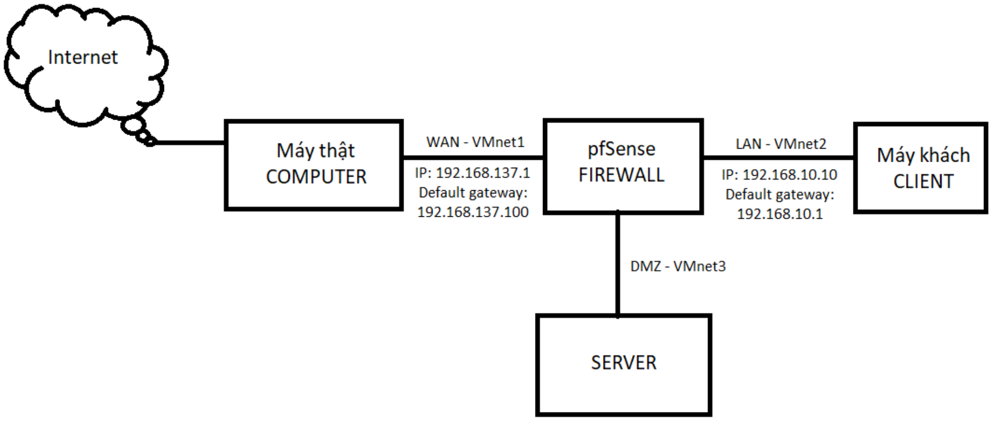
MÔN TRIỂN KHAI AN NINH HỆ THỐNG

GVHD: Đỗ Hà Phương

Phúc Lâm – LT09 - 04/10/2024

Yêu cầu: Các em tải pfsense: pfSense-CE-2.4.5-RELEASE-p1-amd64.iso về cài, cấu hình WAN, LAN, DMZ. Test: Lan truy cập internet

Sơ đồ

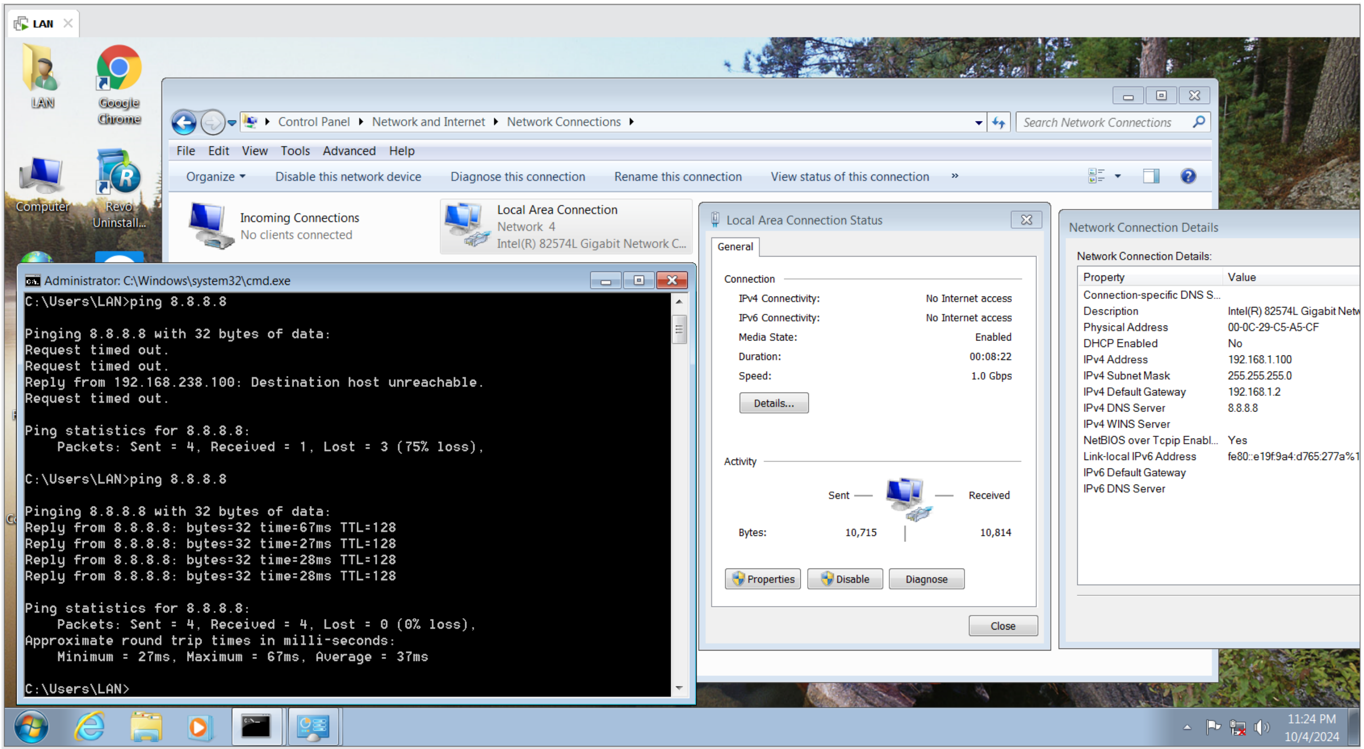


Xem video tham khảo:

https://www.youtube.com/watch?v=cRvpYJvPXC8&list=PLUYrM623uykP1_99ubIanuSBg0gNOxm5B&index=8

MỤC LỤC

- **1. CẤU HÌNH MÁY LAN**



LAN
Google Chrome
Computer
Revo Uninstall...
Control Panel ▸ Network and Internet ▸ Network Connections ▸
Search Network Connections
File Edit View Tools Advanced Help
Organize ▾ Disable this network device Diagnose this connection Rename this connection View status of this connection »
11:24 PM
10/4/2024

Incoming Connections
No clients connected

Local Area Connection
Network 4
Intel(R) 82574L Gigabit Network C...

Administrator: C:\Windows\system32\cmd.exe

```
C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Request timed out.
Request timed out.
Reply from 192.168.238.100: Destination host unreachable.
Request timed out.

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 1, Lost = 3 (75% loss),

C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=67ms TTL=128
Reply from 8.8.8.8: bytes=32 time=27ms TTL=128
Reply from 8.8.8.8: bytes=32 time=28ms TTL=128
Reply from 8.8.8.8: bytes=32 time=28ms TTL=128

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 27ms, Maximum = 67ms, Average = 37ms

C:\Users\LAN>
```

Local Area Connection Status

General

Connection

IPv4 Connectivity: No Internet access
IPv6 Connectivity: No Internet access
Media State: Enabled
Duration: 00:08:22
Speed: 1.0 Gbps

Details...

Activity

Sent — Received
Bytes: 10,715 | 10,814

Properties Disable Diagnose

Close

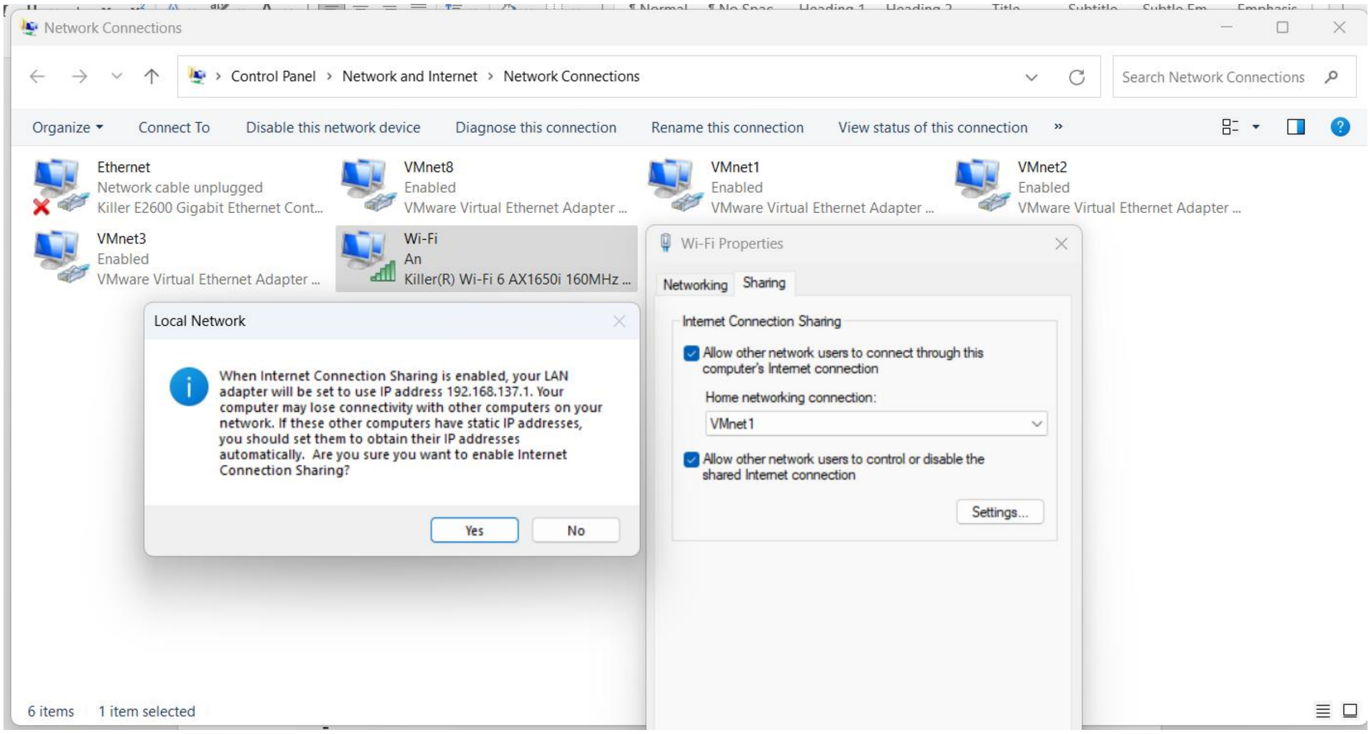
Network Connection Details

Network Connection Details:

Property	Value
Connection-specific DNS S...	
Description	Intel(R) 82574L Gigabit Netw
Physical Address	00-0C-29-C5-A5-CF
DHCP Enabled	No
IPv4 Address	192.168.1.100
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	192.168.1.2
IPv4 DNS Server	8.8.8.8
IPv4 WINS Server	
NetBIOS over Tcpip Enabl...	Yes
Link-local IPv6 Address	fe80::e19f:9a4:d765:277a%1
IPv6 Default Gateway	
IPv6 DNS Server	

-

- **Thực hiện từ máy thật PC share kết nối internet từ wifi đến VMnet1**



Network Connections
Control Panel › Network and Internet › Network Connections
Search Network Connections
Organize ▾ Connect To Disable this network device Diagnose this connection Rename this connection View status of this connection »
6 items 1 item selected

Ethernet
Network cable unplugged
Killer E2600 Gigabit Ethernet Cont...

VMnet8
Enabled
VMware Virtual Ethernet Adapter ...

VMnet1
Enabled
VMware Virtual Ethernet Adapter ...

VMnet2
Enabled
VMware Virtual Ethernet Adapter ...

VMnet3
Enabled
VMware Virtual Ethernet Adapter ...

Wi-Fi
An
Killer(R) Wi-Fi 6 AX1650i 160MHz ...

Local Network

When Internet Connection Sharing is enabled, your LAN adapter will be set to use IP address 192.168.137.1. Your computer may lose connectivity with other computers on your network. If these other computers have static IP addresses, you should set them to obtain their IP addresses automatically. Are you sure you want to enable Internet Connection Sharing?

Yes No

Wi-Fi Properties

Networking Sharing

Internet Connection Sharing

☑ Allow other network users to connect through this computer's Internet connection

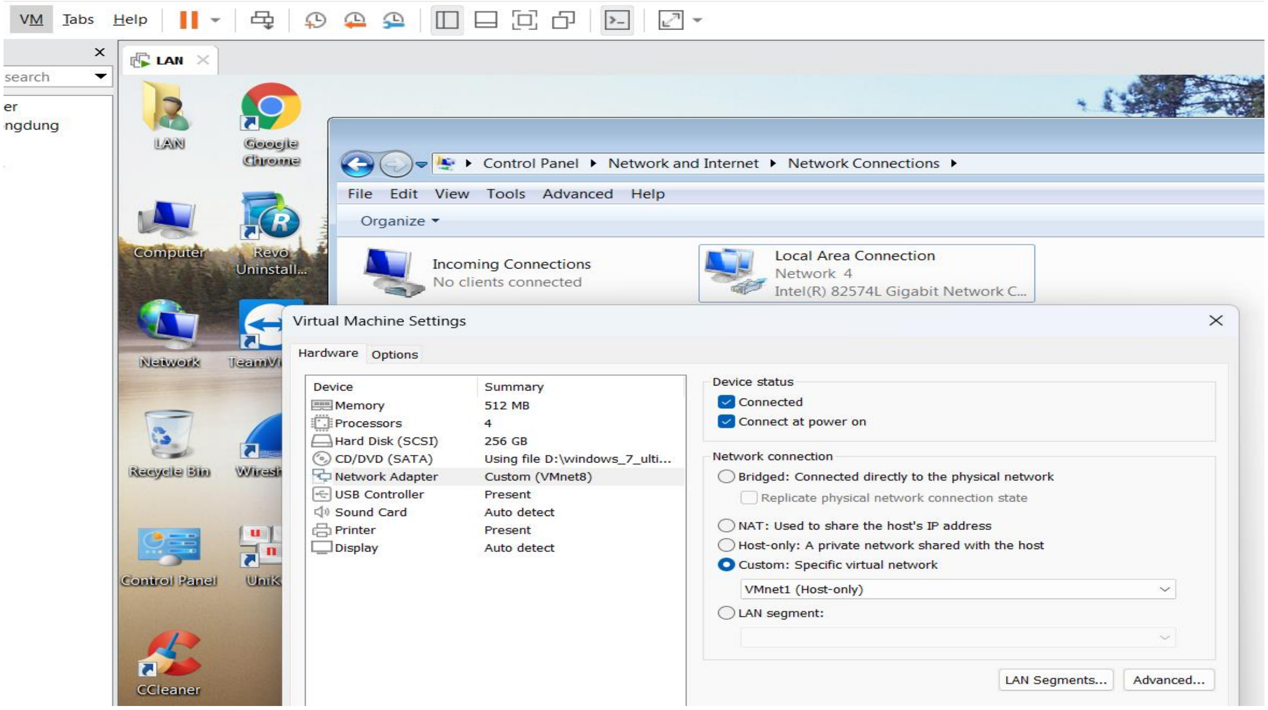
Home networking connection:
VMnet1

☑ Allow other network users to control or disable the shared Internet connection

Settings...

-

- **Giả sử máy LAN kết nối tới VMnet1**



Virtual Machine Settings

Hardware | Options

Device	Summary
Memory	512 MB
Processors	4
Hard Disk (SCSI)	256 GB
CD/DVD (SATA)	Using file D:\windows_7_ulti...
Network Adapter	Custom (VMnet8)
USB Controller	Present
Sound Card	Auto detect
Printer	Present
Display	Auto detect

Device status

☑ Connected

☑ Connect at power on

Network connection

○ Bridged: Connected directly to the physical network

□ Replicate physical network connection state

○ NAT: Used to share the host's IP address

○ Host-only: A private network shared with the host

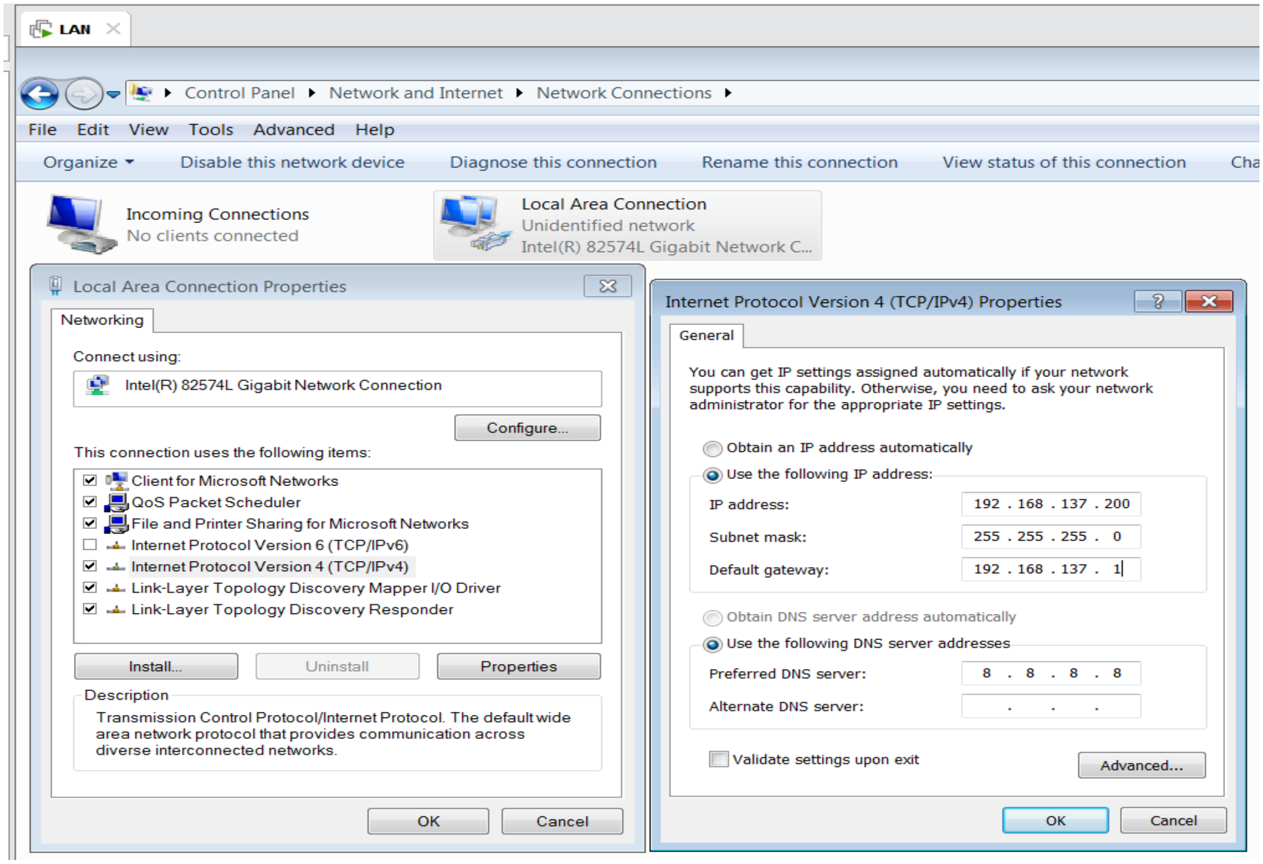
● Custom: Specific virtual network

VMnet1 (Host-only)

