

# **Document d'exploitation**

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# 1. Définition

Gratuit et open-source, PfSense est une pare-feu basé sur le système d'exploitation FreeBSD. Il est utilisé non seulement comme pare-feu mais également comme routeur. Le DHCP peut être activé dessus. Facile à utiliser et configurable il fournit non seulement des fonctions de routage mais permet aussi de connecter plusieurs réseaux. Il comporte l'équivalent libre des outils et services utilisés habituellement sur des routeurs professionnels propriétaires. PfSense convient pour la sécurisation d'un réseau domestique ou d'entreprise.

Après l'installation manuelle nécessaire pour assigner les interfaces réseaux, il s'administre ensuite à distance depuis l'interface web (appelé WebGUI) PfSense gère nativement les VLAN.

Comme sur les distributions Linux, PfSense intègre aussi un gestionnaire de paquets pour installer des fonctionnalités supplémentaires, comme un proxy ou un serveur de voix sur IP.

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PfSense peut fonctionner sur du matériel de serveur ou domestique, sur des solutions embarquées, sans toutefois demander beaucoup de ressources ni de matériel puissant.

Notre choix a porté sur une tour d'ordinateur d'architecture x64, sur laquelle nous avons installé une carte réseau avec 4 ports supplémentaires.

Cette tour possède 8Gb de RAM et un CPU Intel Core 2 Duo E7500 2.93GHz ainsi qu'un disque dur de 500Gb.

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# 3. Installation

Tout d'abord, nous démarrons sur une clé USB bootable avec PfSense dessus.

Une clé bootable est une clé formatée avec un logiciel comme Rufus. Ce formatage est très spécifique puisqu'il installe le fichier ISO du système d'exploitation sélectionné et permet de démarrer un poste sur ladite clé USB, et ce dans le but d'installer l'OS sur le poste.

Une fois fait, PfSense nous demande de choisir le clavier à utiliser :



Nous avons choisi le clavier Français.

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Puis nous devons choisir le format du disque dur :

| low would  | you like to                    | partitioning<br>partition your disk?  |                |
|--|--------------------------------|---|----------------|
| <mark>Auto (</mark><br>Auto (<br>Auto (<br>Manual<br>Shell | ZFS)<br>UFS) BIOS<br>UFS) UEFI | Guided Root-on-ZFS<br>Guided Disk Setup using BIOS boot m<br>Guided Disk Setup using UEFI boot m<br>Manual Disk Setup (experts)<br>Open a shell and partition by hand | ethod<br>ethod |
|  | ٢                              | DK > <cancel></cancel>  |                |

Nous avons porté notre choix sur un format ZFS qui est open source et maintenu, des mises à jour régulières sont faites encore aujourd'hui.

A contrario, UFS est un ancien partitionnement qui n'est plus maintenue à jour et qui est voué à être remplacé par le ZFS.

Viens ensuite le choix de redondance de données :

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| S | elect Virtual Device type:   |
|---|--|
|   | StripeStripeNo RedundancymirrorMirror - n-Way Mirroringraid10RAID 1+0 - n x 2-Way Mirrorsraid21RAID-Z1 - Single Redundant RAIDraid22RAID-Z2 - Double Redundant RAIDraid23RAID-Z3 - Triple Redundant RAID |
|   | <pre>Cancel&gt;</pre>  |

N'ayant qu'un seul disque dur dans notre machine, nous avons donc utilisé l'option stripe, qui ne fait pas de redondance.

Avec plus de moyen, il aurait été préférable de faire une redondance sur un deuxième disque.

Viens alors le choix de disque sur lequel installer l'OS :

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ici, ada0 est le disque de notre ordinateur

da0 est notre clé bootable

label/swap0 est le fichier de swap créé suite à la redondance de données

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PfSense demande alors si nous sommes sûrs de notre choix car cela va écraser les données sur le disque dur :

| pfSense Installer                             |  |
|---|--|
|   |  |
|   |  |
|   |  |
|   |  |
| ZFS Configuration                             |  |
| Last Chance! Are you sure you want to destroy |  |
| the current contents of the following disks:  |  |
| ada0  |  |
|   |  |
|   |  |
| [Press arrows, TAB or ENTER]                  |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |

Une fois validé, l'installation se lance :

| pfSense Install | er                |             |      |        |  |
|-----------------|-------------------|-------------|------|--------|--|
|                 |                   |             |      |        |  |
|                 |                   |             |      |        |  |
|                 |                   |             |      |        |  |
|                 | Fetching          | Distributio | m    | ·····] |  |
|                 | MANIFEST          | ſ           | Done | 1      |  |
|                 | base.txz          | E           | 84%  | ]      |  |
|                 | Fetching distribu | tion files  |      |        |  |
|                 | -<br>0            |             |      |        |  |
|                 |                   | 84%.        |      |        |  |
|                 | L                 |             |      | J      |  |
|                 |                   |             |      |        |  |
|                 |                   |             |      |        |  |
|                 |                   |             |      |        |  |
|                 |                   |             |      |        |  |
|                 |                   |             |      |        |  |
|                 |                   |             |      |        |  |

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Afin de finaliser l'installation, PfSense doit redémarrer :



PfSense est maintenant installé et il ne reste que la configuration :

ress <ENTER> to continue. lirtualBox Virtual Machine - Netgate Device ID: 309969253ab04587eaed \*\*\* Welcome to pfSense 2.5.2-RELEASE (amd64) on pfSense \*\*\* WAN (wan) -> v4: 192.168.110.201/24 -> em0 LAN (lan) -> em1 -> v4: 172.32.16.0/16 9) pfTop 10) Filter Logs 0) Logout (SSH only) 1) Assign Interfaces 2) Set interface(s) IP address 11) Restart webConfigurator 12) PHP shell + pfSense tools 13) Update from console 3) Reset webConfigurator password 4) Reset to factory defaults 14) Enable Secure Shell (sshd) 5) Reboot system 15) Restore recent configuration16) Restart PHP-FPM 6) Halt system 7) Ping host 8) Shell nter an option: 📕

