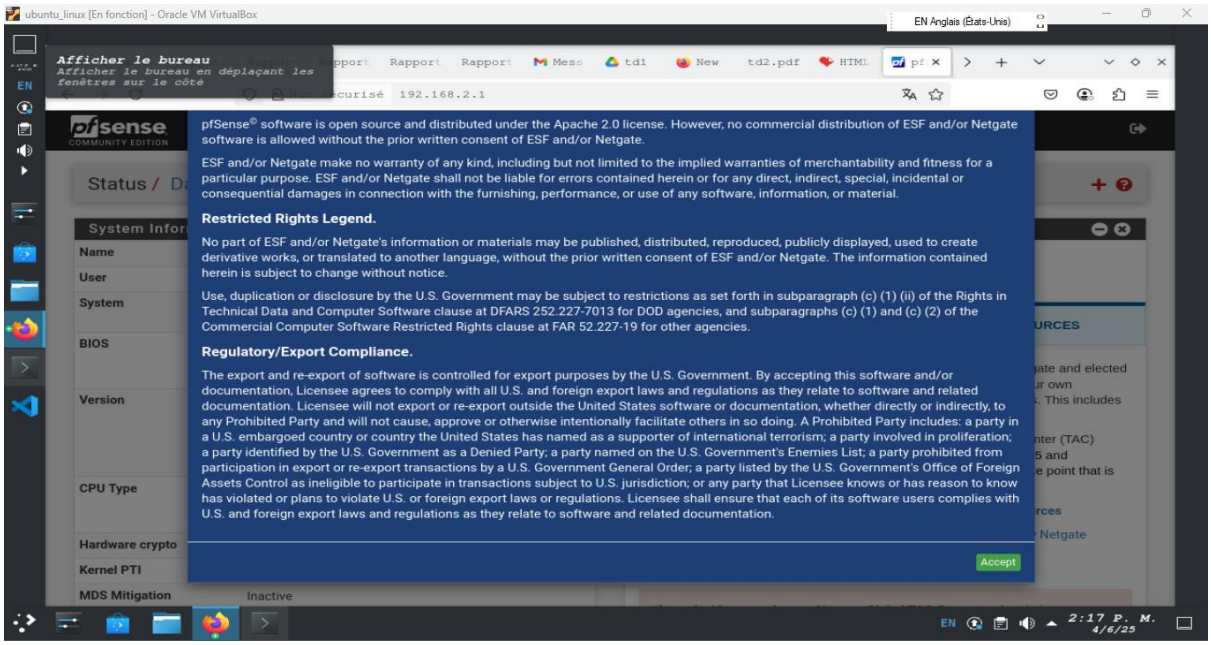
2:15 P. M. 4/6/25


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1/wizard.php?xml=setup_wizard.xml&stepid=9
pfSense COMMUNITY EDITION
System Interfaces Firewall Services VPN Status Diagnostics Help
Wizard / pfSense Setup / Wizard completed.
Step 9 of 9
Wizard completed.
Congratulations! pfSense is now configured.
We recommend that you check to see if there are any software updates available. Keeping your software up to date is one of the most important things you can do to maintain the security of your network.
Check for updates
Remember, we're here to help.
Click here to learn about Netgate 24/7/365 support services.
User survey
Please help all the people involved in improving and expanding pfSense software by taking a moment to answer this short survey (all answers are anonymous)
Anonymous User Survey
Useful resources.
Learn more about Netgate's product line, services, and pfSense software from our website
2:15 P. M. 4/6/25