○ LAN segment:

-

- **Cấu hình mạng của LAN có IP là 192.168.137.200 (IP 192.168.137.1 của VMnet1)**


LAN
Control Panel ▸ Network and Internet ▸ Network Connections ▸
File Edit View Tools Advanced Help
Organize ▾ Disable this network device Diagnose this connection Rename this connection View status of this connection Cha
Incoming Connections
No clients connected
Local Area Connection
Unidentified network
Intel(R) 82574L Gigabit Network C...
Configure...
Install... Uninstall Properties
OK Cancel
Advanced...
OK Cancel

Local Area Connection Properties

Networking

Connect using:

Intel(R) 82574L Gigabit Network Connection

This connection uses the following items:

☑ Client for Microsoft Networks
☑ QoS Packet Scheduler
☑ File and Printer Sharing for Microsoft Networks
□ Internet Protocol Version 6 (TCP/IPv6)
☑ Internet Protocol Version 4 (TCP/IPv4)
☑ Link-Layer Topology Discovery Mapper I/O Driver
☑ Link-Layer Topology Discovery Responder

Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically

● Use the following IP address:

IP address:	192 . 168 . 137 . 200
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192 . 168 . 137 . 1

○ Obtain DNS server address automatically

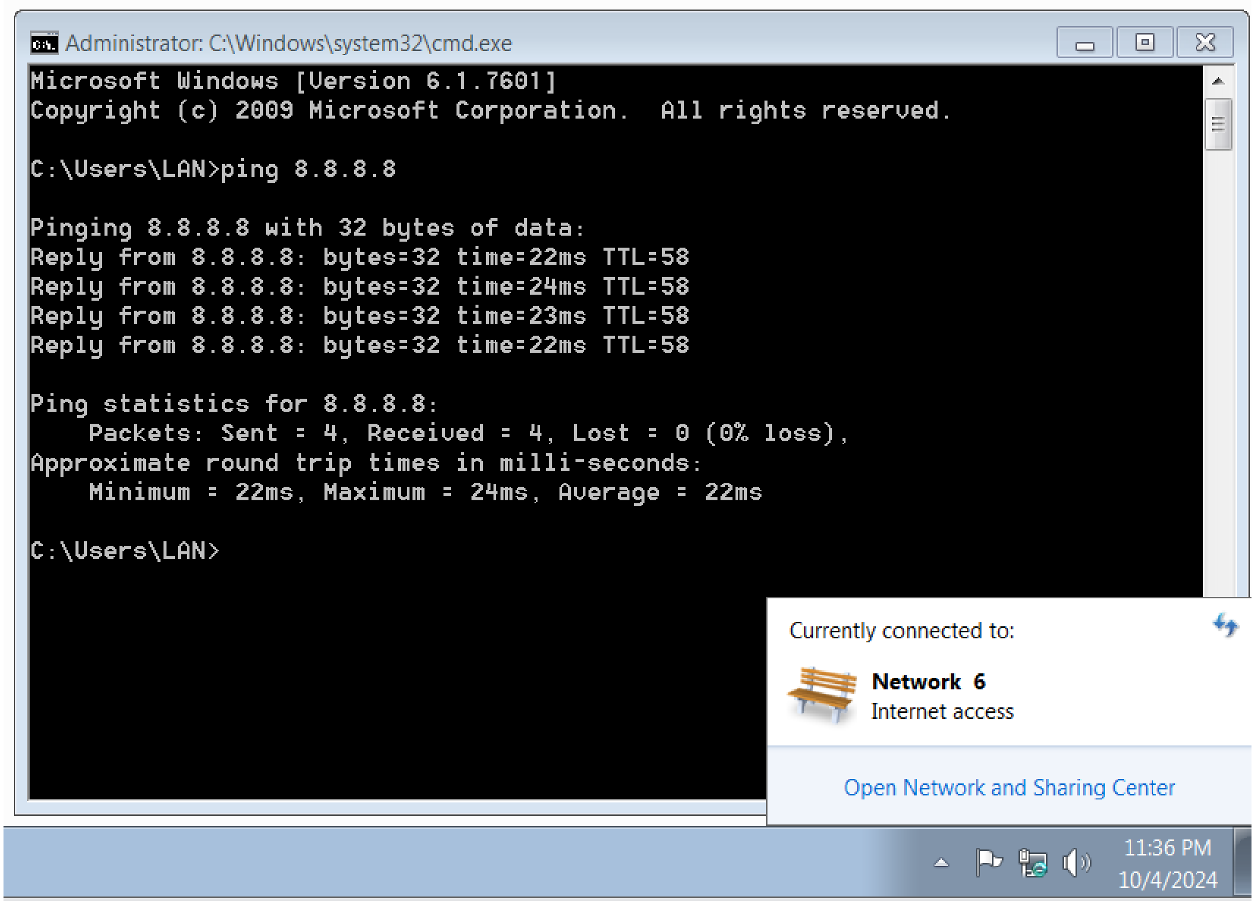
● Use the following DNS server addresses

Preferred DNS server:	8 . 8 . 8 . 8
Alternate DNS server:	. . .

□ Validate settings upon exit

-

- **Kiểm tra lại LAN đã ping thông tới 8.8.8.8 của google.com hay chưa**



```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=22ms TTL=58
Reply from 8.8.8.8: bytes=32 time=24ms TTL=58
Reply from 8.8.8.8: bytes=32 time=23ms TTL=58
Reply from 8.8.8.8: bytes=32 time=22ms TTL=58

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 22ms, Maximum = 24ms, Average = 22ms

C:\Users\LAN>
```

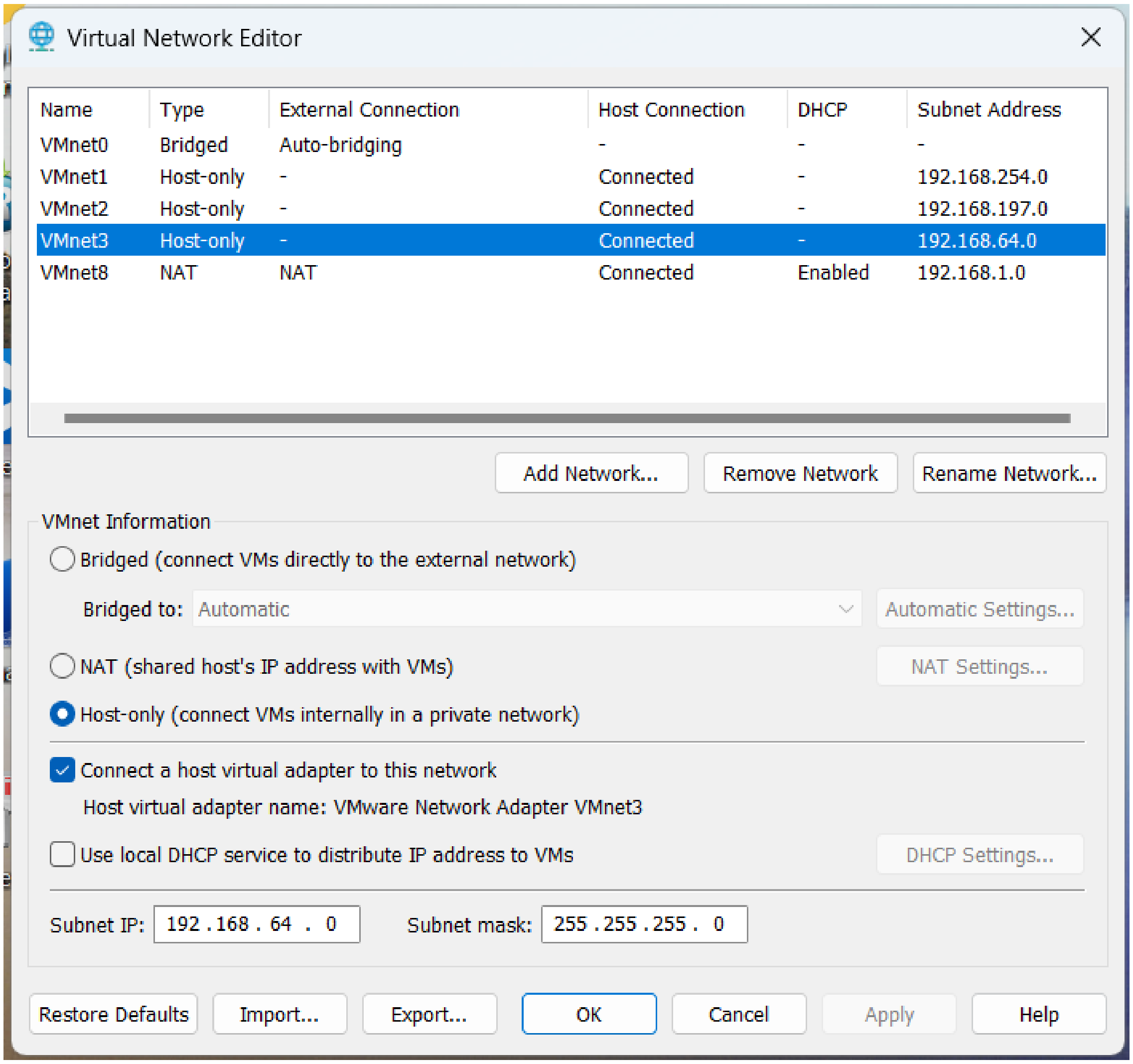
Currently connected to:

Network 6
Internet access

-

- **Như vậy là máy LAN đang ping thông internet thông qua VMnet1 được share từ wifi của PC máy thật.**

- **2. CÀI ĐẶT MỘT MÁY ẢO CHO PHẦN FIREWALL SỬ DỤNG PFSENCE**
- **Tải dfsence: https://archive.org/download/pfSense-CE-2.4.5-RELEASE-p1-amd64**
- **Thêm các card mạng VMnet1, VMnet2, VMnet3 và tắt use local DHCP service**



Virtual Network Editor

Name	Type	External Connection	Host Connection	DHCP	Subnet Address
VMnet0	Bridged	Auto-bridging	-	-	-
VMnet1	Host-only	-	Connected	-	192.168.254.0
VMnet2	Host-only	-	Connected	-	192.168.197.0
VMnet3	Host-only	-	Connected	-	192.168.64.0
VMnet8	NAT	NAT	Connected	Enabled	192.168.1.0

VMnet Information

○ Bridged (connect VMs directly to the external network)

Bridged to: Automatic

○ NAT (shared host's IP address with VMs)

● Host-only (connect VMs internally in a private network)

☑ Connect a host virtual adapter to this network

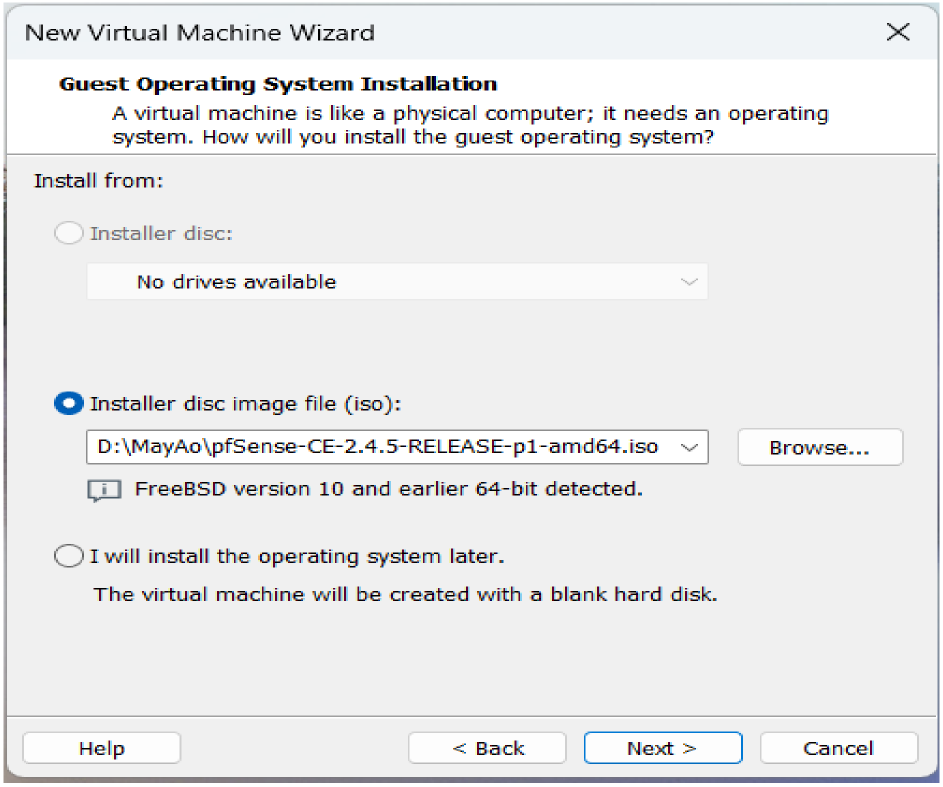
Host virtual adapter name: VMware Network Adapter VMnet3

□ Use local DHCP service to distribute IP address to VMs

Subnet IP: 192 . 168 . 64 . 0   Subnet mask: 255 . 255 . 255 . 0

-

- **Tạo máy ảo và chọn phần .iso của pfSence**


New Virtual Machine Wizard

Guest Operating System Installation

A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?

Install from:

○ Installer disc:

No drives available

● Installer disc image file (iso):

D:\MayAo\pfSense-CE-2.4.5-RELEASE-p1-amd64.iso

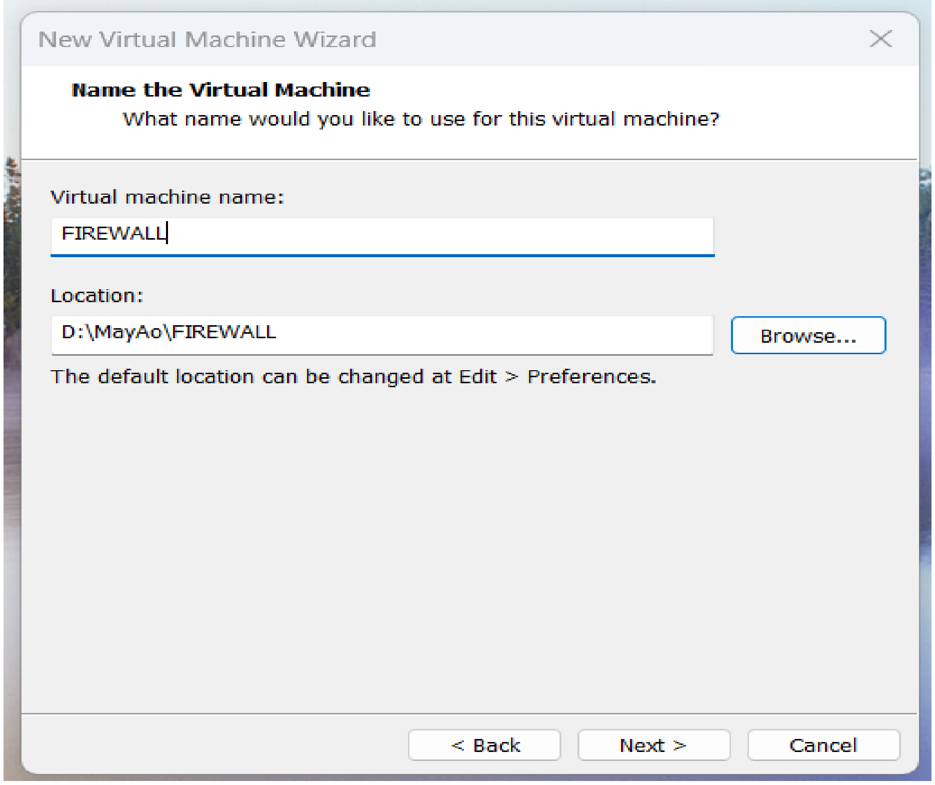
FreeBSD version 10 and earlier 64-bit detected.

○ I will install the operating system later.

The virtual machine will be created with a blank hard disk.

-

- **Đặt tên cho máy ảo và vị trí lưu trữ**


New Virtual Machine Wizard

Name the Virtual Machine

What name would you like to use for this virtual machine?

Virtual machine name:

FIREWALL

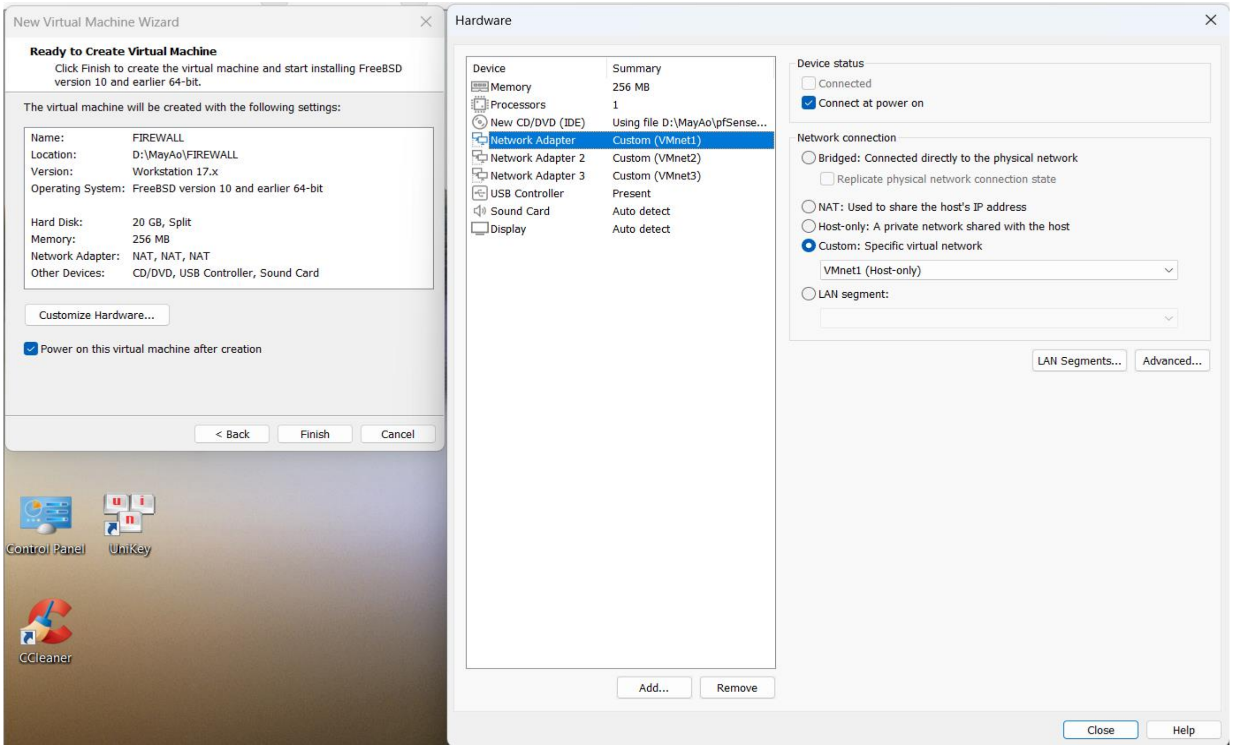
Location:

D:\MayAo\FIREWALL

The default location can be changed at Edit > Preferences.