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# 4. Configuration

Une fois sur l'écran principal de PfSense, nous devons configurer l'interface LAN, pour ce faire nous allons sélectionner l'option 2, qui permet de paramétrer les interfaces :

ress <ENTER> to continue. lirtualBox Virtual Machine - Netgate Device ID: 309969253ab04587eaed \*\* Welcome to pfSense 2.5.2-RELEASE (amd64) on pfSense \*\*\* -> v4: 192.168.110.201/24 -> v4: 172.32.16.0/16 WAN (wan) -> em0 LAN (lan) -> em1 0) Logout (SSH only) 1) Assign Interfaces 9) pfTop 10) Filter Logs 2) Set interface(s) IP address 11) Restart webConfigurator Reset webConfigurator password
 Reset to factory defaults 12) PHP shell + pfSense tools 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 nter an option: 📕

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Une fois le LAN sélectionné, PfSense demande l'adresse IP :



ici, nous avons mis l'adresse IP 192.168.1.1 pour notre LAN

Viens alors le choix du masque IP que nous allons mettre en 255.255.255.0 car décision du client :

| Enter the number of the interface you wish to configure: 2   |
|--|
| Enter the new LAN IPv4 address. Press <enter> for none:<br/>&gt; 192.168.1.1</enter>   |
| Subnet masks are entered as bit counts (as in CIDR notation) in pfSense.<br>e.g. 255.255.255.0 = 24<br>255.255.0.0 = 16<br>255.0.0.0 = 8 |
| Enter the new LAN IPv4 subnet bit count (1 to 31):<br>> 24   |

24 correspond au masque 255.255.255.0

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Une fois le masque choisi, PfSense nous demande une passerelle, mais ceci ne concerne pas le LAN, nous passons donc à l'étape suivante.

Puis vient la configuration en IPv6, que nous n'allons pas utiliser, et enfin, nous n'utiliserons pas le DHCP de PfSense, nous pouvons alors le désactiver :

```
Subnet masks are entered as bit counts (as in CIDR notation) in pfSense.

e.g. 255.255.255.0 = 24

255.255.0.0 = 16

255.0.0.0 = 8

Enter the new LAN IPv4 subnet bit count (1 to 31):

> 24

For a WAN, enter the new LAN IPv4 upstream gateway address.

For a LAN, press <ENTER> for none:

>

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

>

Do you want to enable the DHCP server on LAN? (y/n) n

Disabling IPv4 DHCPD...

Disabling IPv6 DHCPD...
```

Une fois validé voici l'écran :

```
Please wait while the changes are saved to LAN...
Reloading filter...
Reloading routing configuration...
DHCPD...
The IPv4 LAN address has been set to 192.168.1.1/24
You can now access the webConfigurator by opening the following URL in your web
browser:
https://192.168.1.1/
```

Press <ENTER> to continue.

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| *** Welcome to pfSense 2.5.2-RELEASE  | (amd64) on pfSense ***  |
|---|---|
| WAN (wan)         -> em0         -> v4           LAN (lan)         -> em1         -> v4   | : 192.168.110.201/24<br>: 192.168.1.1/24  |
| <ul> <li>0) Logout (SSH only)</li> <li>1) Assign Interfaces</li> <li>2) Set interface(s) IP address</li> <li>3) Reset webConfigurator password</li> <li>4) Reset to factory defaults</li> <li>5) Reboot system</li> <li>6) Halt system</li> <li>7) Ping host</li> <li>8) Shell</li> </ul> | <ul> <li>9) pfTop</li> <li>10) Filter Logs</li> <li>11) Restart webConfigurator</li> <li>12) PHP shell + pfSense tools</li> <li>13) Update from console</li> <li>14) Enable Secure Shell (sshd)</li> <li>15) Restore recent configuration</li> <li>16) Restart PHP-FPM</li> </ul> |
|   |   |

ici, PfSense nous montre bien la nouvelle adresse enregistré sur le LAN

Nous allons ensuite nous connecter à l'interface Web de PfSense en tapant l'adresse IP 192.168.1.1 sur un navigateur Web :



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Après s'être connecté à PfSense grâce aux login et mots de par défaut que nous changerons par la suite, nous pouvons commencer les configurations.

PfSense nous propose de configurer l'IP du LAN, mais comme nous l'avons fait directement dans la configuration, nous pouvons passer cette étape :