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Afficher le bureau
Afficher le bureau en déplaçant les fenêtres sur le côté
192.168.2.1
pfSense COMMUNITY EDITION
Status / D
System Infor
Name
User
System
BIOS
Version
CPU Type
Hardware crypto
Kernel PTI
MDS Mitigation
Inactive
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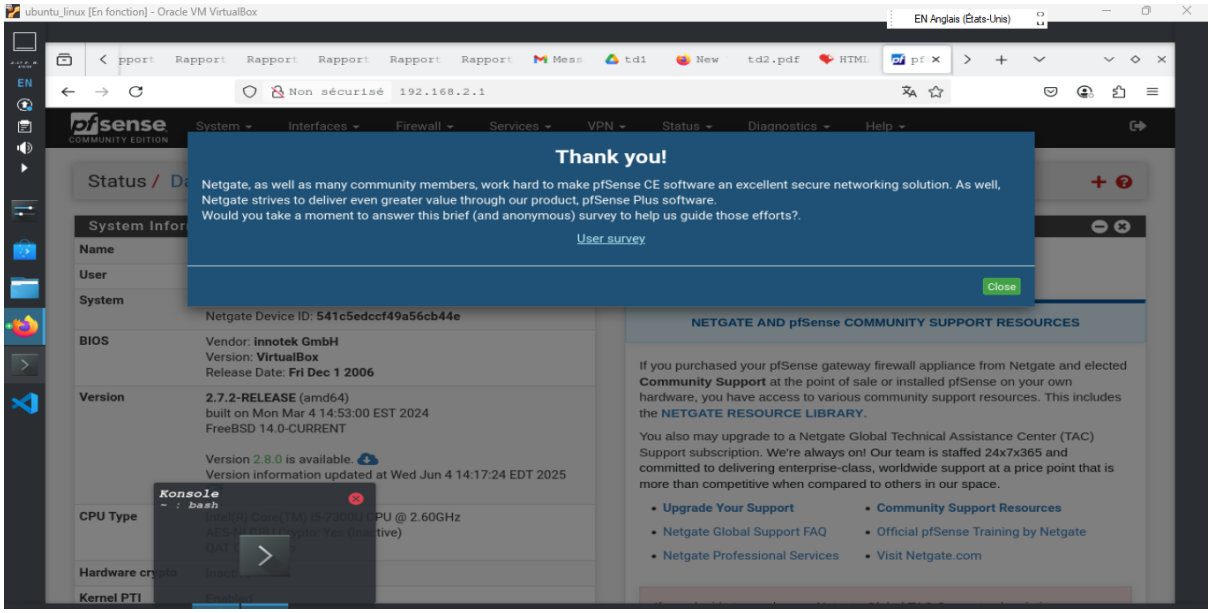
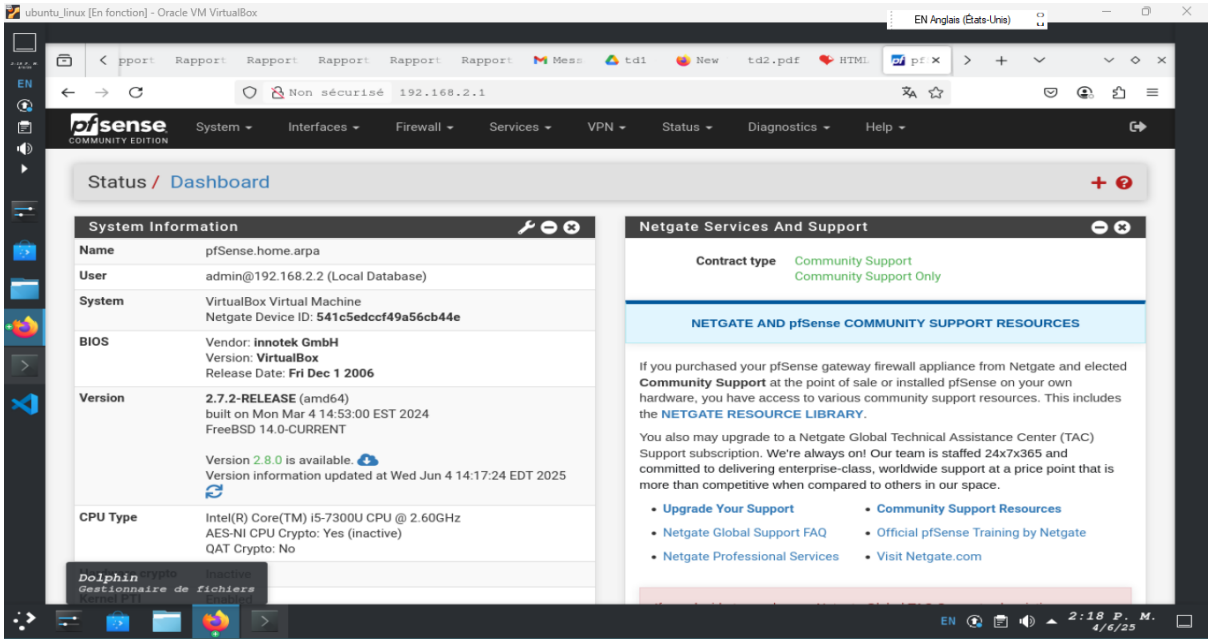
Accept
2:17 P. M. 4/6/25