-

- **Tiếp theo, Customize hardware, cài đặt và thêm 3 card mạng tương ứng Wan – VMnet1; Lan – VMnet2; DMZ – VMnet3**



New Virtual Machine Wizard

Ready to Create Virtual Machine

Click Finish to create the virtual machine and start installing FreeBSD version 10 and earlier 64-bit.

The virtual machine will be created with the following settings:

Name:	FIREWALL
Location:	D:\MayAo\FIREWALL
Version:	Workstation 17.x
Operating System:	FreeBSD version 10 and earlier 64-bit
Hard Disk:	20 GB, Split
Memory:	256 MB
Network Adapter:	NAT, NAT, NAT
Other Devices:	CD/DVD, USB Controller, Sound Card

☑ Power on this virtual machine after creation

Hardware

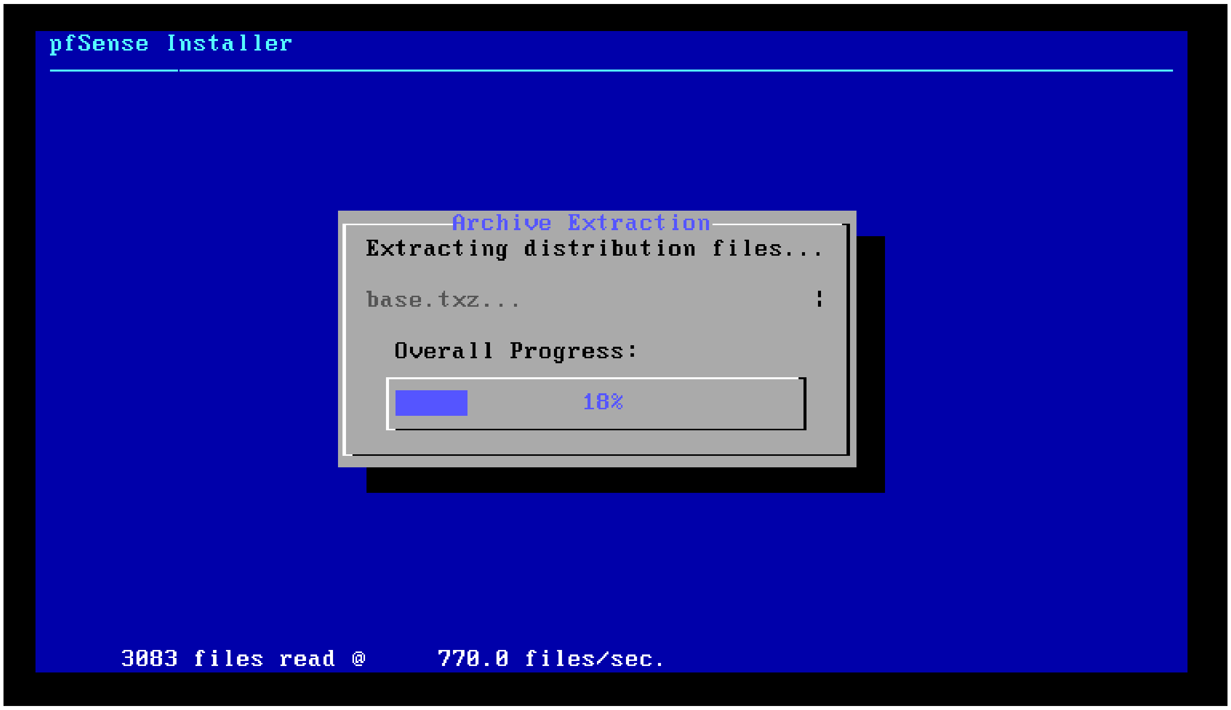
Device	Summary
Memory	256 MB
Processors	1
New CD/DVD (IDE)	Using file D:\MayAo\pfSense...
Network Adapter	Custom (VMnet1)
Network Adapter 2	Custom (VMnet2)
Network Adapter 3	Custom (VMnet3)
USB Controller	Present
Sound Card	Auto detect
Display	Auto detect

Device status
☐ Connected
☑ Connect at power on

Network connection
○ Bridged: Connected directly to the physical network
☐ Replicate physical network connection state
○ NAT: Used to share the host's IP address
○ Host-only: A private network shared with the host
● Custom: Specific virtual network
VMnet1 (Host-only)
○ LAN segment:

-

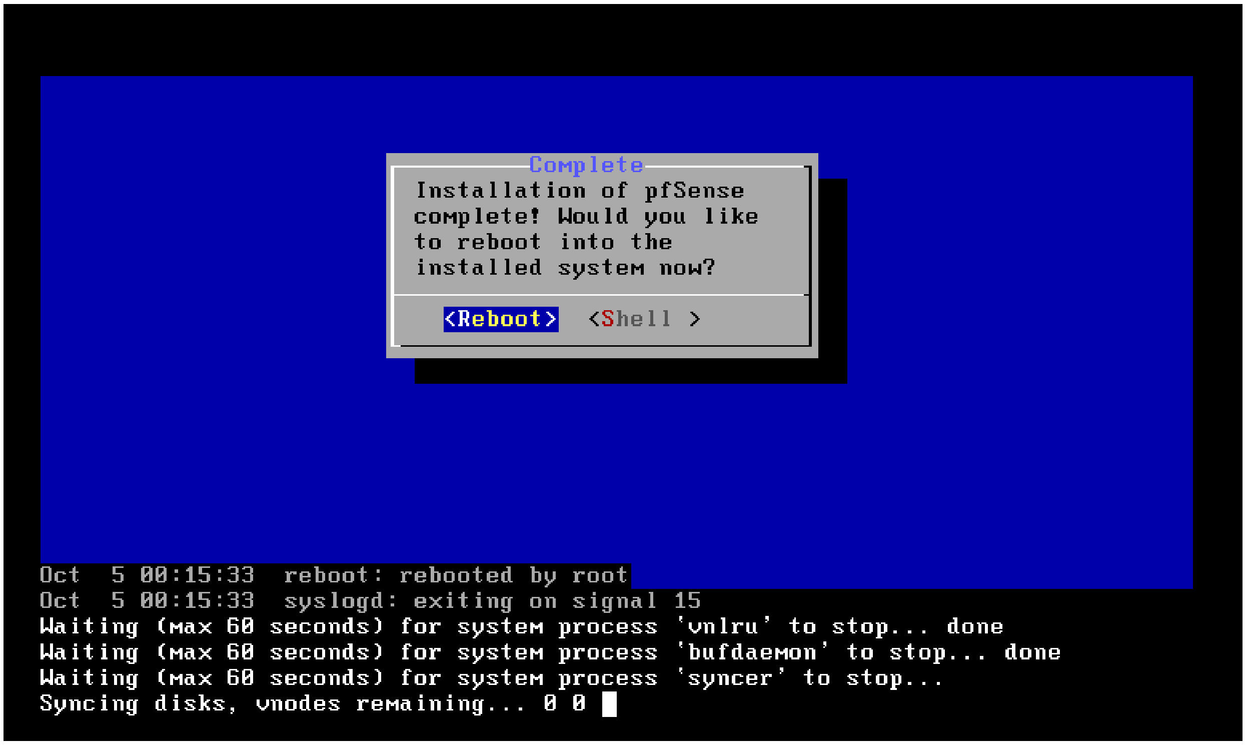
- **Cài đặt theo mặc định và nhấn OK**



```
pfSense Installer

              Archive Extraction
  Extracting distribution files...

  base.txz...                        :

    Overall Progress:
              18%

   3083 files read @     770.0 files/sec.
```

-

- Nhấn theo mặc định

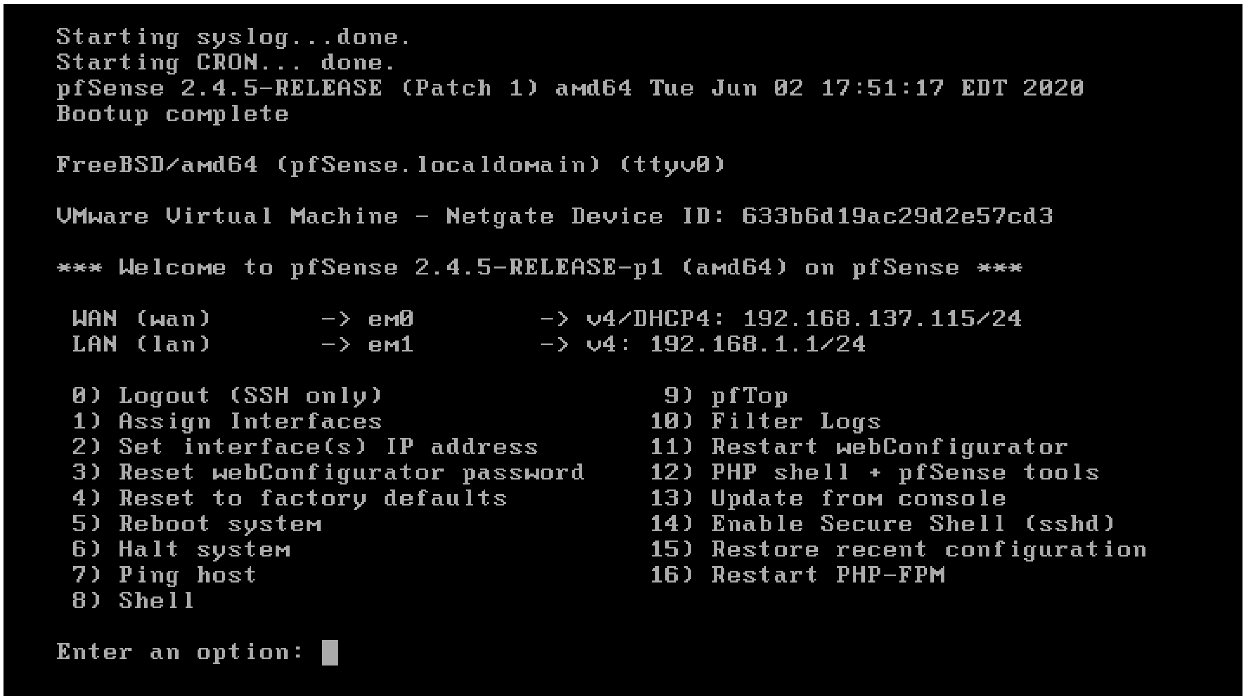


```
Installation of pfSense
complete! Would you like
to reboot into the
installed system now?
```

```
Oct  5 00:15:33  reboot: rebooted by root
Oct  5 00:15:33  syslogd: exiting on signal 15
Waiting (max 60 seconds) for system process `vnlru' to stop... done
Waiting (max 60 seconds) for system process `bufdaemon' to stop... done
Waiting (max 60 seconds) for system process `syncer' to stop...
Syncing disks, vnodes remaining... 0 0
```

-

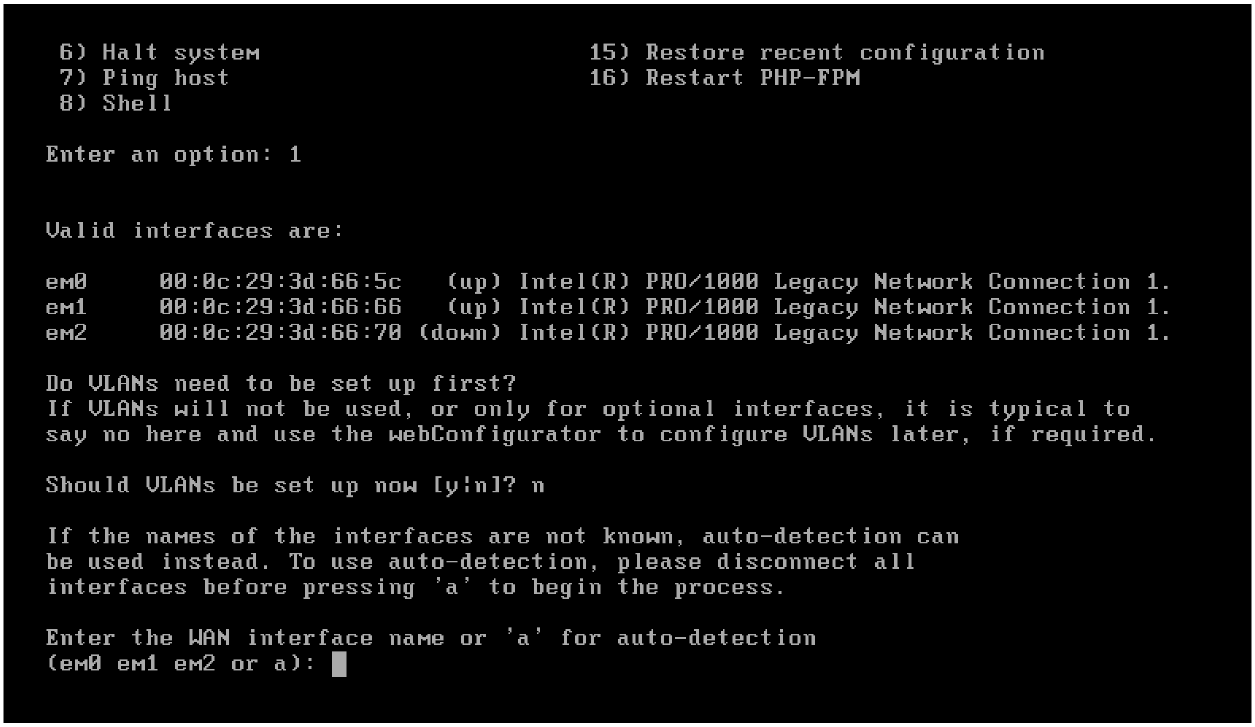
- Tiếp theo, thì chờ đợi chương trinh cài đặt xong. Sau đó nhấn phím số 1 để Assign Interface



```
Starting syslog...done.
Starting CRON... done.
pfSense 2.4.5-RELEASE (Patch 1) amd64 Tue Jun 02 17:51:17 EDT 2020
Bootup complete

FreeBSD/amd64 (pfSense.localdomain) (ttyv0)

VMware Virtual Machine - Netgate Device ID: 633b6d19ac29d2e57cd3

*** Welcome to pfSense 2.4.5-RELEASE-p1 (amd64) on pfSense ***

 WAN (wan)       -> em0        -> v4/DHCP4: 192.168.137.115/24
 LAN (lan)       -> em1        -> v4: 192.168.1.1/24

 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:
```

-

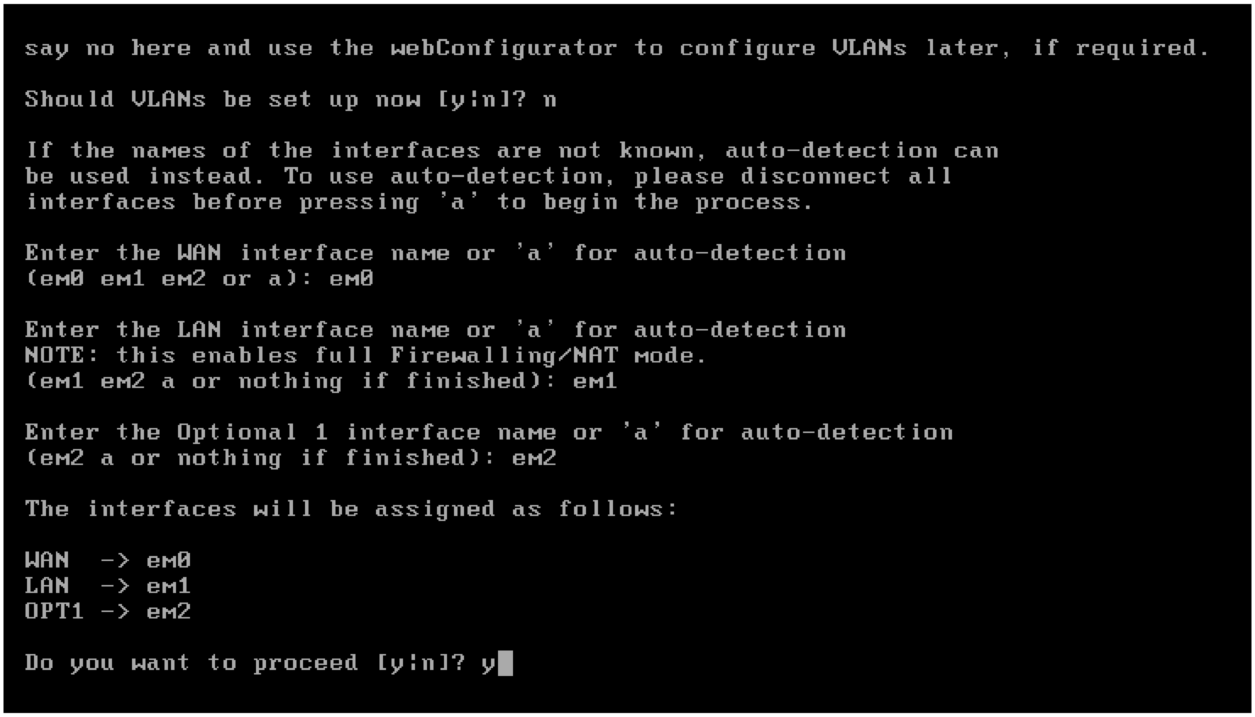
- **Bước tiếp theo, không nhấn cấu hình VLAN chọn n (no)**



```
  6) Halt system                       15) Restore recent configuration
  7) Ping host                         16) Restart PHP-FPM
  8) Shell

 Enter an option: 1


 Valid interfaces are:

 em0     00:0c:29:3d:66:5c   (up) Intel(R) PRO/1000 Legacy Network Connection 1.
 em1     00:0c:29:3d:66:66   (up) Intel(R) PRO/1000 Legacy Network Connection 1.
 em2     00:0c:29:3d:66:70 (down) Intel(R) PRO/1000 Legacy Network Connection 1.

 Do VLANs need to be set up first?
 If VLANs will not be used, or only for optional interfaces, it is typical to
 say no here and use the webConfigurator to configure VLANs later, if required.

 Should VLANs be set up now [y|n]? n

 If the names of the interfaces are not known, auto-detection can
 be used instead. To use auto-detection, please disconnect all
 interfaces before pressing 'a' to begin the process.

 Enter the WAN interface name or 'a' for auto-detection
 (em0 em1 em2 or a):
```