| With Reference Reference Viet A Reference Viet A Reference Note  |  | <form></form>  | <form></form>  |  |  |  |                             |  |
|---|--|--|--|--|--|--|-----------------------------|--|
| <form></form>   | <form></form>  | <complex-block></complex-block>  | <complex-block></complex-block>  | <form></form>  | <form></form>  | <complex-block></complex-block>  | COMMUNITY LOITION System    | Interfaces + Firewall + Services + VPN + Status + Diagnostics + Help + 🔮   |
| <form></form>   | <form></form>  | <form></form>  | <complex-block></complex-block>  | <form></form>  | <form></form>  | <form></form>  | WARNING: The 'admin' acco   | unt password is set to the default value. Change the password in the User Manager.   |
| Selected Type     Selected Type     Selected Type     Selected Type     MC Address     Selected Type     Selected Type <td></td> <td><form></form></td> <td><form></form></td> <td><form></form></td> <td><form></form></td> <td><form></form></td> <th>Wizard / pfSense</th> <td>Setup / Configure WAN Interface 🛛 😧</td>  |  | <form></form>  | <form></form>  | <form></form>  | <form></form>  | <form></form>  | Wizard / pfSense            | Setup / Configure WAN Interface 🛛 😧  |
| Configure WAAH Interface   On this screen the Wide Area Network Information will be configured.   Selector Type   Selector Type   MAC Address   The field on brend of Proport) Net MAC address in the following format: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  | Certifique WAN Interface   General control uses cannot be Wide-Area Netwook information will be configured.   SectorsType   SectorsType   MCA Address   The field can be used to model? ("good") the MAC address of the WAN interface (may be required with some cable connection). Enter a MAC address in the fields met to searce cache connection (topes will be in the fields met tope of the WAN interface (Field Sectors and the WAN interface).   MU   General configuration   MU   General configuration   MU   General configuration   MU   General configuration   MU   Sector POPOLICIENT   The shade in the field, ther MSG clamping for TCP connections to the value entered above minus 40 (TCP)/Pheader stop) will be in effect. If it is hold and the back of the MSG clamping for TCP connections to the value entered above minus 40 (TCP)/Pheader stop) will be in effect. If it is hold and the back of the MSG clamping for TCP connections to the value entered above minus 40 (TCP)/Pheader stop) will be in effect. If it is hold and the back of the MSG clamping for TCP connections to the value entered above minus 40 (TCP)/Pheader stop) will be in effect. If it is hold and the back of the MSG clamping for TCP connections to the value entered above minus 40 (TCP)/Pheader stop) will be in effect. If it is hold and the back of the MSG clamping for TCP connections to the value entered above minus 40 (TCP)/Pheader stop) will be in effect. If it is hold and the back of the MSG clamping for TCP connections to the value entered above minus 40 (TCP)/Pheader stop) will be in effect. If it is hold and the back of the MSG clamping for TCP connections to the value entered above minus 40 (TCP)/Pheader stop) will be in effect. If it is hold and the back of the  |  | Configure VAM Interface:     Between the Wike Area Network information will be configured:     Sector Type:     The discrete metwork information will be configured:     MU       Address:   The discrete metwork information will be configured:   MU       Address:   The discrete metwork information will be configured:   MU       Address:   The discrete metwork information will be configured:   MU       Static IP Configured VAM Interface:   The discrete metwork information will be configured:      MU       Static IP Configured VAM Interface:   The discrete metwork information will be configured:      MU   Sector IP Configured VAM Interface:                   Static IP Configured VAM Interface:   Pactors:   Total Configured VAM Interface:   Pactors:   Total Configured VAM Interface:   Pactors:   VEXTOR   Pactors:   Vextor   Vextor   Vextor   Vextor   Vextor   Pactors:   Vextor   Vextor <td><form></form></td> <td><form></form></td> <td></td> <th></th> <td>Step 4 of 9</td>   | <form></form>  | <form></form>  |  |                             | Step 4 of 9  |
| In this scene the Wide Area Network information will be configured.   SeciendType   Static   Configured LAN Interface   If a scene the Wide Area Network information will be configured.   Configured LAN Interface   Mu    Mu   Mu <   | In this scenes the Wide Area Netwook Information will be configured.   Sector Type   Much Address   | <form></form>  | <form></form>  | <form></form>  | <form></form>  | On the screen the Wide Area Methodes information will be configured.   SciencesTrype:   State:   M.C. Address:   The field can be used to modify ('upoof') the MAC address of the Wide Interface (here just each ender doors enclosed, pages will be assumed.   M.T.   M.T.   Berther MUV of the Mide Interface.   M.T.   Berther Muteria   Be  | Configure WAN Interf        | 300  |
| Sectored Type Sance     Output Sance        MC Address           MC Address   | SelecterType marc   Central configuration   MuC defers   The for the base the model? ("proof") the MuC deferses the Wal kreated purp be required with none cable connection). For a MuC deferse MuC The for the WuN interface. If the field is hit blank, an MUC of 142 bytes to PPPOL and 1500 bytes for al other connection types will be instructed. MuC The value is network of (1200)? The source to perform and source connection types will be instructed. MuC Here will be instructed. MuC In value is network of 1420 bytes for prior and 1000 bytes for al other connection types will be instructed. MuC Interlate instructed. MuC Interlate instructed. MuC Interlate instructed. MuC  | <complex-block></complex-block>  | <form></form>  | <form></form>  | <form></form>  | <form></form>  |                             | On this screen the Wide Area Network information will be configured.   |
| Selected configuration   MAC Address   The field can be used to modify ("good") the MAC address of the WAI interface (may be required with some cable connections). Enter a MAC address of the WAI interface (may be required with some cable connections). Enter a MAC address of the WAI interface (may be required with some cable connections). Enter a MAC address of the WAI interface. If this field is list blank, an MTU of 1492 bytes for PPPuE and 1500 bytes for all other connection types will be assumed.   MUU   Enter MTU of the WAI interface. If this field is list blank, an MTU of 1492 bytes for PPPuE and 1500 bytes for all other connection types will be in effect. If this field is list blank, and MSG of 1492 bytes for PPPuE and 1500 bytes for all other connection types will be instructed.   MSS   If a value is acteed in this field, then MISG clamping for TCP connections to the value entered above minus 40 (TCP)/P basider size) will be in effect. If this field is the base, and MSG of 1492 bytes for PPPuE and 1500 bytes for all other connection types will be assumed. This should much the above minus 40 (TCP)/P basider size) will be in effect. If this field is the base, and MSG of 1492 bytes for PPPuE and 1500 bytes for all other connection types will be assumed. This should much the above minus 40 (TCP)/P basider size) will be in effect. If this field is the base will be assumed. The should much the above minus 40 (TCP)/P basider size) will be interface.   DHCP Element Configuration   UNENDER: The identific account passement is set to the defect wake. Change the passement is the low file modificer.   WUZard / pTSense Setup / Configure LAN Interface   Def Betowers   Dire file   Dire file   Dire file   Dire file   Dire file <t< td=""><td>Centeral configuration   Mar Address   This field can be used to modely ("poor") the MAR address of the WAH interface (may be required with some code connection), first a MAR, address of the WAH interface (may be required with some code connection), first a MAR, address of the WAH interface. If this field is in this is in the WH interface. If this field is in this is interface in the field, then MABS clamping for TCP connections the value entered adore minus 40 (TCP/P) header tab) will be interface.   