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1
pfSense COMMUNITY EDITION
System Interfaces Firewall Services VPN Status Diagnostics Help
Thank you!
Netgate, as well as many community members, work hard to make pfSense CE software an excellent secure networking solution. As well, Netgate strives to deliver even greater value through our product, pfSense Plus software.
Would you take a moment to answer this brief (and anonymous) survey to help us guide those efforts?.
User survey
Close
Status / D
System Infor
Name
User
System
Netgate Device ID: 541c5edccf49a56cb44e
BIOS
Vendor: innotek GmbH
Version: VirtualBox
Release Date: Fri Dec 1 2006
Version
2.7.2-RELEASE (amd64)
built on Mon Mar 4 14:53:00 EST 2024
FreeBSD 14.0-CURRENT
Version 2.8.0 is available.
Version information updated at Wed Jun 4 14:17:24 EDT 2025
CPU Type
Hardware cr
Kernel PTI
Konsole
~ : bash
NETGATE AND pfSense COMMUNITY SUPPORT RESOURCES
If you purchased your pfSense gateway firewall appliance from Netgate and elected Community Support at the point of sale or installed pfSense on your own hardware, you have access to various community support resources. This includes the NETGATE RESOURCE LIBRARY.
You also may upgrade to a Netgate Global Technical Assistance Center (TAC) Support subscription. We're always on! Our team is staffed 24x7x365 and committed to delivering enterprise-class, worldwide support at a price point that is more than competitive when compared to others in our space.
Upgrade Your Support
Community Support Resources
Netgate Global Support FAQ
Official pfSense Training by Netgate
Netgate Professional Services
Visit Netgate.com


ubuntu_linux [En fonction] - Oracle VM VirtualBox
EN Anglais (États-Unis)
Non sécurisé 192.168.2.1
pfSense COMMUNITY EDITION
System Interfaces Firewall Services VPN Status Diagnostics Help
Status / Dashboard
System Information
Name pfSense.home.arpa
User admin@192.168.2.2 (Local Database)
System VirtualBox Virtual Machine
Netgate Device ID: 541c5edccf49a56cb44e
BIOS
Vendor: innotek GmbH
Version: VirtualBox
Release Date: Fri Dec 1 2006
Version
2.7.2-RELEASE (amd64)
built on Mon Mar 4 14:53:00 EST 2024
FreeBSD 14.0-CURRENT
Version 2.8.0 is available.
Version information updated at Wed Jun 4 14:17:24 EDT 2025
CPU Type
Intel(R) Core(TM) i5-7300U CPU @ 2.60GHz
AES-NI CPU Crypto: Yes (inactive)
QAT Crypto: No
Dolphin
Gestionnaire de fichiers
Netgate Services And Support
Contract type
Community Support
Community Support Only
NETGATE AND pfSense COMMUNITY SUPPORT RESOURCES
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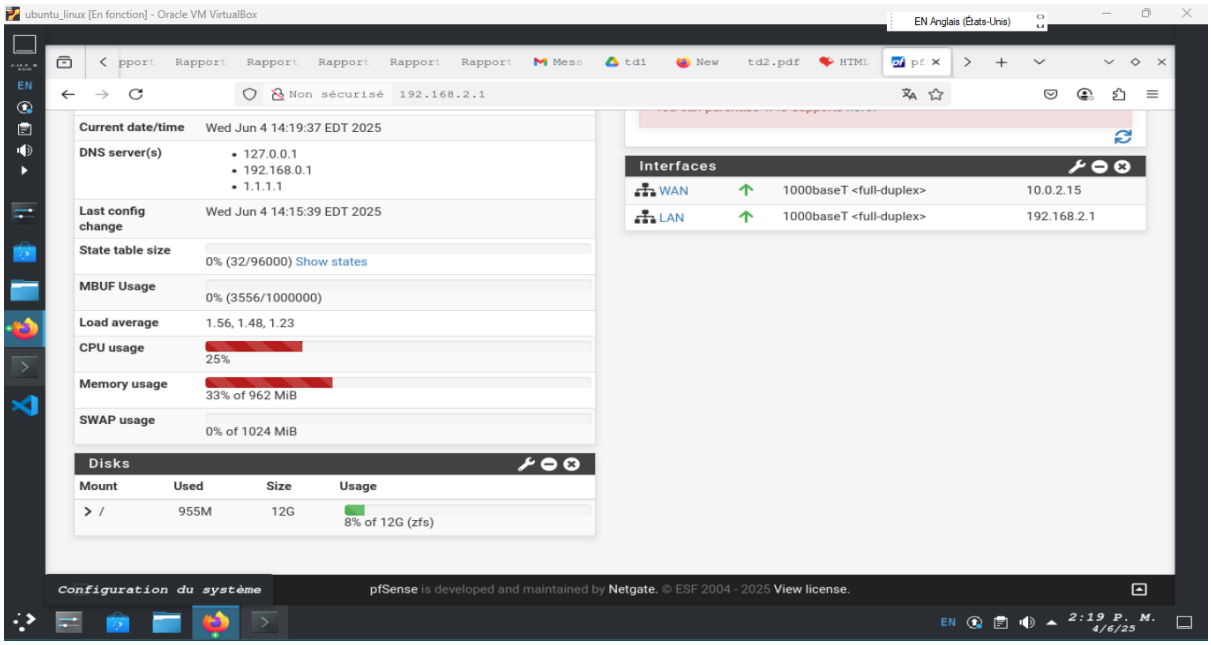
EN
2:18 P. M.
4/6/25



En conclusion, ce TD me permet d'installer et de configurer Pfsense.