-

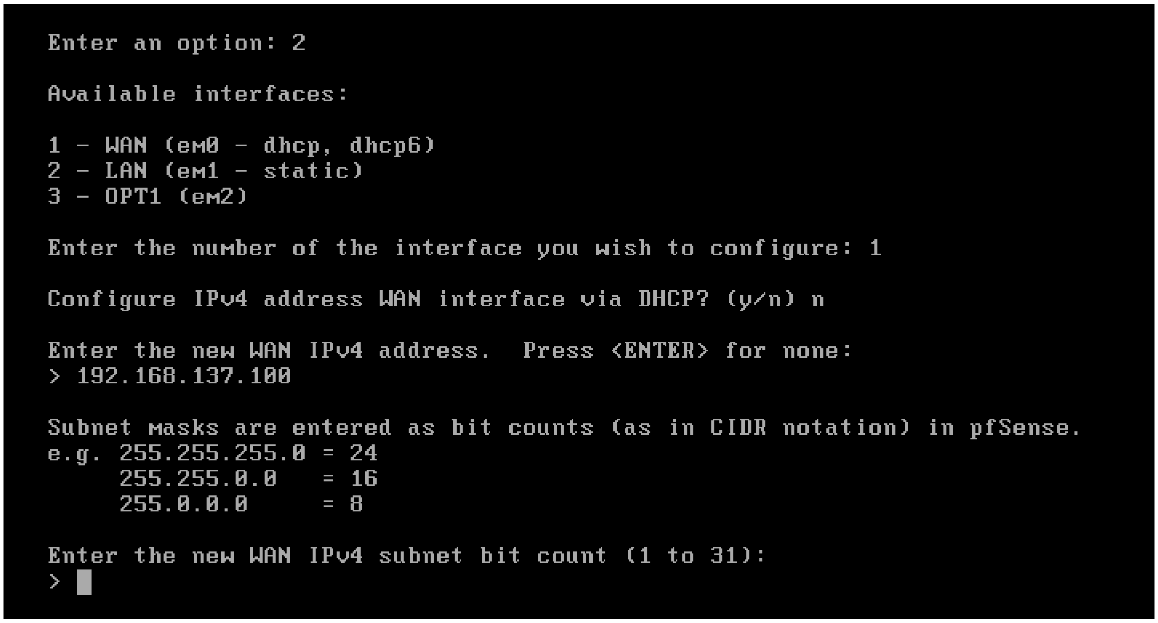
- **Cấu hình cho 3 card mạng theo thứ tự**



```
say no here and use the webConfigurator to configure VLANs later, if required.

Should VLANs be set up now [y|n]? n

If the names of the interfaces are not known, auto-detection can
be used instead. To use auto-detection, please disconnect all
interfaces before pressing 'a' to begin the process.

Enter the WAN interface name or 'a' for auto-detection
(em0 em1 em2 or a): em0

Enter the LAN interface name or 'a' for auto-detection
NOTE: this enables full Firewalling/NAT mode.
(em1 em2 a or nothing if finished): em1

Enter the Optional 1 interface name or 'a' for auto-detection
(em2 a or nothing if finished): em2

The interfaces will be assigned as follows:

WAN  -> em0
LAN  -> em1
OPT1 -> em2

Do you want to proceed [y|n]? y
```

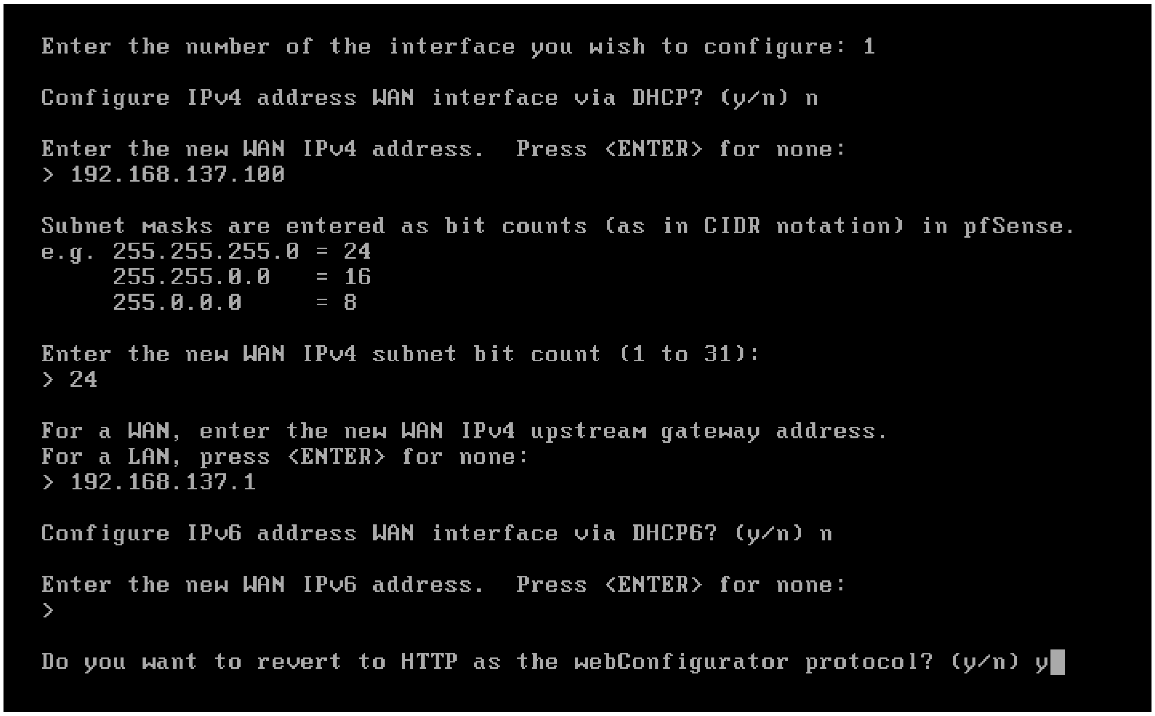
-

- **Tiếp theo nhấn phím số 2, để chọn option 2. Cấu hình IP sang IP tĩnh ở đường WAN - VMnet1. Nhấn tiếp số 1 để cấu hình WAN, không nhận DHCP chọn "n", cấp địa chỉ tĩnh theo sơ đồ là 192.168.137.100, Submark nhận mặc định là 24;**

- 

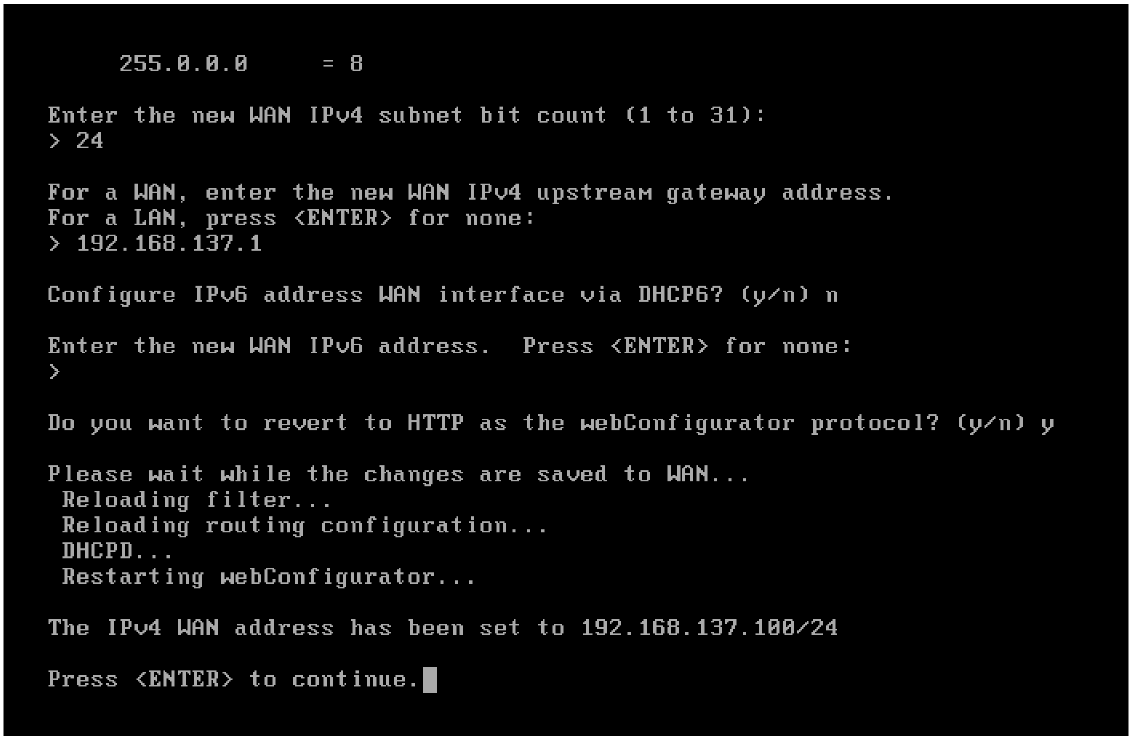
```
Enter an option: 2

Available interfaces:

1 - WAN (em0 - dhcp, dhcp6)
2 - LAN (em1 - static)
3 - OPT1 (em2)

Enter the number of the interface you wish to configure: 1

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

Enter the new WAN IPv4 address.  Press <ENTER> for none:
> 192.168.137.100

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 WAN IPv4 subnet bit count (1 to 31):
> 
```

- **Nhập default gateway 192.168.137.1 và bỏ qua phần DHCP V6 chọn "n" kèm nhấn "enter" để tiếp tục. Kết thúc chọn "y"**

- 

```
Enter the number of the interface you wish to configure: 1

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

Enter the new WAN IPv4 address.  Press <ENTER> for none:
> 192.168.137.100

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 WAN IPv4 subnet bit count (1 to 31):
> 24

For a WAN, enter the new WAN IPv4 upstream gateway address.
For a LAN, press <ENTER> for none:
> 192.168.137.1

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

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

Do you want to revert to HTTP as the webConfigurator protocol? (y/n) y
```

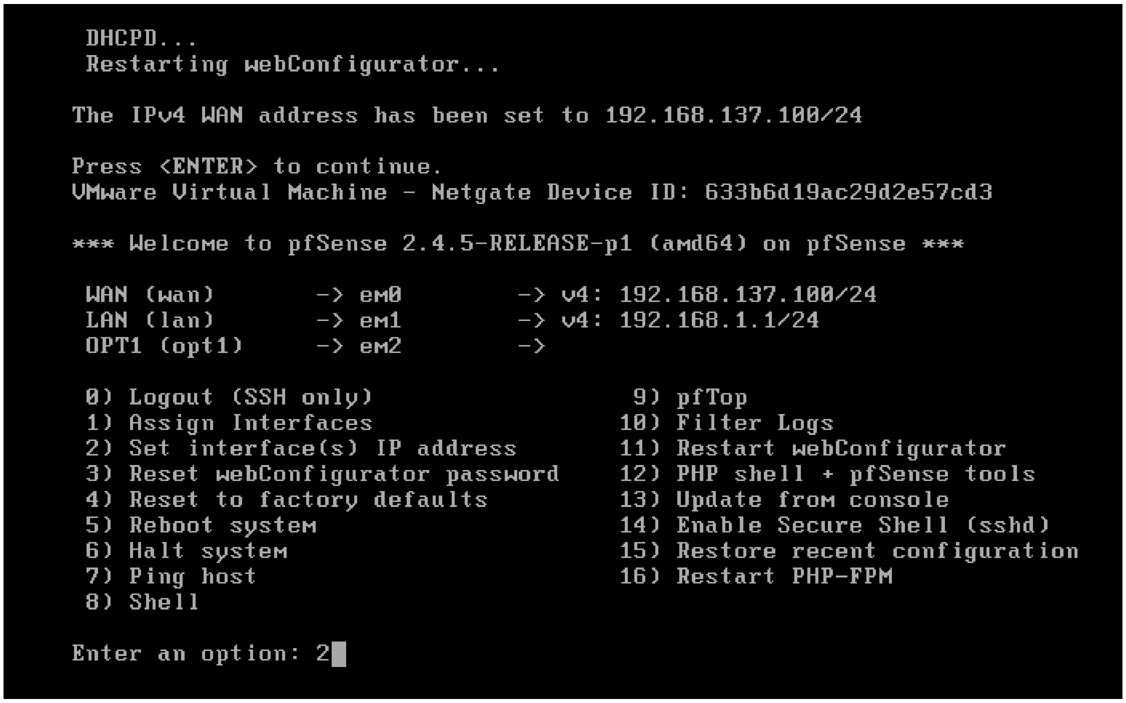
- **Kết quả**



```
     255.0.0.0      = 8

Enter the new WAN IPv4 subnet bit count (1 to 31):
> 24

For a WAN, enter the new WAN IPv4 upstream gateway address.
For a LAN, press <ENTER> for none:
> 192.168.137.1

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

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

Do you want to revert to HTTP as the webConfigurator protocol? (y/n) y

Please wait while the changes are saved to WAN...
 Reloading filter...
 Reloading routing configuration...
 DHCPD...
 Restarting webConfigurator...

The IPv4 WAN address has been set to 192.168.137.100/24

Press <ENTER> to continue.
```

-

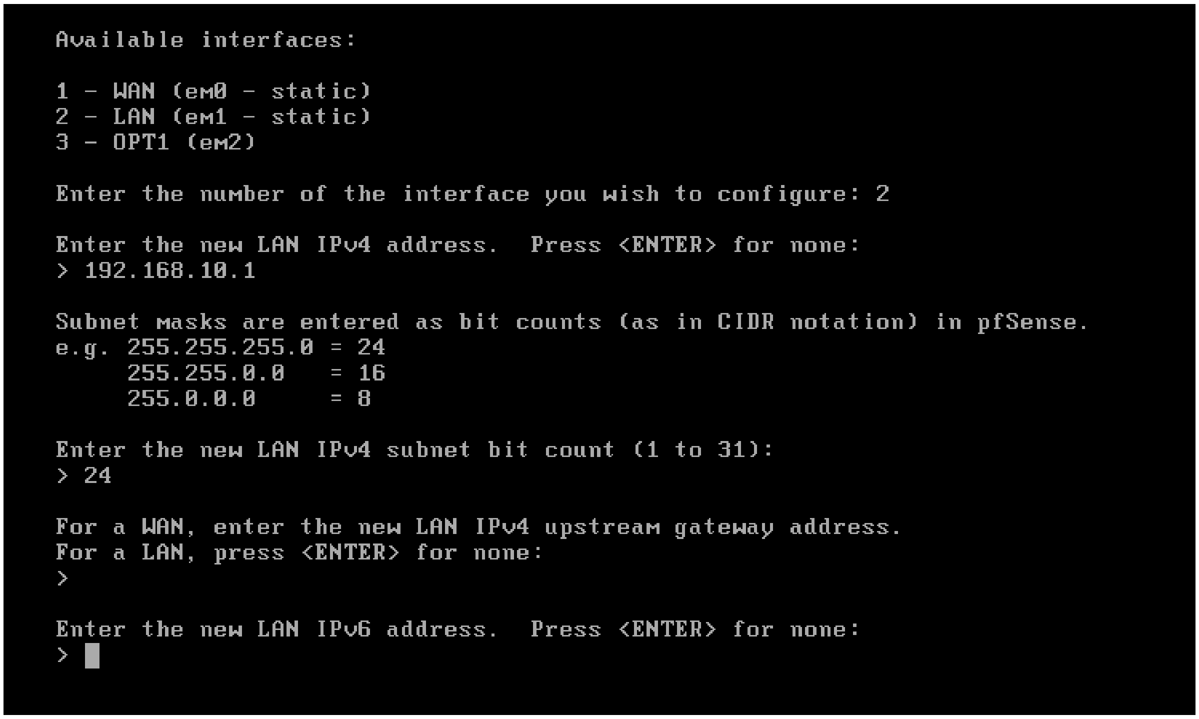
- **Sau khi cấu hình Phím 1) Assign Interface thì chúng ta tiếp tục với phím 2) Set Interface**



```
 DHCPD...
 Restarting webConfigurator...

The IPv4 WAN address has been set to 192.168.137.100/24

Press <ENTER> to continue.
VMware Virtual Machine - Netgate Device ID: 633b6d19ac29d2e57cd3

*** Welcome to pfSense 2.4.5-RELEASE-p1 (amd64) on pfSense ***

 WAN (wan)       -> em0        -> v4: 192.168.137.100/24
 LAN (lan)       -> em1        -> v4: 192.168.1.1/24
 OPT1 (opt1)     -> em2        ->

 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
```