MU   The value is instended in this field, then MABS clamping for TCP connections the value entered adore minus 40 (TCP/P) header tab) will be interface.   Will be interface at case.   The field is all tables, an MSB of 1492 bytes for JPP-El and 1500 bytes for all other connection types will be interface.   Will be interface at case.   Updeterm tables, and MSB of 1492 bytes for JPP-El and 1500 bytes for all other connection types will be interface.   Updeterm tables, and MSB of 1492 bytes for JPP address interface.   Updeterm tables, and MSB of 1492 bytes for JPP address.   DECP leader configuration   DECP Heathers    Will for the ubbrid account pass word is set to the default value. Change the passeod in the User Manager.    Will and the configurate LAN Interface   Will and for figuration   Updeterm table is interface use (HEP) to colars in IP address.   Toring and the interface use (HEP) to colars in IP address.</td><td>Sector P Configuration   With other works and sectors. If this shell also this is the table, and With all and table on the connection.) Exter a MAC address is the following formet accesses are series to be index.   With   Base is instructed. If this field table table is the table, and With of the 20 bytes for PPPQ and in 1000 bytes for all other connection types will be is instructed.   Base is instr</td><td>Centeral configuration   MAC Address   This field can be used to modify ("poord") the MAC address of the WAM interface (here be repuided with some cable connection). Enter a MAC address of the following formet: successcole of the WAM interface (here be repuided with some cable connection). Enter a MAC address of the following formet: successcole of the WAM interface. If this field lise the black, and WD of the S2 beyes for PPPOd are of 1500 bytes for all other connection types will be instructed. If this field lise the black, and WD of 1402 bytes for PPPOd are of 1500 bytes for all other connection types will be instructed. If this field lise the black, and WD of 1402 bytes for all other connection types will be assumed. This advald must the advance in the sale of the VPPOd and 1500 bytes for all other connection types will be assumed. This advald must the advance in the sale of the VPPOd and 1500 bytes for all other connection types will be assumed. 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MS   Ta value is antered in this field, ther MSS changing for TCP connections the value entered above minus do (1CD/P) beader size) will be assumed.   MS   Ta value is antered in this field, ther MSS changing for TCP connections the value entered above minus do (1CD/P) beader size) will be assumed.   MS   Setted P Configure/LIN   We have the model calculation of the MSS of V420 bytes for PPVed and 1500 bytes to all other connection types will be assumed.   The P configure/LIN   We have the model calculation of the MSS of V420 bytes for PPVed and 1500 bytes to all other connection types will be assumed.   DicP beatome    WE have the model calculation of the state of the MSS of V420 bytes for PPVed and 1500 bytes to all other connection types will be assumed. This should must the above state of the MSS of V420 bytes for PPVed and 1500 bytes to all other connection types will be assumed.   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('guod?') for MAC address in the WNN interface (may be required with some cable connections). Enter a MAC address is the following ionet: xxxxxxxxxx or there black.   MU   Bit the MUU of the WNN interface. If this field is left blane, and MU of 1492 bytes for PPVed and 1505 bytes for all other connection types will be assumed.   MS   Ta value is antered in this field, ther MSS changing for TCP connections the value entered above minus do (1CD/P) beader size) will be assumed.   MS   Ta value is antered in this field, ther MSS changing for TCP connections the value entered above minus do (1CD/P) beader size) will be assumed.   MS   Setted P Configure/LIN   We have the model calculation of the MSS of V420 bytes for PPVed and 1500 bytes to all other connection types will be assumed.   The P configure/LIN   We have the model calculation of the MSS of V420 bytes for PPVed and 1500 bytes to all other connection types will be assumed.   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| MAC. Address   The field can be used to modify ("pport") the MAC address of the WAN interface (may be required with some cable connections). Enter a MAC address of the following firmer's excavacuracura of the WAN interface (firmy be required with some cable connections). Enter a MAC address of the following firmer's excavacuracura of the WAN interface. If this field is left law, an MTU of 1922 bytes for PPPold, and 1500 bytes for all other connection types will be somerce.   MU   Somerce   MS   If a value is network in the field them MSG damping for TQP connections to the value entered above minus 40 (CCP)P badder stap) will be in effect. If the field is left law, an MSG of 1922 bytes for all other connection types will be assumed. This should match the above MSG of 1922 bytes for 2010 bytes for all other connection types will be assumed. This should match the above MSG of 1922 bytes for 2010 bytes for all other connection types will be assumed. 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(This field is lat liank, and MTU of 1422 bytes for PPPud and 1500 bytes for all other connection types will be assumed. This should match the above the total active total will be interface.   |  | MMC Adversars   The field can be used to modify ('uppar') the MAC address of the WAK indexes (here, be negated with some cable connection); Exter a MAC address is included to the back of the WAK indexes (here, be negated with some cable connection); Exter a MAC address is included. MTU Ext the MTU of the WAK interface. If this field is left black, and MTU of 1422 bytes for PPPdf and 1300 bytes for all other connection types will be incred. MTU Ext the MTU of the WAK interface. If this field is left black, and MTU of 1422 bytes for PPPdf and 1300 bytes for all other connection types will be incred. MTU Ext the MTU of the WAK interface. If this field is left black, and MTU of 1422 bytes for PPPdf and 1300 bytes for all other connection types will be incred. MTU Ext the IT Configuration Deficit Celent configuration Deficit Celent configuration Deficit Professore Status (Configuration the value) Exter a War in celent will be incred. MTU of the Status is settle to the default value. Charge the passend in the User Manuel. WTU of professore Status (Configuration the value) MTU of professore Status (Configuration the passend in the User Manuel. WTU of professore Status (Configuration the value) MTU of professore Status (Configuration the passend in the User Manuel. MTU of professore Status (Configuration the passend in the User Manuel. MTU of professore Status (Configuration the passend in the User Manuel. MTU of professore Status (Configuration the Paddess. MTU of professore Manuel and Rev Methodes with restatus in the configuration of the user Manuel. MTU of professore Manuel and Rev Methodes with restatus in the configuration of the user Manuel. MTU of professore Manuel and Rev Methodes with restatus in the Baddess. MTU of professore Manuel and Rev Methodes in the Baddess. MTU of professore Manuel and Rev Methode  |  | <form></form>  | MMC Address   The field can be used to modify ("puporf) the MG Laddees af the WM interface (may be required with none cable connections). Enter a MG defended with scanse cable connections). Enter a MG defended with scanse cable connections (page will be assumed to modify ("puporf)") the MG Laddees af WH WI with the field is bit Ladde, an MH WI will be the table, and MH WI will be the table, and MH WI will be the table table. The table is a trade of the table, and MH WI will be the table, and MH WI will be table, and MH WI will be table, and MH WI will be table to table table. The table is a trade of the table, and MH WI will be table to the table, and MH WI will be table to table table. The table is a trade of table is a trade of the table, and MH WI will be table to table table. The table is a trade of table is a trade of table is a trade of table. 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| The field on the surved to meted of (CPC) "No MAC address in the MAC address of the WAM interface (may be required with some cable connection), Enter a MAC address in the following format: accessessess or tense blass.   | In find can be sended in weak of mendoly ("poord") the MAC datases of the YMM interface. If you have needed connections), Data ra AMAC datases in the the theorem interface. If you have needed connections is the resonance interface. If you have needed connections is the resonance interface. If you have needed connections is the resonance interface. If you have needed connections is the resonance interface. If you have needed connections is the resonance interface. If you have needed connections is the resonance interface. If you have needed connections is the resonance interface. If you have needed to interface. If you have needed connections is the resonance interface. If you have needed to interface. If you have | The function of the NUM start has not offyr ("poord") the NUM dathers of the NUM interface (may be required with some cable connections). Date is AUAC dathers is the NUM of the NUM interface. If this field is the takes, we NUT of 142b types for PPPPuG and 1400 types for all other connections) pairs will be in the NUM.          MUT       Bit is not NUM of the NUM interface. If this field is the takes, we NUT of 142b types for PPPPuG and 1400 types for all other connections (pairs will be in the adverted on the instead of the NUM interface. If this field is the takes, we NUT of 142b types for PPPUG and 1400 types for all other connection (pairs will be insteaded.)         MUT       Bit is in the NUM interface. If this field is the takes, we NUT of 142b types for PPPUG and 1400 types for all other connection (pairs will be assumed. The also add mand head the date in the adverted on the instead of the instead of an instead of the instead of th  | In the decision of sensitive account sectors of the MAL defines of     |  | In the left of the             |  | MAC Address                 |  |
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MS   MS   Tarken is instructed in this field is left liked, an MTU of 1492 bytes for 4PPAC and 1500 bytes for all tober connection types will be instructed.   MS   Tarken is instructed in this field is left liked, and MTU of 1492 bytes for 4PPAC and 1500 bytes for all tober connection types will be assumed.   MS   PAddress   192 for the data   193 for the data   193 for the data   194 fo  | MTU   mts  | MTU Be while the there in this field is bet have, as MTU of 1492 bytes for 9PPAE and 1500 bytes for al other connection types will be assumed.   MS Be when entered in this field is bet have, as MTU of 1492 bytes for al other connection types will be essended.   MS Be when entered in this field is bet have. As all 500 bytes for al other connection types will be essended.   Static IP Configuration Be of the sense of the sense in the set is the the default will be bytes for al other connection types will be essended.   Be of the sense of the sense in the set is the the default will be of the sense of the sense in the set is the the default will be of the sense   | MU   Bis   Statistic   Statisti  | MTU   is in the MTU of the WMN interface. If this field is bit liked, an MTU of 1422 bytes for PPPHE and 1500 bytes for all their connection types will be assumed.   MS   Tar takes is instended with field (bm MSIS damping for TCP connections to be value entered above minus 40 (TCP)/P header atay) will be instended.   MS   Tar takes is instended with field (bm MSIS damping for TCP connections to be value entered above minus 40 (TCP)/P header atay) will be assumed.   MS   Pacters   10 (ED / Defined is with itsus, an MSI of 1420 bytes for all other connection types will be assumed. This should match the above for the value is matched is with itsus in match access   Uptersem Gatery   DicP betweene   DicP betweene   WKMNWE: The usknik access the same to be bedaut value. 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Charge tassessed in the large tasses.   |                             | 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<br>in the following format: xxxxxxxxxxxx or leave blank.  |
| MSS Ta value is steted in this field, then MSS clanging for TCP connections to the value entered above minus 40 (TCP/P) header size) will be in fieldt   Minimum Control in the field is this field is the MSS of 1492 bytes for PPPed and 1500 bytes for all other connections types will be assumed. This should match the above MIV value in most all cases.   Static IP Configuration   DECP foreign Configuration   DECP Hootcame   Waterness Y texture Y feed of the field is the fi  | MS   I a value is instreted in field (the MASS clamping for TCP concections the value method alows mixes 40 (TCP/P) Paster size) will be instreted. It is a block of the disconcection (spear will be assumed. This should match the disconce the disconce the disconcection (spear will be assumed. This should match the disconce t                          | MS   Table is instricted in field (the MSI damping for TCP constrictions to the value entends in down minus. 40 (TCPP) Paster trialy will be its effects. It is involved in that the down minus. 40 (TCPP) Paster trialy will be its effects. It is involved in that the down minus. 40 (TCPP) Paster trialy will be its effects. It is involved in that the down minus. 40 (TCPP) Paster trialy will be its effects. It is involved in that the down minus. 40 (TCPP) Paster trialy will be its effects. It is involved in that the down minus. 40 (TCPP) Paster trialy will be its effects. It is involved in that the down minus. 40 (TCPP) Paster trialy will be its effects. It is involved in that the down minus. 40 (TCPP) Paster trialy will be its effects. It is involved in the down minus. 40 (TCPP) Paster trialy will be its effects. The down minus. 40 (TCPP) Paster t                                 | <form></form>  | MS   In the last till failed, flast MSI Gildeninging for TCP connections to the value method alonges minina 40 (TCP/VP) Header sizely will be in effect. If all is a bit along, all MSI of 1442 bytes for PPIVAG and 1500 bytes for all other connections types will be assumed. This should method the derived byte in the last along method along. Extent PC configuration DICP Client accord passes will be as to to be the fact when we have method along. DICP Client configuration DICP Client configuration DICP Client accord passes will be as to to be the fact when of the last of the fact when one connection byte method along. DICP Client configuration DICP Client accord passes will be as to to be the fact when of the last of the last of the last of the last of the fact when one connection byte method along. DICP Client accord passes will be as the to be the fact when of the last of the las   | MS   Baske has a field, then MSS cale approprint PCP Conscious to the value on energine and accounce. The about of match the about minute the control on the about minute the about the about minute the about minut                                 | MS   In a value is instructed with MMS dischapping for TCP connections to the value entirent 40 (TCP/PP Meder stay) will be instructed. Fatule is instructed with MMS dischapping for TCP connections to the value entirent 40 (TCP/PP Meder stay) will be instructed. Fatule is instructed with MMS dischapping for TCP connections to the value entirent 40 (TCP/PP Meder stay) will be instructed with the above in the value entirent 40 (TCP/PP Meder stay) will be instructed with the above in the value entirent 40 (TCP/PP Meder stay) will be instructed with the above in the value entirent 40 (TCP/PP Meder stay) will be instructed with the above in the value entirent 40 (TCP/PP Meder stay) will be instructed with the above in the value entirent 40 (TCP/PP Meder stay) will be instructed with the above in the value entirent 40 (TCP/PP Meder stay) will be instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with Meder stay will be instructed with 40 (TCP/PP Meder stay) will be instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay) will be instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay) will be instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder stay). Fate State I and a state instructed with 40 (TCP/PP Meder state). Fate State I and a state instructed with 40 (TCP/PP Meder st  | мти                         | Set the MTU of the WAN interface. If this field is left blank, an MTU of 1492 bytes for PPPbE and 1500 bytes for all other connection types will be assumed.   |