-

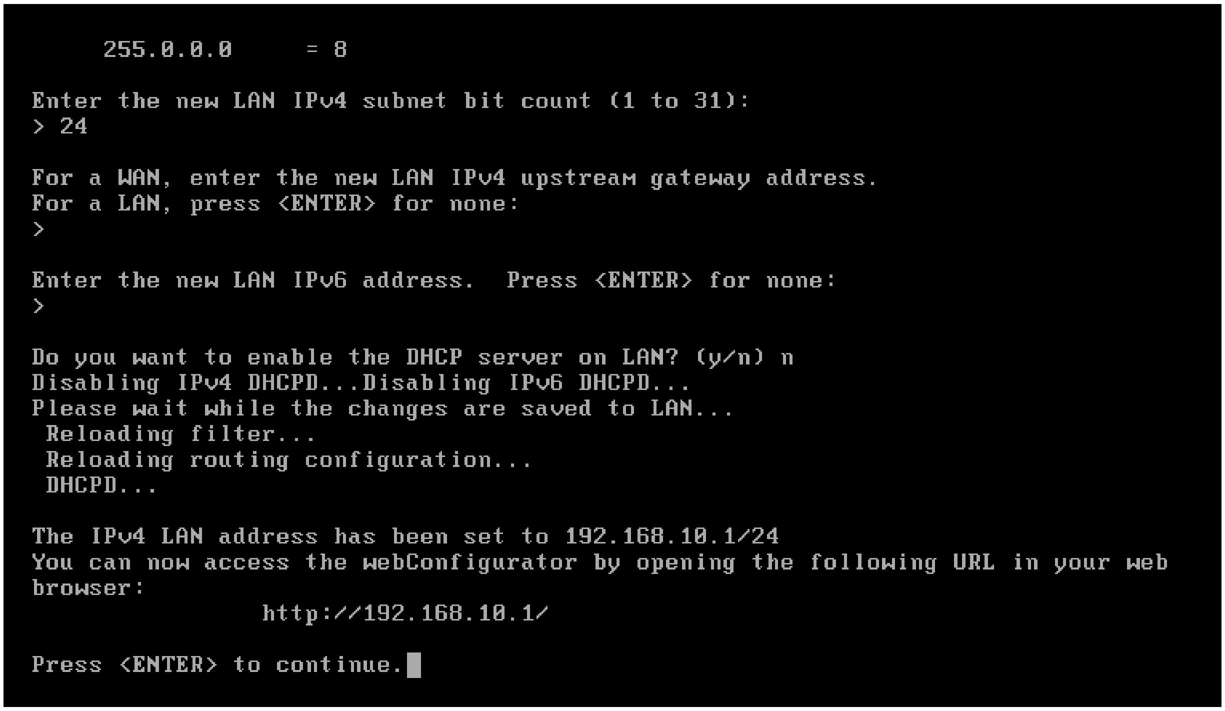
- **Tiếp tục, chọn phím số 2 và cấu hình tới cổng LAN**



```
Available interfaces:

1 - WAN (em0 - static)
2 - LAN (em1 - static)
3 - OPT1 (em2)

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

Enter the new LAN IPv4 address.  Press <ENTER> for none:
> 192.168.10.1

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:
>
```

-

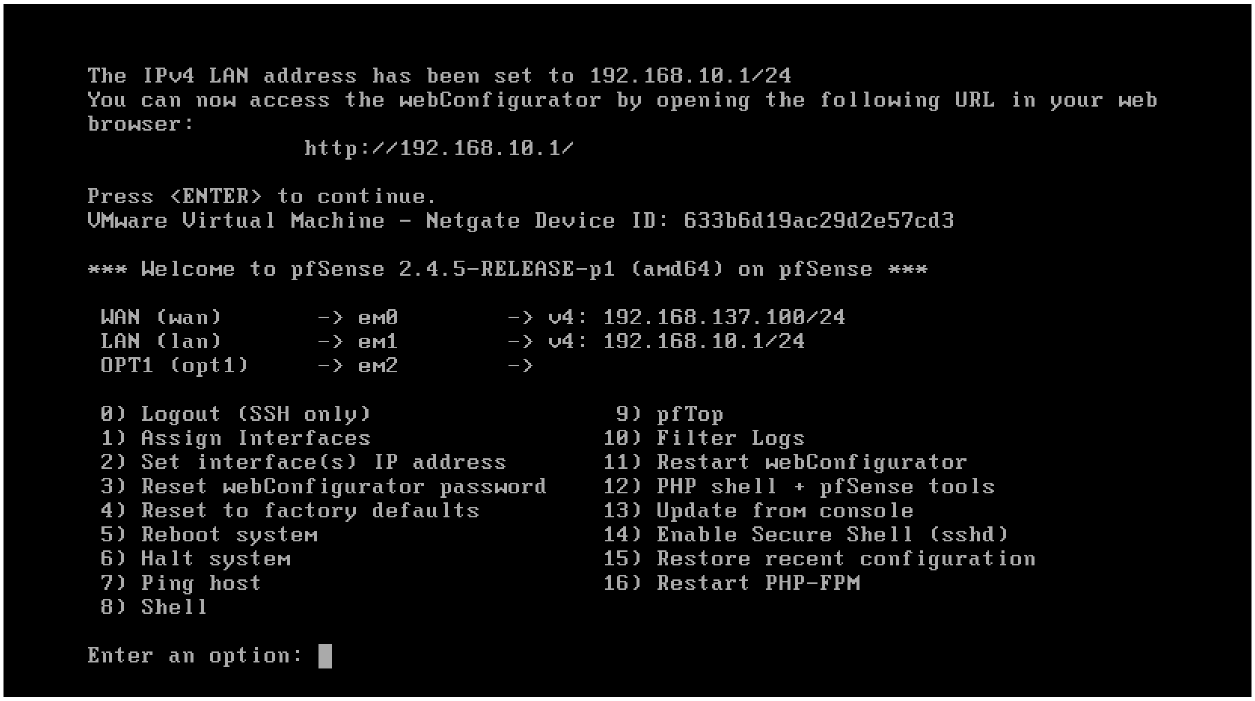
- **Không cấu hình cổng default gateway và IPv4, IPv6, và không bật DHCP**



```
     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...
Please wait while the changes are saved to LAN...
 Reloading filter...
 Reloading routing configuration...
 DHCPD...

The IPv4 LAN address has been set to 192.168.10.1/24
You can now access the webConfigurator by opening the following URL in your web
browser:
                http://192.168.10.1/

Press <ENTER> to continue.
```

-

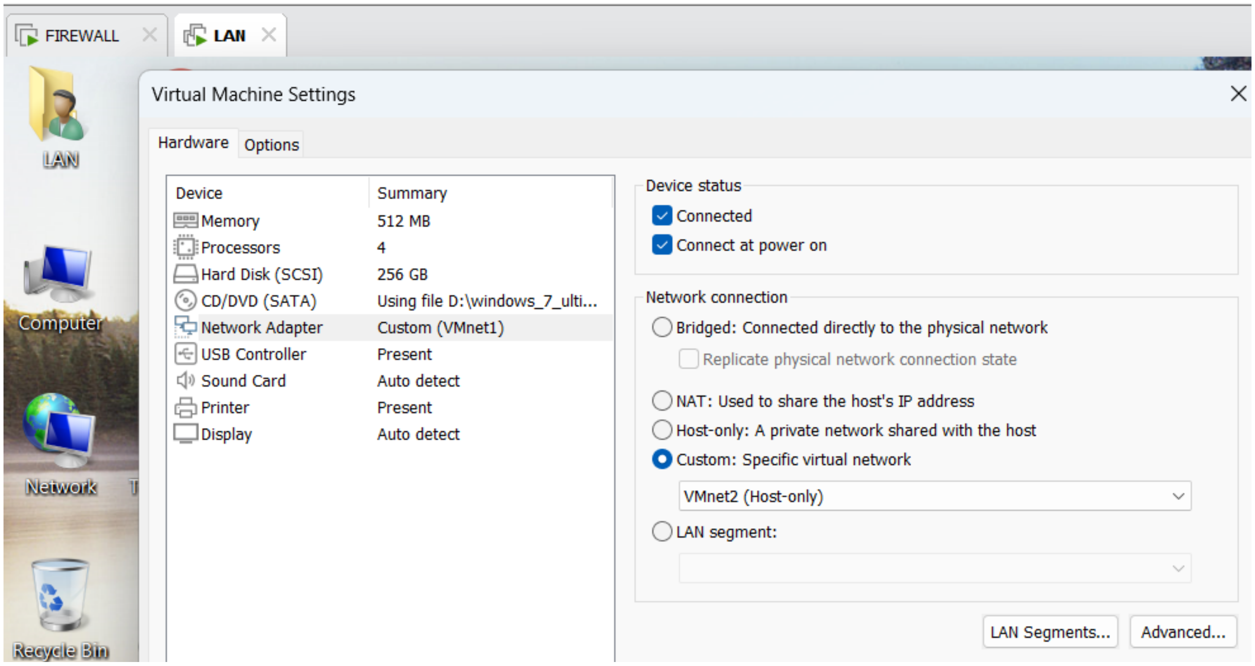
- **Sau đó thì nhấn OK, và có thể cấu hình trên trình duyệt http://192.168.10.1/**



```
The IPv4 LAN address has been set to 192.168.10.1/24
You can now access the webConfigurator by opening the following URL in your web
browser:
                http://192.168.10.1/

Press <ENTER> to continue.
VMware Virtual Machine - Netgate Device ID: 633b6d19ac29d2e57cd3

*** Welcome to pfSense 2.4.5-RELEASE-p1 (amd64) on pfSense ***

 WAN (wan)       -> em0        -> v4: 192.168.137.100/24
 LAN (lan)       -> em1        -> v4: 192.168.10.1/24
 OPT1 (opt1)     -> em2        ->

 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: 
```

-

- **Tiếp đến là kết nối LAN với VMnet2**



Virtual Machine Settings

Hardware | Options

Device	Summary
Memory	512 MB
Processors	4
Hard Disk (SCSI)	256 GB
CD/DVD (SATA)	Using file D:\windows_7_ulti...
Network Adapter	Custom (VMnet1)
USB Controller	Present
Sound Card	Auto detect
Printer	Present
Display	Auto detect

Device status

☑ Connected

☑ Connect at power on

Network connection

○ Bridged: Connected directly to the physical network

□ Replicate physical network connection state

○ NAT: Used to share the host's IP address

○ Host-only: A private network shared with the host

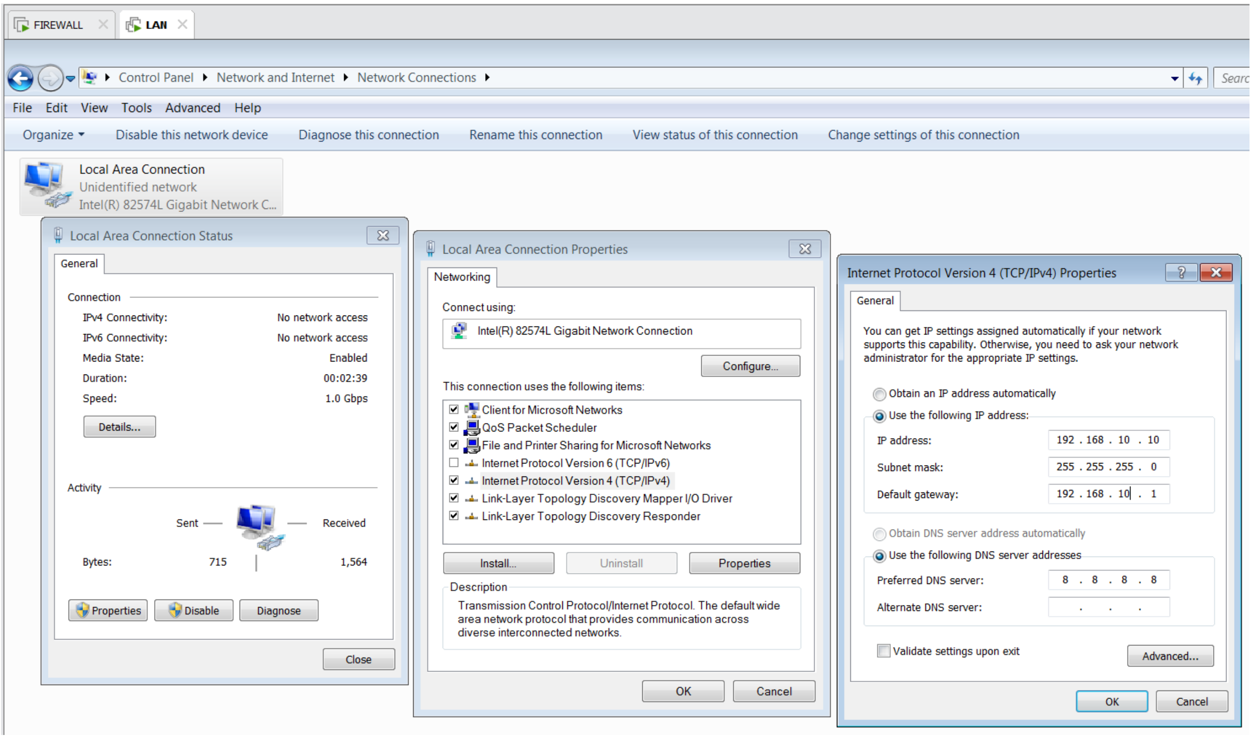
● Custom: Specific virtual network

VMnet2 (Host-only)

○ LAN segment:

-

- **Ở LAN, cấu hình và đặt địa chỉ card mạng 192.168.10.10 và default gateway là 192.168.10.1**


FIREWALL
LAN
Control Panel ▸ Network and Internet ▸ Network Connections ▸
File Edit View Tools Advanced Help
Organize ▾ Disable this network device Diagnose this connection Rename this connection View status of this connection Change settings of this connection

Local Area Connection
Unidentified network
Intel(R) 82574L Gigabit Network C...

Local Area Connection Status

General

Connection

IPv4 Connectivity:	No network access
IPv6 Connectivity:	No network access
Media State:	Enabled
Duration:	00:02:39
Speed:	1.0 Gbps

Activity

	Sent	Received
Bytes:	715	1,564

Details...
Properties Disable Diagnose
Close

Local Area Connection Properties

Networking

Connect using:

Intel(R) 82574L Gigabit Network Connection

This connection uses the following items:

- ☑ Client for Microsoft Networks
- ☑ QoS Packet Scheduler
- ☑ File and Printer Sharing for Microsoft Networks
- ☐ Internet Protocol Version 6 (TCP/IPv6)
- ☑ Internet Protocol Version 4 (TCP/IPv4)
- ☑ Link-Layer Topology Discovery Mapper I/O Driver
- ☑ Link-Layer Topology Discovery Responder

Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically

● Use the following IP address:

IP address:	192 . 168 . 10 . 10
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192 . 168 . 10 . 1

○ Obtain DNS server address automatically

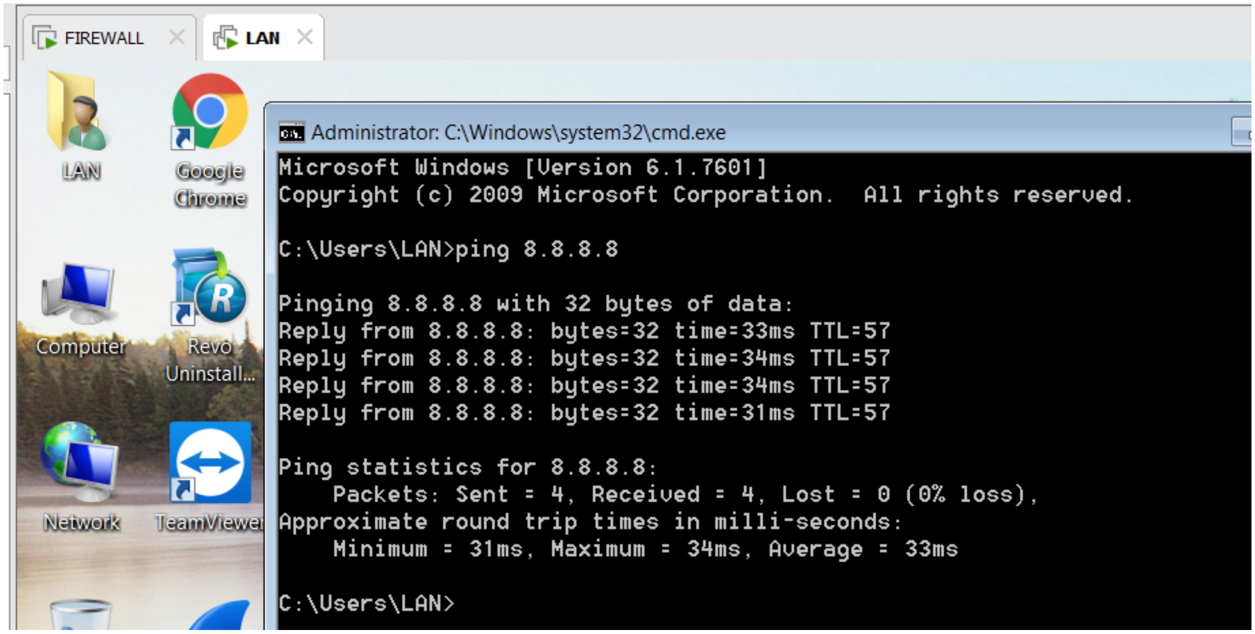
● Use the following DNS server addresses:

Preferred DNS server:	8 . 8 . 8 . 8
Alternate DNS server:	. . .

☐ Validate settings upon exit

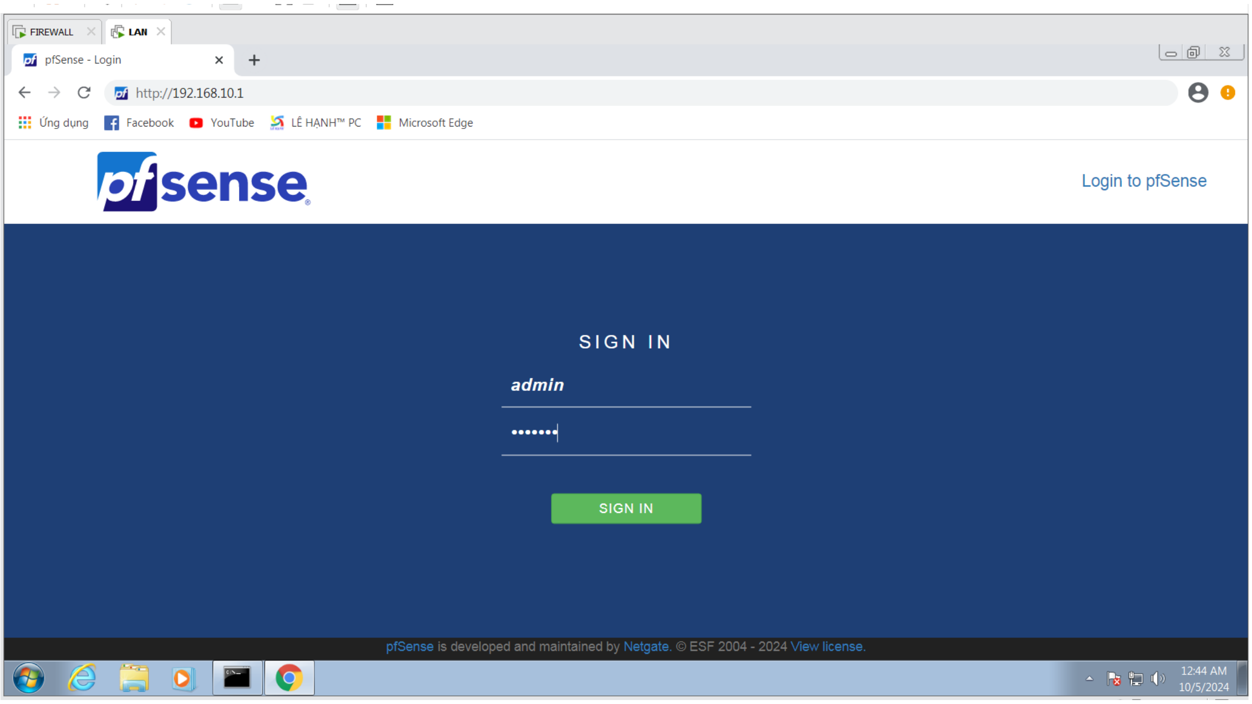
-

- **Kiểm thử: cho phép LAN truy cập tới bất kì máy nào thông qua pfSence**



```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=33ms TTL=57
Reply from 8.8.8.8: bytes=32 time=34ms TTL=57
Reply from 8.8.8.8: bytes=32 time=34ms TTL=57
Reply from 8.8.8.8: bytes=32 time=31ms TTL=57

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 31ms, Maximum = 34ms, Average = 33ms

C:\Users\LAN>
```

-

- **3. Ở MÁY LAN, TRUY CẬP TƯỜNG LỬA VÀ CẤU HÌNH TRÊN GIAO DIỆN WEB.**
- **http://192.168.10.1 với tài khoản mặc định là admin và password là pfsense**
- 

pfSense - Login

http://192.168.10.1

Login to pfSense

SIGN IN

admin

•••••••

SIGN IN

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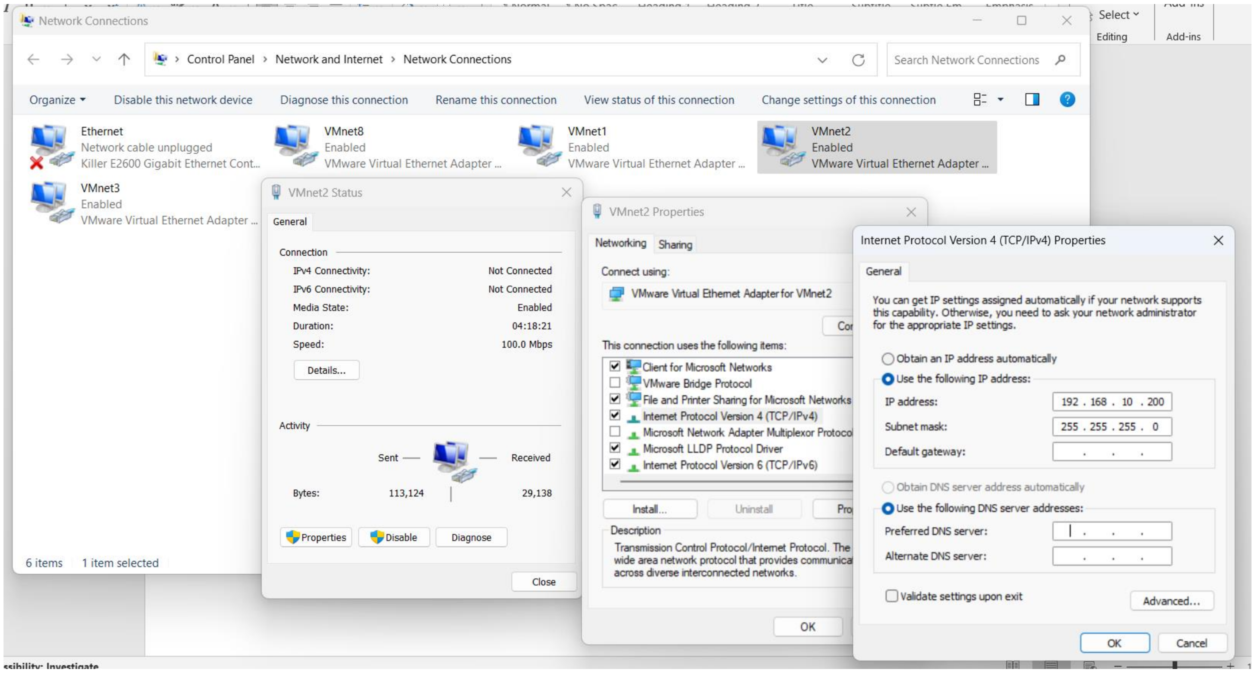
- **Tiếp theo là từ máy thật PC nối vào Lan đi vào VMnet2 đi vào sơ đồ.**
- 

Network Connections

Control Panel > Network and Internet > Network Connections

Ethernet — Network cable unplugged — Killer E2600 Gigabit Ethernet Cont...

VMnet8 — Enabled — VMware Virtual Ethernet Adapter ...

VMnet1 — Enabled — VMware Virtual Ethernet Adapter ...

VMnet2 — Enabled — VMware Virtual Ethernet Adapter ...

VMnet3 — Enabled — VMware Virtual Ethernet Adapter ...

6 items 1 item selected

VMnet2 Status

Connection

IPv4 Connectivity: Not Connected
IPv6 Connectivity: Not Connected
Media State: Enabled
Duration: 04:18:21
Speed: 100.0 Mbps

Activity

Bytes: Sent 113,124 — Received 29,138

VMnet2 Properties

Connect using: VMware Virtual Ethernet Adapter for VMnet2

This connection uses the following items:

☑ Client for Microsoft Networks
☐ VMware Bridge Protocol
☑ File and Printer Sharing for Microsoft Networks
☑ Internet Protocol Version 4 (TCP/IPv4)
☐ Microsoft Network Adapter Multiplexor Protoco
☑ Microsoft LLDP Protocol Driver
☑ Internet Protocol Version 6 (TCP/IPv6)

Description: Transmission Control Protocol/Internet Protocol. The wide area network protocol that provides communica across diverse interconnected networks.

Internet Protocol Version 4 (TCP/IPv4) Properties

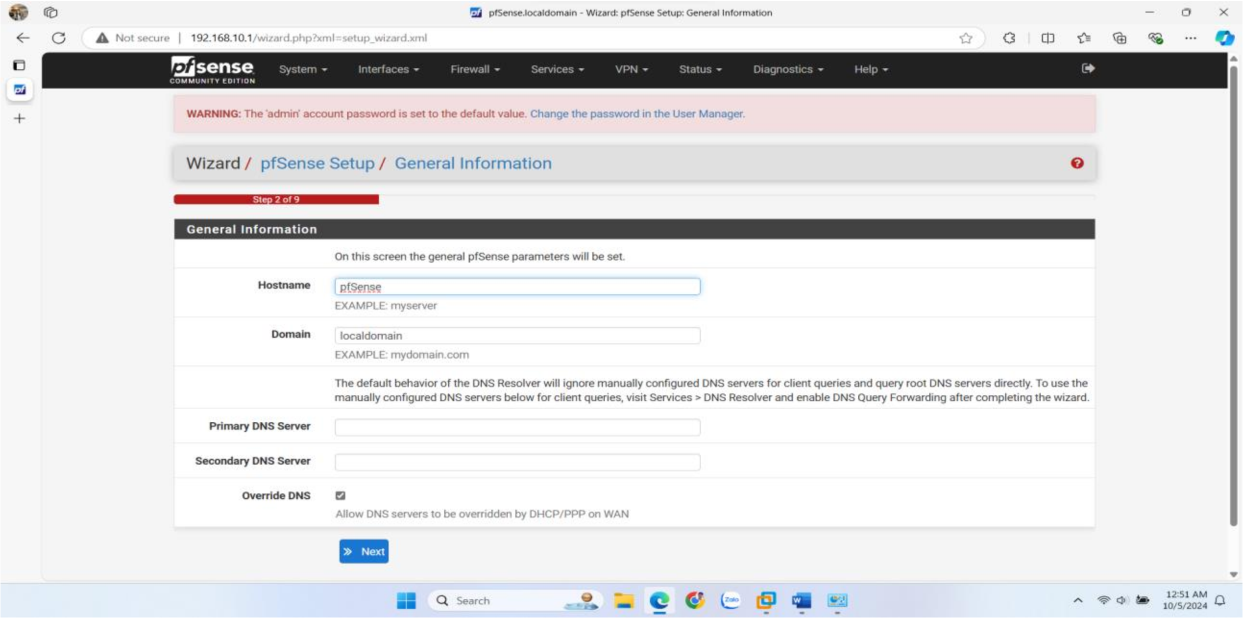
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
● Use the following IP address:
IP address: 192 . 168 . 10 . 200
Subnet mask: 255 . 255 . 255 . 0
Default gateway: . . .

○ Obtain DNS server address automatically
● Use the following DNS server addresses:
Preferred DNS server: . . .
Alternate DNS server: . . .

☐ Validate settings upon exit

- **Ở PC đăng nhập và web http://192.168.10.1 sau khi đã nối LAN đến VMnet2**



pfSense.localdomain - Wizard: pfSense Setup: General Information
Not secure | 192.168.10.1/wizard.php?xml=setup_wizard.xml
pfsense COMMUNITY EDITION
System
Interfaces
Firewall
Services
VPN
Status
Diagnostics
Help
Search
12:51 AM
10/5/2024

WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.

Wizard / pfSense Setup / General Information

Step 2 of 9

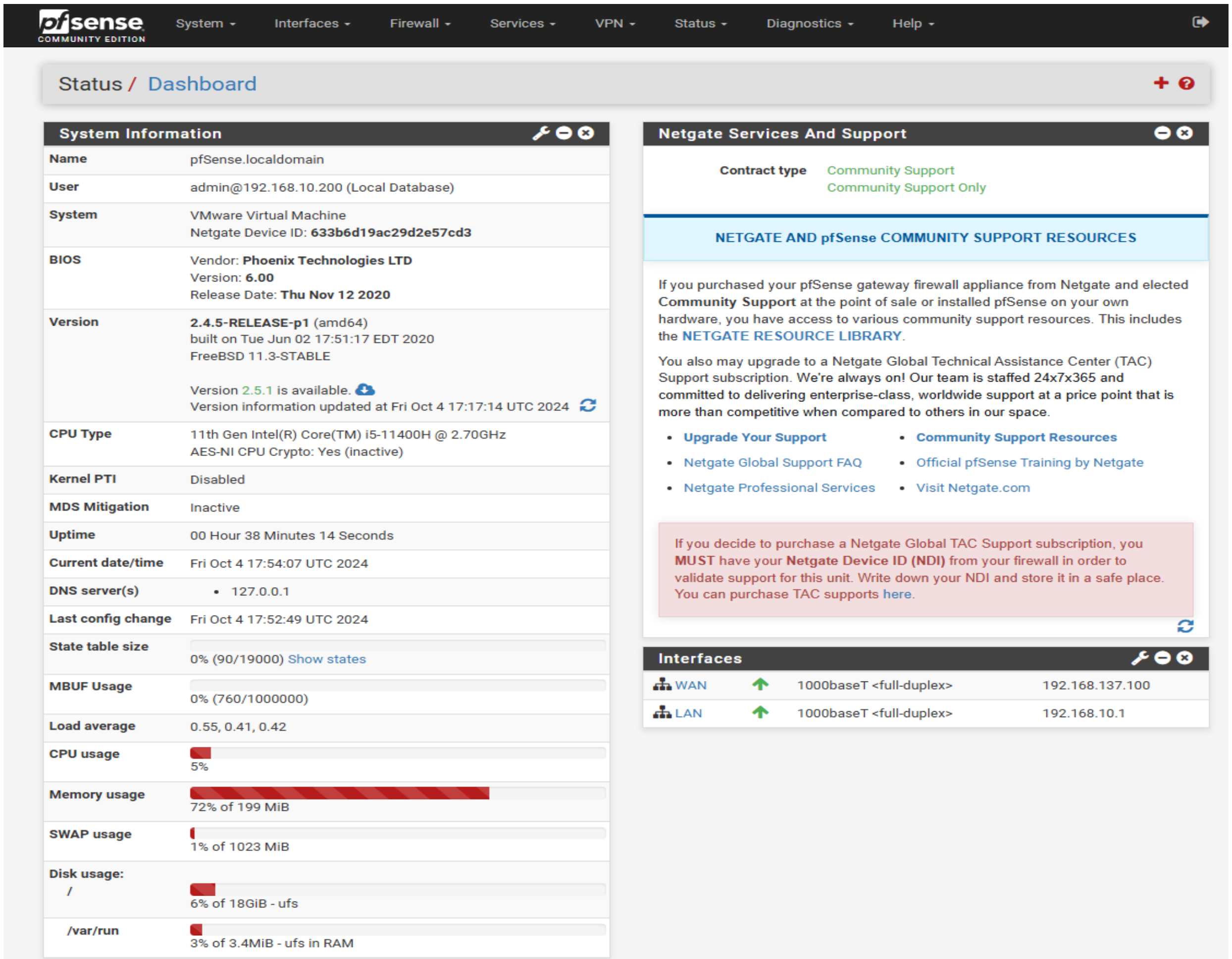
General Information

On this screen the general pfSense parameters will be set.

Hostname	pfSense EXAMPLE: myserver
Domain	localdomain EXAMPLE: mydomain.com
	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	
Secondary DNS Server	
Override DNS	☑ Allow DNS servers to be overridden by DHCP/PPP on WAN

» Next

- **Giao diện sau khi đăng nhập**



Status / Dashboard

System Information

Name	pfSense.localdomain
User	admin@192.168.10.200 (Local Database)
System	VMware Virtual Machine Netgate Device ID: **633b6d19ac29d2e57cd3**
BIOS	Vendor: **Phoenix Technologies LTD** Version: **6.00** Release Date: **Thu Nov 12 2020**
Version	**2.4.5-RELEASE-p1** (amd64) built on Tue Jun 02 17:51:17 EDT 2020 FreeBSD 11.3-STABLE Version 2.5.1 is available. Version information updated at Fri Oct 4 17:17:14 UTC 2024
CPU Type	11th Gen Intel(R) Core(TM) i5-11400H @ 2.70GHz AES-NI CPU Crypto: Yes (inactive)
Kernel PTI	Disabled
MDS Mitigation	Inactive
Uptime	00 Hour 38 Minutes 14 Seconds
Current date/time	Fri Oct 4 17:54:07 UTC 2024
DNS server(s)	• 127.0.0.1
Last config change	Fri Oct 4 17:52:49 UTC 2024
State table size	0% (90/19000) Show states
MBUF Usage	0% (760/1000000)
Load average	0.55, 0.41, 0.42
CPU usage	5%
Memory usage	72% of 199 MiB
SWAP usage	1% of 1023 MiB
Disk usage: /	6% of 18GiB - ufs
/var/run	3% of 3.4MiB - ufs in RAM

Netgate Services And Support

Contract type Community Support
Community Support Only

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**
- Netgate Global Support FAQ
- Netgate Professional Services
- **Community Support Resources**
- Official pfSense Training by Netgate
- Visit Netgate.com

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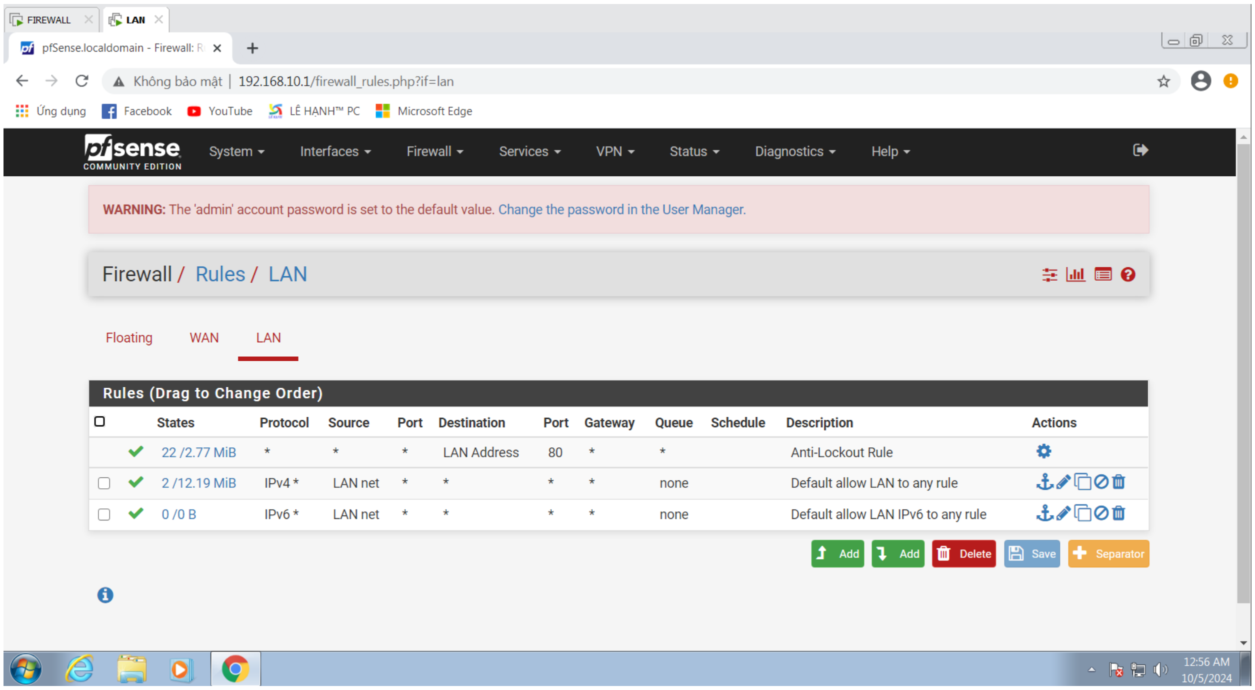
Interfaces

WAN	↑	1000baseT <full-duplex>	192.168.137.100
LAN	↑	1000baseT <full-duplex>	192.168.10.1

- **Tiến hành cấu hình cơ bản: chặn IP của Client 192.168.10.10. Chọn “rule” để kiểm soát các luồng truy cập từ các giao thức.**



WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.