| Static IP Configuration         IP Address         Subort Mark         24         Upstrain Gateway         DHCP Client configuration         DHCP Forebane         DHCP Address         Vision Mark         000000000000000000000000000000000000  | Static IP Configuration         P Address         Submit Mask         24         Upstream Generary         DRCP Elect Configuration         DRCP Ele  | Static IP Configuration   P Address   192:164.10.201   Subort Maik   24   Uptream Cateway   DICP Client Configuration DICP Client Configuration DICP Hostmans    With Marking Constraints as to the default value. Charge the passend in the User Manager.   Witzend / pfSenses Setup / Configure LAN Interface   On this screen the Local Area Network information will be configured.   LAN IP Address   192:164.11   Type drug of this interface uses DicKP to obtain in the Paddees.   Subort Maik   24  | Static IP Configuration         Uptoream Gateway         DHCP Glient configuration         DHCP Retename   | Static IP Configuration   P Address   Subcet Mask   24   Upptream Gateway      OHCP Elect configuration   BHCP Hostoware   OHCP Client configuration   BHCP Hostoware   Water configuration BHCP Hostoware Water configuration BHCP Hostoware <td>Static IP Configuration         IP Address:         192.10.110.201         Submer Mask         24         Upstream Gateway         DECP Client Configuration         DECP Hostname</td> <td>Static IP Configuration         Budnet Max       24         Upstheam Caterary         DHCP Client configuration         DicP Heatmann           With Mark 20           DHCP Client configuration    DicP Heatmann        DicP Heatmann        With Mark 20             DicP Heatmann           With Mark 20           DicP Heatmann  &lt;</td> <th>MSS</th> <td>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 the blank, an MSS of 1492 bytes for PPPoE and 1500 bytes for all other connection types will be assumed. This should match the above MIV value in most all case.</td> | Static IP Configuration         IP Address:         192.10.110.201         Submer Mask         24         Upstream Gateway         DECP Client Configuration         DECP Hostname   | Static IP Configuration         Budnet Max       24         Upstheam Caterary         DHCP Client configuration         DicP Heatmann           With Mark 20           DHCP Client configuration    DicP Heatmann        DicP Heatmann        With Mark 20             DicP Heatmann           With Mark 20           DicP Heatmann  <   | 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 the blank, an MSS of 1492 bytes for PPPoE and 1500 bytes for all other connection types will be assumed. This should match the above MIV value in most all case. |
| IP Address       192368118.201         Sident Mark       24         Uptream Gateway       Image: Control of the Control o  | IP Address       192.161.110.201         Subort Mask       24         Upstream Gateway   | IP Address       192.161.10.201         Subort Mask       24         Upptream Gateway         DHCP Client Configuration         DHCP Heatname  | IP Adress       192.168.110.201         Salvest Mark       24         Upstream Gateway   | P. Address 101.16.110.201   Subort Mask 24   Upstream Gateway     DECP Interact configurestone   DECP Interactions     DECP Interactions     DECP Interactions      Wateway: a feature of the stateway in the state  | IP Address       192.16.110.201         Subset Mata       34         Uptorean Calenary       Image: Configuration         DHCP Interaction       Image: Configuration         United PISenses Setup / Configure LAN Interface       Image: Configure LAN Interface         Image: Configure LAN Interface       Image: Configure LAN Interface         Image: Configure LAN Interface       Image: Configure Land Interface Use DHCP to obtain its Pladdess.         Subset Mata       Image: Configure Land Interface Use DHCP to obtain its Pladdess.       Image: Configure Land Interface Use DHCP to obtain its Pladdess.         Subset Mata       Image: Configure Land Interface Use DHCP to obtain its Pladdess.       Image: Configure Land Interface Use DHCP to obtain its Pladdess.         Subset Mata       Image: Configure Land Interface Use DHCP to obtain its Pladdess.       Image: Configure Land Interface Use DHCP to obtain its Pladdess.         Subset Mata       Image: Configure Land Interface Use DHCP to obtain its Pladdess.       Image: Configure Land Interface Use DHCP to obtain its Pladdess.   | IP Address       192104110201         Subars Mark       24         Uptream Gateway         DHCP Iclent configuration         DHCP Iclent configuration         DHCP Iclent configuration         DHCP Intervent water         Witzard / pfSense Setup / Configure LAN Interface         Configure LAN Interface         Determine         Discrete Mark         24         Discrete Mark         Discre Mark   | Static IP Configuratio      | n  |
| Subort Mark   Uptream Gatewy   DKCP client configuration   DKCP biothame     DKCP biothame     WMRNNR: The Vachin' account password is set to the off-adl vache.     WMRNNR: The Vachin' account password is set to the off-adl vache.     WMRNNR: The Vachin' account password is set to the off-adl vache.     WMRNNR: The Vachin' account password is set to the off-adl vache.     WMRNNR: The Vachin' account password is set to the off-adl vache.     WMRNNR: The Vachin' account password is set to the off-adl vache.     Witzerd / pfSense Setup / Configure LAN Interface     Top data     Top data<   | Subort Mask 24   Uptream Gateway   | Subart Mask 24   Uppresent Gateway     DHCP Leant configuration   DHCP Heatoware     With Mask Wateware     Yope drap of the interface wateware     With Mask Wateware     Subset Mask     Yope drap of the interface wateware     Yope drap of the interface wateware<  | Select Mark       24         Uptorean Galeway  | Solver Mark 24   Uptream Galeway     DHCP Ideated configuration   DHCP Ideated configuration   DHCP Ideated configuration     DHCP Ideated configuration     DHCP Ideated configuration     DHCP Ideated configuration     DHCP Ideated configuration     DHCP Ideated configuration     DHCP Ideated configuration     DHCP Ideated configuration     DHCP Ideated configuration     Deficition     Deficition <td>Submit Mask 34   Uptoress Clearer configuration   DECP Clearer configuration   With the full of the second passes of the default value. Change the passes of in the larer Manager. Witzard / pfSense Setup / Configure LAN Interface Configure LAN Interface use DHCP's to the interface. Submit Mask 24 To the full of the interface uses DHCP's to the interface. Submit Mask 24 To the full of the interface uses DHCP's to the interface. Submit Mask 25 To the full of the interface uses DHCP's to the interface. Submit Mask 24 To the full of the interface uses DHCP's to the interface. Submit Mask 26 To the full of the interface uses DHCP's to the interface. Submit Mask 26 To the full of the interface uses DHCP's to the interface. Submit Mask 26 To the full of the interface uses DHCP's to the interface. Submit Mask 27 28 To the full of the interface uses DHCP's to the interface. Submit Mask 28 To the interface uses DHCP's to the interface. Submit Mask 29 100</td> <td>Sident Mak       24         Uptream Caterary         DICP Ictent configuration         DICP Restame</td> <th>IP Address</th> <td>192.168.110.201</td>   | Submit Mask 34   Uptoress Clearer configuration   DECP Clearer configuration   With the full of the second passes of the default value. Change the passes of in the larer Manager. Witzard / pfSense Setup / Configure LAN Interface Configure LAN Interface use DHCP's to the interface. Submit Mask 24 To the full of the interface uses DHCP's to the interface. Submit Mask 24 To the full of the interface uses DHCP's to the interface. Submit Mask 25 To the full of the interface uses DHCP's to the interface. Submit Mask 24 To the full of the interface uses DHCP's to the interface. Submit Mask 26 To the full of the interface uses DHCP's to the interface. Submit Mask 26 To the full of the interface uses DHCP's to the interface. Submit Mask 26 To the full of the interface uses DHCP's to the interface. Submit Mask 27 28 To the full of the interface uses DHCP's to the interface. Submit Mask 28 To the interface uses DHCP's to the interface. Submit Mask 29 100  | Sident Mak       24         Uptream Caterary         DICP Ictent configuration         DICP Restame  | IP Address                  | 192.168.110.201  |