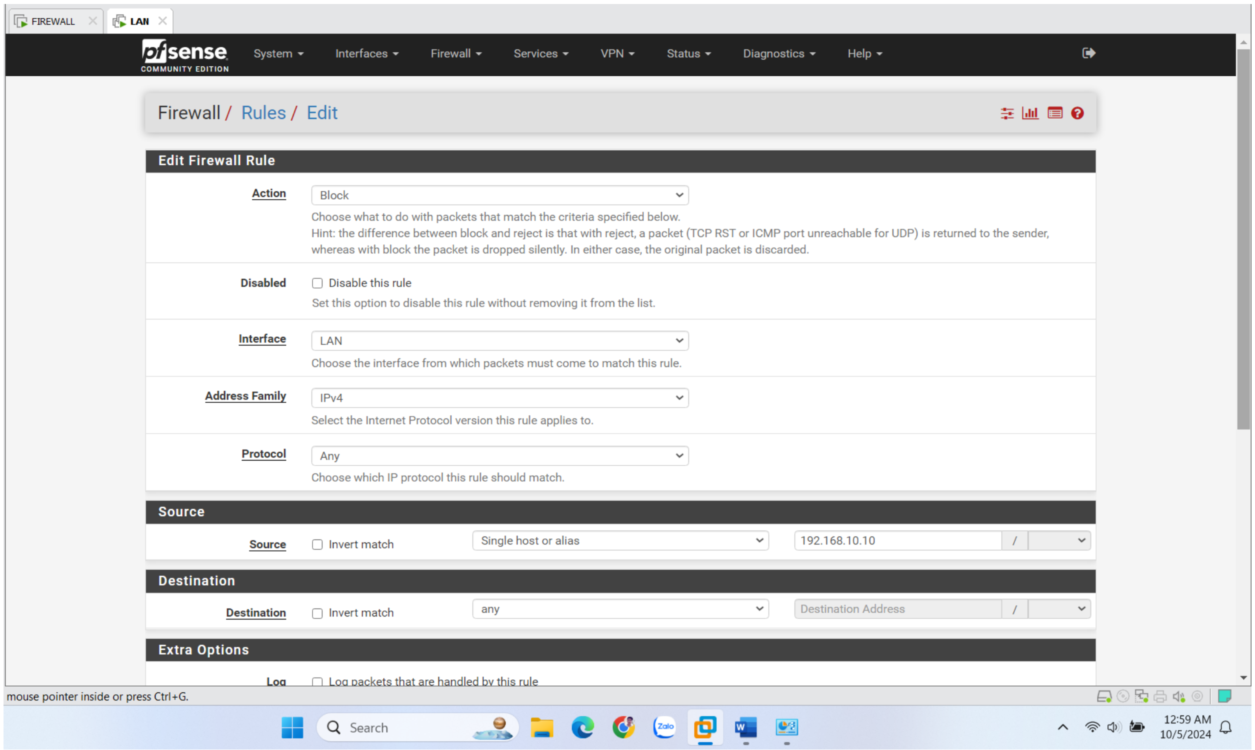
Firewall / Rules / LAN

Rules (Drag to Change Order)

☐		States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
	✓	22 /2.77 MiB	*	*	*	LAN Address	80	*	*		Anti-Lockout Rule	
☐	✓	2 /12.19 MiB	IPv4 *	LAN net	*	*	*	*	none		Default allow LAN to any rule	
☐	✓	0 /0 B	IPv6 *	LAN net	*	*	*	*	none		Default allow LAN IPv6 to any rule	

-

- **Nhấn add để thêm mới rule. Chọn hành động là chặn bất kì giao thức nào từ nguồn địa chỉ IP 192.168.10.10. Sau đó nhấn lưu**



Firewall / Rules / Edit

Edit Firewall Rule

Action: Block

Choose what to do with packets that match the criteria specified below.
Hint: the difference between block and reject is that with reject, a packet (TCP RST or ICMP port unreachable for UDP) is returned to the sender, whereas with block the packet is dropped silently. In either case, the original packet is discarded.

Disabled: ☐ Disable this rule

Set this option to disable this rule without removing it from the list.

Interface: LAN

Choose the interface from which packets must come to match this rule.

Address Family: IPv4

Select the Internet Protocol version this rule applies to.

Protocol: Any

Choose which IP protocol this rule should match.

Source

Source: ☐ Invert match | Single host or alias | 192.168.10.10 /

Destination

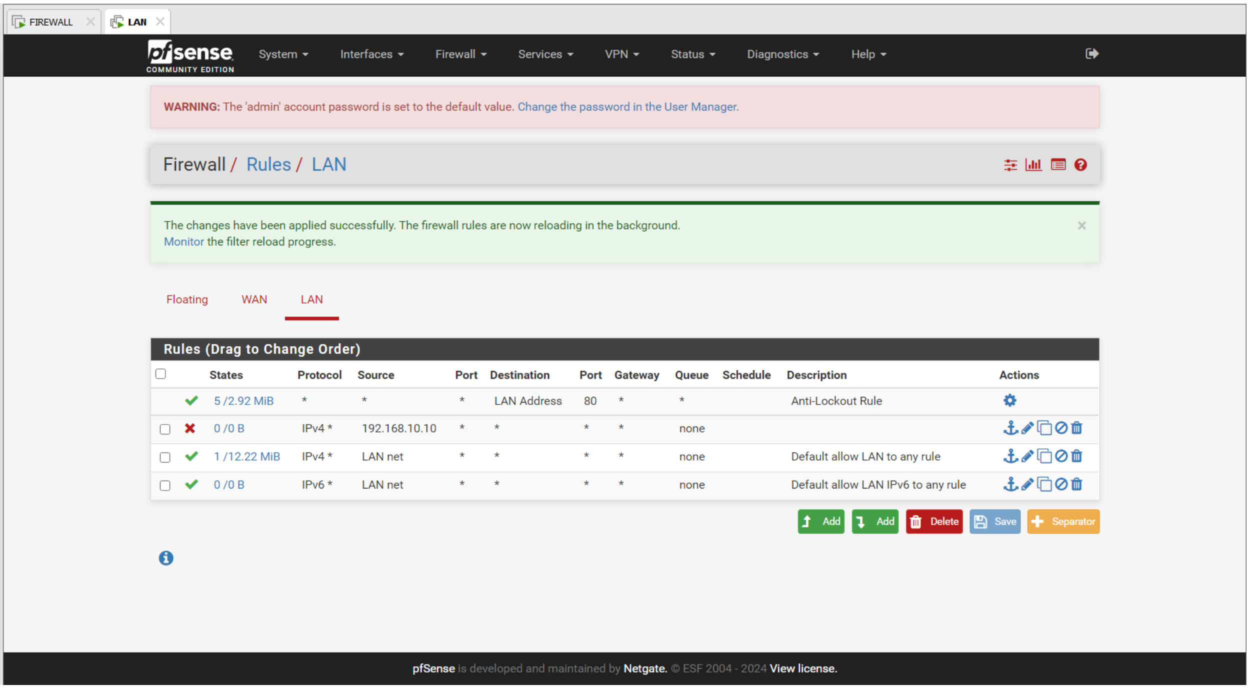
Destination: ☐ Invert match | any | Destination Address /

Extra Options

Log: ☐ Log packets that are handled by this rule

mouse pointer inside or press Ctrl+G.

-

- 

WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.

Firewall / Rules / LAN

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

Rules (Drag to Change Order)

□		States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
	✓	5 /2.92 MiB	*	*	*	LAN Address	80	*	*		Anti-Lockout Rule	⚙
□	✗	0 /0 B	IPv4 *	192.168.10.10	*	*	*	*	none			⚓✎⧉⊘🗑
□	✓	1 /12.22 MiB	IPv4 *	LAN net	*	*	*	*	none		Default allow LAN to any rule	⚓✎⧉⊘🗑
□	✓	0 /0 B	IPv6 *	LAN net	*	*	*	*	none		Default allow LAN IPv6 to any rule	⚓✎⧉⊘🗑

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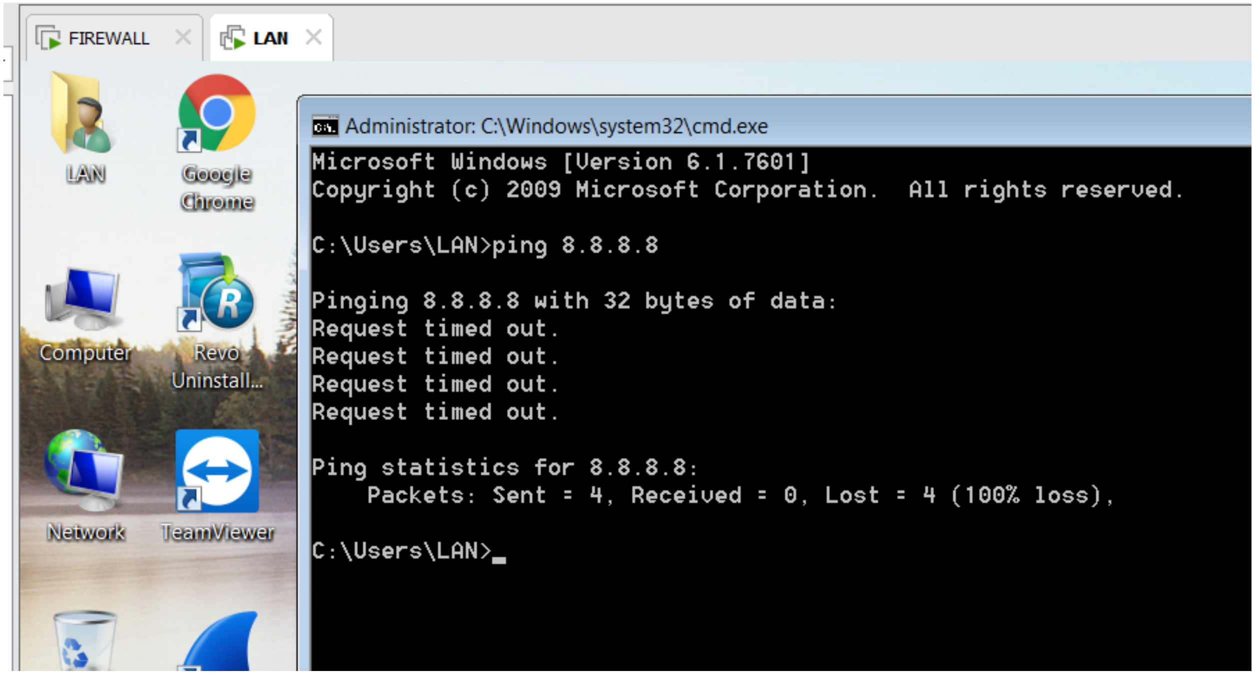
- **Test lại trong mạng của LAN và ping tới 8.8.8.8**

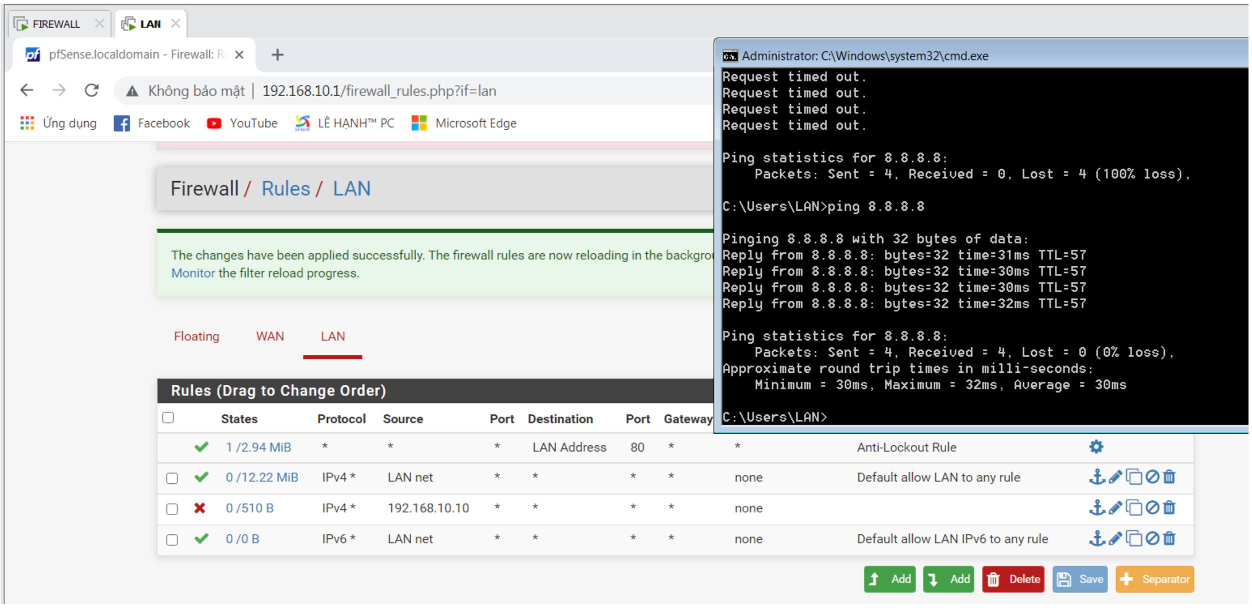
<u>Kết quả:</u> **không ping *ra internet không được***

- 

Administrator: C:\Windows\system32\cmd.exe

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\LAN>_
```

- **Thử di chuyển rule này xuống dưới, thì LAN lại ping ra được internet (=> rule cuối cùng sẽ được áp dụng cho tường lửa, xét theo thứ tự từ dưới lên trên.)**

- 

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

Rules (Drag to Change Order)

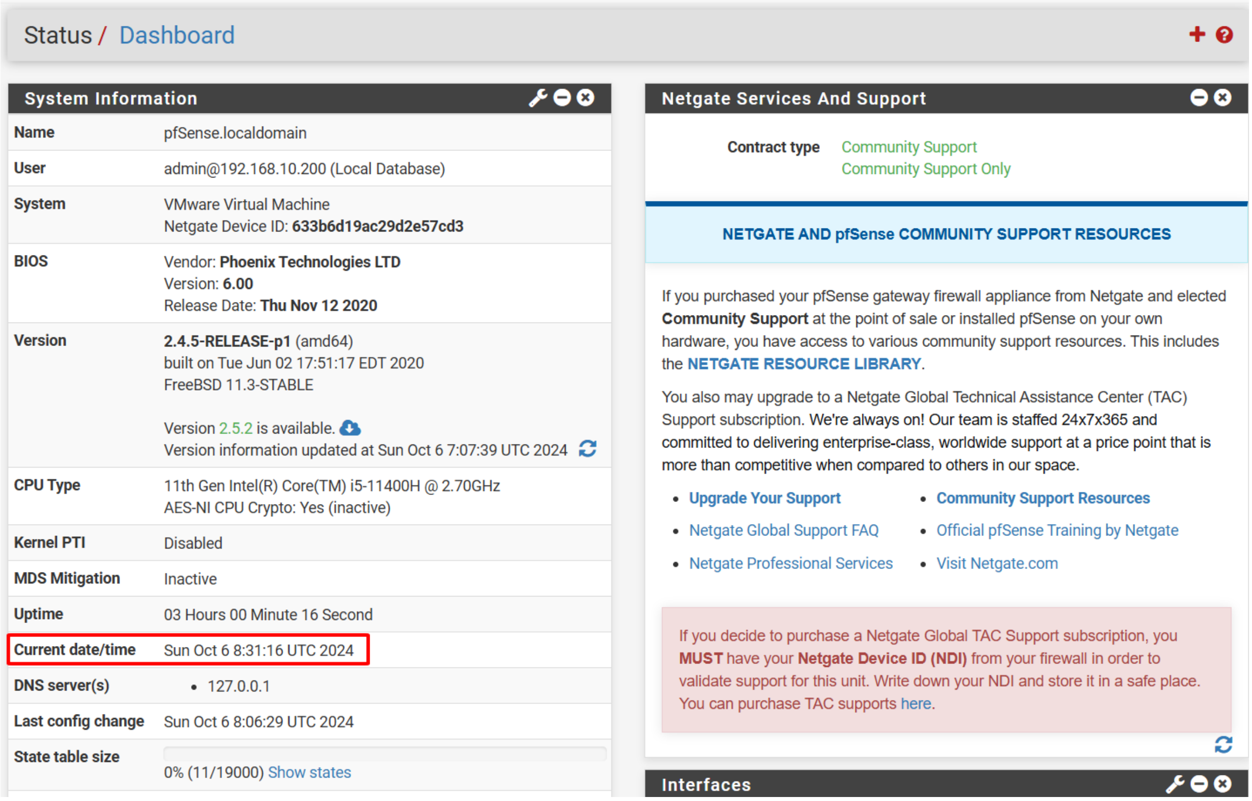
□		States	Protocol	Source	Port	Destination	Port	Gateway			
	✓	1 /2.94 MiB	*	*	*	LAN Address	80	*	*	Anti-Lockout Rule	⚙
□	✓	0 /12.22 MiB	IPv4 *	LAN net	*	*	*	*	none	Default allow LAN to any rule	⚓✎⧉⊘🗑
□	✗	0 /510 B	IPv4 *	192.168.10.10	*	*	*	*	none		⚓✎⧉⊘🗑
□	✓	0 /0 B	IPv6 *	LAN net	*	*	*	*	none	Default allow LAN IPv6 to any rule	⚓✎⧉⊘🗑

Administrator: C:\Windows\system32\cmd.exe