| Upstream Gatewy         DKCP client configuration         DKCP bitmans         DKCP bitmans         WARNNO: The Variant's account passeword is set to the default value. Change the passeword is the User Manager.         Wizerd / pfSense Setup / Configure LAN Interface         On the screen the Local Area Network information will be configured.         Low IP Address         Type drop IT this interface uses DHCP to obtain its IP address.         Schort Mark         Schort Mark         24 au   | Uptoteam Gateway         DHCP Client configuration         DHCP Headware         DHCP Headware         WEXENTRE: The labelst account passwerd is set to the default value. Change the password in the User Managet:         Wizard / pfSense Setup / Configure LAN Interface         Centificure LAN Interface is set to the default value. Change the password in the User Managet:         LAN IP Addres:         Type drag if the storet the Local Area Network information will be configured.         LAN IP Addres:       [192:104.13]         Type drag if the storet four uses DHCP to obtain its IP address.         Stolett Mark       [24   | Uppersonse Gateway         DHCP-Lieut configuration         DHCP-Lieut configuration         DHCP-Lieut configuration         Witzer Market         Witzer Ma  | Uptersem Gadrewy         DKCP Electic configuration         DWCP Interface         Witzer / Procest is set to the default value. Charge the password in the User Manager.         Witzer / prSense Setup / Configure LAN Interface         Configure LAN Interface         Type date of the interface uses DHCP's octain its P address.         Subset Mask         24         Type date of the interface uses DHCP's octain its P address.         Subset Mask         24   | Updateam Cateway     DHCP Interd configuration   DHCP Interdame     December Canadian  | Uptores  | Uptoream Gateway         DKCP Letent configuration         DKCP Meetame             Witzerf Area             Witzerf / priSense Setup / Configure LAN Interface             Configure LAN Interface             Detailer date interface uses DHCP to clean its Packed.             LAN IP Addres       192.141.11             Type doep if the interface uses DHCP to clean its P address.   | Subnet Mask                 | 24 🗸   |
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|   |  | Witzern Konstand         Witzern Konstern  | Configure LAN Interface       Configure LAN Interface         Configure LAN Interface       Configure LAN Interface         Configure LAN Interface       Configure LAN Interface         States       States         States       S   | Configure LAN Interface On this scores the Local Area Network will be configured. LAN IP Address 192:184.13 1719 effects of the scores DALCP to obtain its IP address. 104 on this scores the Local Area Network will be configured. LAN IP Address 192:184.13 1719 effects of the scores DALCP to obtain its IP address. 104 on this scores the Local Area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on these scores the score obtained area Network interface uses DALCP to obtain its IP address. 104 on the score obtained area Network interface to obtain its IP address. 104 on the score obtained area Network interface to obtain its IP address. 104 on the score obtained area Network interface to obtain its IP address. 104 on the score obtained area Network interface to obtained area Network interface to obtain its IP address. 104 on the score obtained area Network interface to obtained area Network interface to obtained area Network interface t   | Configure LAN Interface       Configure LAN Interface         Configure LAN Interface       Configure LAN Interface         Buber Marks       Status N UPA does         Status N UPA does       F22 168.1.1         Type drug of this screen the Local Area Network information will be configured.         LAN IP Address       F22 168.1.1         Type drug of this screen the Local Area Network information will be configured.         LAN IP Address       F22 168.1.1         Type drug of this screen the Local Area Network information will be configured.         LAN IP Address       F22 168.1.1         Type drug of this screen the Local Area Network information will be configured.       Image: Status of this screen the Local Area Network information will be configured.         Law IP Address       F22 168.1.1       Type drug of this screen the Local Area Network information will be configured.         Image: Status of the Interface uses IPICP to obtain its IP address.       Image: Status of the Interface uses IPICP to obtain its IP address.         Image: Status of the Interface uses IPICP to obtain its IP address.       Image: Status of the Interface uses IPICP to obtain its IPICP  | With investige     System     Interfaces     Witzerd / pfSense Setup / Configure LAN Interface     Interfaces   | DHCP Hostname               |  |
| Wizard / plSense Setup / Configure LAN Interface  Configure LAN Interfa  | Wizard / pfSense Setup / Configure LAN Interface   | Witzard / pfSense Setup / Configure LAN Interface         Interface         Configure LAN Interface level         Dri His screen He Local Area Network Information will be configured.         LAN IP Address         Bodnet Mask         24         Type rdtspil of this interface uses DHCP to obtain its IP address.         Bodnet Mask         10 • Hust  | Wizard / pfSense Setup / Configure LAN Interface Use State Configure LAN Interface Configure LAN Interface Configure LAN Interface LAN IP Address (P42.141.1 Type dhop if this interface uses CHCP to obtain its IP address. Subter Mask 2.4   | Wizard / pfSense Setup / Configure LAN Interface   | Wizard / pfSense Setup / Configure LAN Interface   | Wizard / pfSense Setup / Configure LAN Interface   | Executive in section System | Interfaces - Frewall - Services - VPN - Status - Diagnostics - Help - G outpassword is set to the default value. Charge the password in the User Manager.  |
| Sort Size       Configure LAN Interface       On this screen the Local Area Network information will be configured.       LAN IP Address       Specific distant in D <sup>®</sup> address.       Submet Mask       24   | Store between the cost Area Network information will be configured.           LAN In Address           LAN IP Address         Enzy Let 1.1           Type drop if this interface uses DHCP to obtain its IP address.         Stolenet Mask         24           Dot         Description         Description         Description  | togs to 4           Configure LANI Interface           Configure LANI Interface           LANI Produces           Type drop of this interface uses DHCP to obtain its IP address.           Subset Mask         24   | Bog Sol &           Configure LAN Instance           On Miss screen the Local Area Network information will be configured.           LAN IP Addess         [9/2:14:1.1]           Type drop if this interface uses CHCP to obtain its IP address.           Subset Mask         [24]   | Even Stafe       Configure LAN Interface       On the screen the Local Area Network Information will be configured.       LAN IP Address       Spokent Mask       24   | Configure LAN Interface       On this screen the Local Area Network information will be configured.       LAN IP Address     [52 1141.1]       Type drug of this interface uses DHOP to obtain its IP address.       Student Mask     24   | Source LANI Instruction       Configure LANI Instruction       On this screen the Local Area Network Information will be configured.       LANI P Address     [192.168.11       Type (rbc) if this interface uses DNCP to obtain its IP address.     Source Mask       Student Mask     [34]   | Wizard / pfSens             | Setup / Configure LAN Interface  |
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| 30 Next   | 35 Rot   | 30 Mart  | 39 Nov   | ps film  | <b>39</b> Tean   | by heat  | Subnet Mask                 | 24   |
|   |  |  |  |  |  |  |                             | 39 Next  |
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|   |  |  |  |  |  |  |                             | Although the standard and an end of the standard of the standard standard standard standard standards  |

LAUGAUDIN Kim

Viens ensuite le changement de mot de passe administrateur :



Par mesure de sécurité, nous avons généré un mot de passe à 16 caractères aléatoires avec des chiffres, des caractères spéciaux et des lettres.

Ne reste alors qu'à valider les paramètres entrés :



LAUGAUDIN Kim

PfSense nous montre avec cet écran qu'il a bien enregistré la configuration et est opérationnel :

| pf<br>convert | Sense System -  | Interfaces • Firewall •   |   | Status +  | Diagnostics +      |   | 64   |  |
|---------------|---|---|---|---|--------------------|---|--|--|
| w             | Vizard / pfSense Se   | etup / Wizard comple  | eted.   |   |                    |   | 0  |  |
|               |   |   | Step 9 of 1   |   |                    |   |  |  |
| w             | lizard completed.   |   |   |   |                    |   |  |  |
|               | C, W<br>W<br>M<br>C<br>C<br>U<br>P<br>P<br>P<br>P<br>M<br>O<br>O<br>P<br>P<br>M<br>O<br>O<br>P<br>P<br>M<br>O<br>O<br>O<br>O<br>O | ongratulations1 pfSense is<br>e recommend that you check to i<br>inging you can do to maintain the i<br>source receives<br>emember, we're here to huil<br>lick here to learn about Netgate<br>ser survey<br>ease help all the people involved<br>normous) | s now configured.<br>see if there are any software u-<br>country of your network.<br>elp.<br>24/7/365 support services.<br>in improving and expanding p | pdates available.<br>fSense software                | Keeping your softw | are up to date is one<br>to answer this shore | e of the most important<br>t survey (all answers are |  |
|               | U,  | seful resources.<br>• Learn more about Netgate's<br>• To learn about Netgate's<br>• Become part of the pfSense<br>• Subscribe to our newsletter   | product line, services, and pl<br>lances and other offers, visit<br>community. Visit our forum<br>for ongoing product informat                          | Sense software f<br>our store<br>tion, software and | rom our website    | pecial offers.                                |  |  |
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