```
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=31ms TTL=57
Reply from 8.8.8.8: bytes=32 time=30ms TTL=57
Reply from 8.8.8.8: bytes=32 time=30ms TTL=57
Reply from 8.8.8.8: bytes=32 time=32ms TTL=57

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 30ms, Maximum = 32ms, Average = 30ms

C:\Users\LAN>
```

--- Kết thúc 3. Ở MÁY LAN, TRUY CẬP TƯỜNG LỬA VÀ CẤU HÌNH TRÊN GIAO DIỆN WEB. ---

- **4. LẬP LỊCH SCHEDULE**
- **Xem thời gian của hệ thống pfsense**



Status / Dashboard

System Information

Name	pfSense.localdomain
User	admin@192.168.10.200 (Local Database)
System	VMware Virtual Machine Netgate Device ID: **633b6d19ac29d2e57cd3**
BIOS	Vendor: **Phoenix Technologies LTD** Version: **6.00** Release Date: **Thu Nov 12 2020**
Version	**2.4.5-RELEASE-p1** (amd64) built on Tue Jun 02 17:51:17 EDT 2020 FreeBSD 11.3-STABLE Version 2.5.2 is available. Version information updated at Sun Oct 6 7:07:39 UTC 2024
CPU Type	11th Gen Intel(R) Core(TM) i5-11400H @ 2.70GHz AES-NI CPU Crypto: Yes (inactive)
Kernel PTI	Disabled
MDS Mitigation	Inactive
Uptime	03 Hours 00 Minute 16 Second
Current date/time	Sun Oct 6 8:31:16 UTC 2024
DNS server(s)	• 127.0.0.1
Last config change	Sun Oct 6 8:06:29 UTC 2024
State table size	0% (11/19000) Show states

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Contract type Community Support
Community Support Only

NETGATE AND pfSense COMMUNITY SUPPORT RESOURCES

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- Netgate Global Support FAQ
- Netgate Professional Services
- **Community Support Resources**
- Official pfSense Training by Netgate
- Visit Netgate.com

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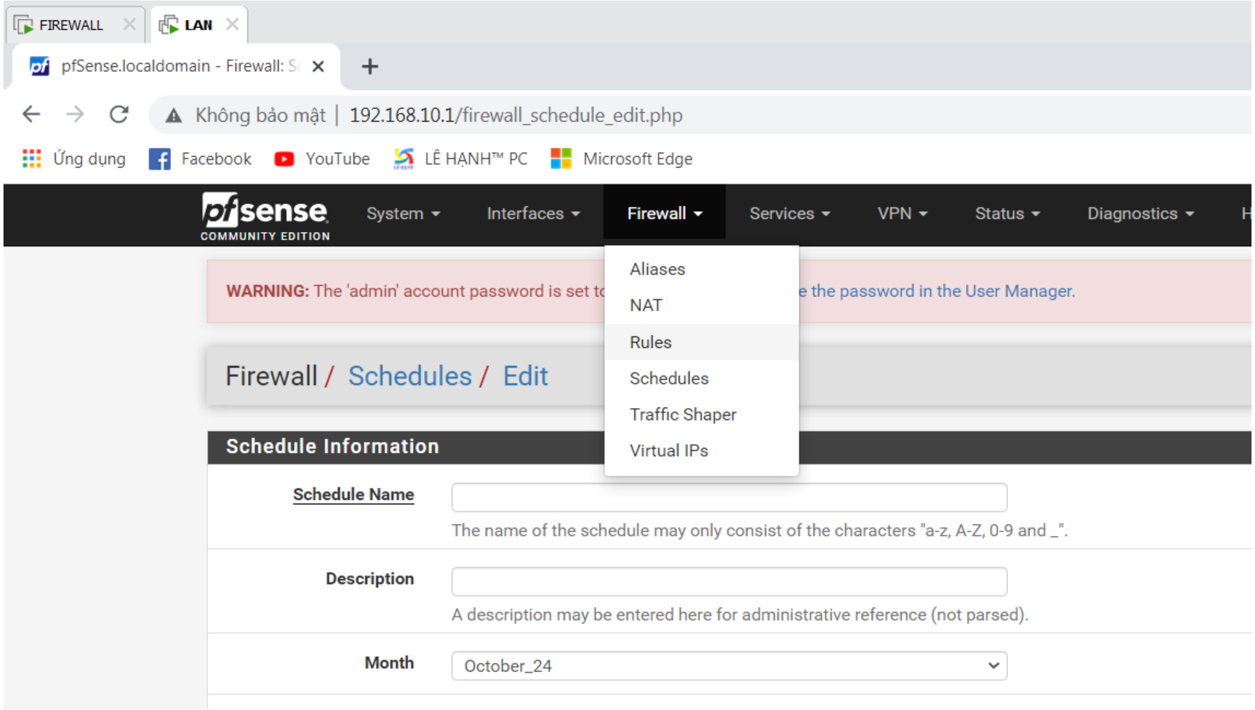
Interfaces

-

- **Thử lập lịch cho rule "chủ nhật ngày 6 tháng 10 8:31:16 UTC 2024"**



WARNING: The 'admin' account password is set t… e the password in the User Manager.

Firewall / Schedules / Edit

Schedule Information

Schedule Name

The name of the schedule may only consist of the characters "a-z, A-Z, 0-9 and _".

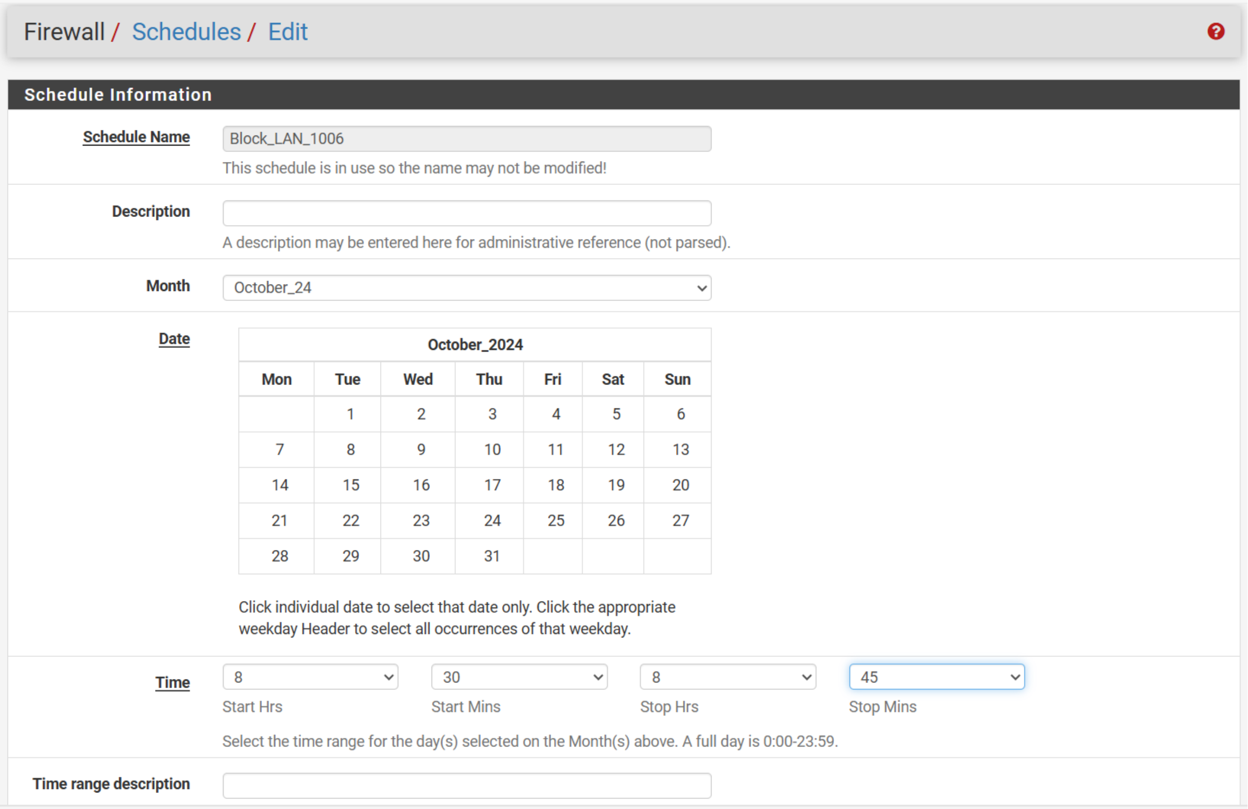
Description

A description may be entered here for administrative reference (not parsed).

Month October_24

-

- **Demo khoảng gian theo thời gian của hệ thống Firewall đã tìm xem trước đó *"Chủ nhật ngày 6 tháng 10 8:31:16 UTC 2024"* (Lưu ý: thời gian hệ thống firewall khác với thời gian của PC thật)**



Firewall / Schedules / Edit

Schedule Information

Schedule Name: Block_LAN_1006
This schedule is in use so the name may not be modified!

Description:
A description may be entered here for administrative reference (not parsed).

Month: October_24

Date:

October_2024

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

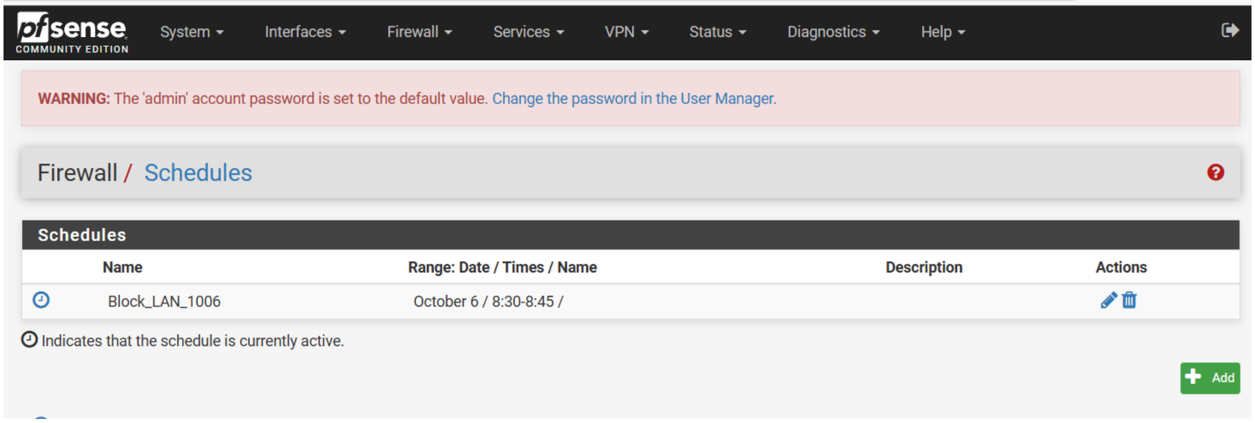
Click individual date to select that date only. Click the appropriate weekday Header to select all occurrences of that weekday.

Time: 8 Start Hrs, 30 Start Mins, 8 Stop Hrs, 45 Stop Mins

Select the time range for the day(s) selected on the Month(s) above. A full day is 0:00-23:59.

Time range description:

-



WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.

Firewall / Schedules

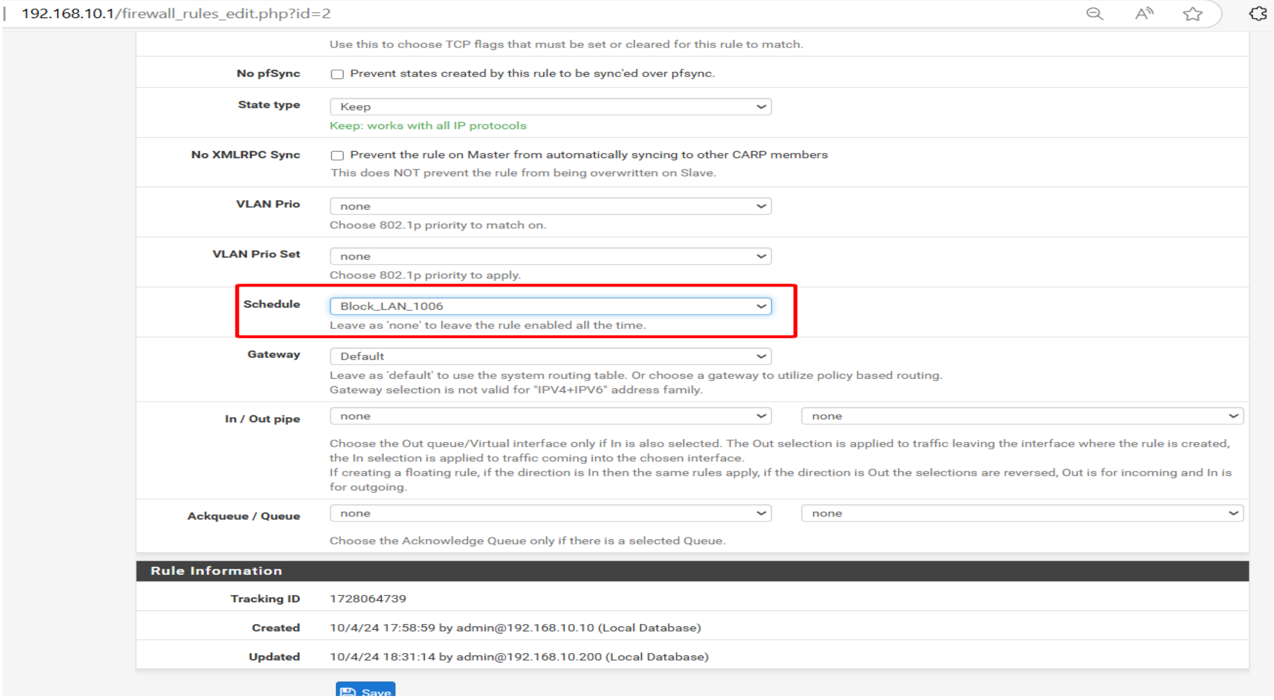
Schedules

	Name	Range: Date / Times / Name	Description	Actions
◷	Block_LAN_1006	October 6 / 8:30-8:45 /		✎ 🗑

◷ Indicates that the schedule is currently active.

-

- **Áp dụng lịch, cho 1 lệnh rules**



192.168.10.1/firewall_rules_edit.php?id=2

Use this to choose TCP flags that must be set or cleared for this rule to match.

No pfSync ☐ Prevent states created by this rule to be sync'ed over pfsync.

State type Keep
Keep: works with all IP protocols

No XMLRPC Sync ☐ Prevent the rule on Master from automatically syncing to other CARP members
This does NOT prevent the rule from being overwritten on Slave.

VLAN Prio none
Choose 802.1p priority to match on.

VLAN Prio Set none
Choose 802.1p priority to apply.

Schedule Block_LAN_1006
Leave as 'none' to leave the rule enabled all the time.

Gateway Default
Leave as 'default' to use the system routing table. Or choose a gateway to utilize policy based routing.
Gateway selection is not valid for "IPV4+IPV6" address family.

In / Out pipe none none
Choose the Out queue/Virtual interface only if In is also selected. The Out selection is applied to traffic leaving the interface where the rule is created, the In selection is applied to traffic coming into the chosen interface.
If creating a floating rule, if the direction is In then the same rules apply, if the direction is Out the selections are reversed, Out is for incoming and In is for outgoing.

Ackqueue / Queue none none
Choose the Acknowledge Queue only if there is a selected Queue.

Rule Information

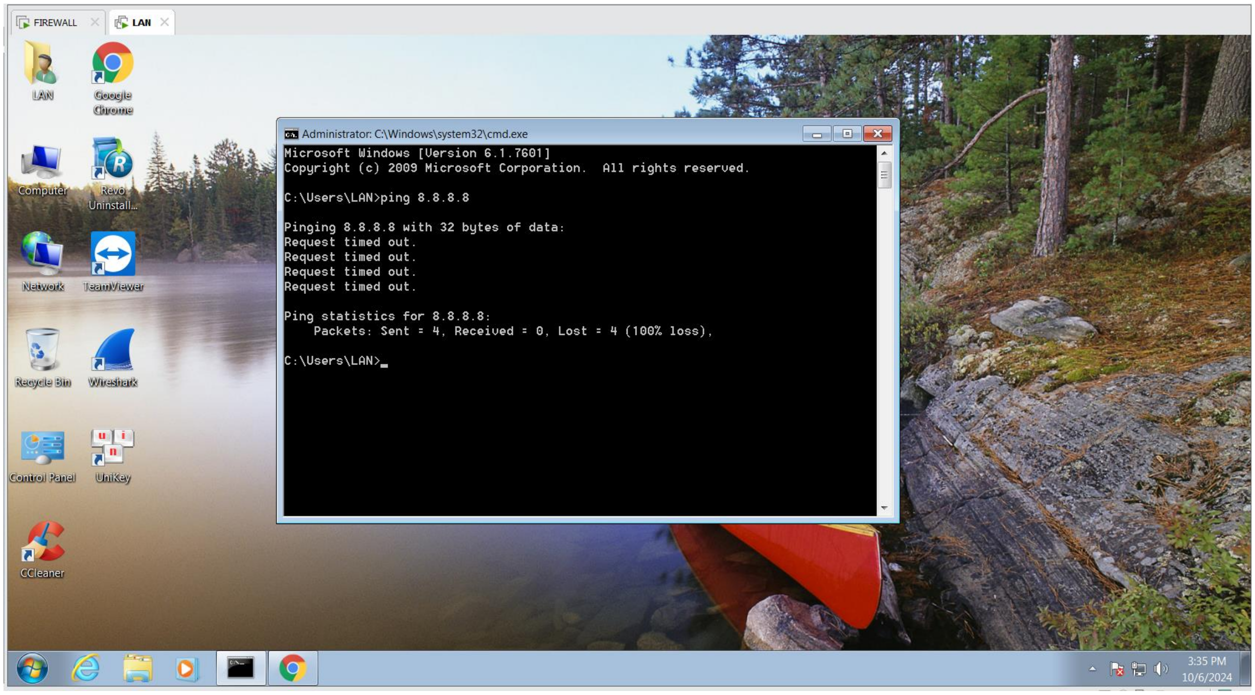
Tracking ID 1728064739

Created 10/4/24 17:58:59 by admin@192.168.10.10 (Local Database)

Updated 10/4/24 18:31:14 by admin@192.168.10.200 (Local Database)

-

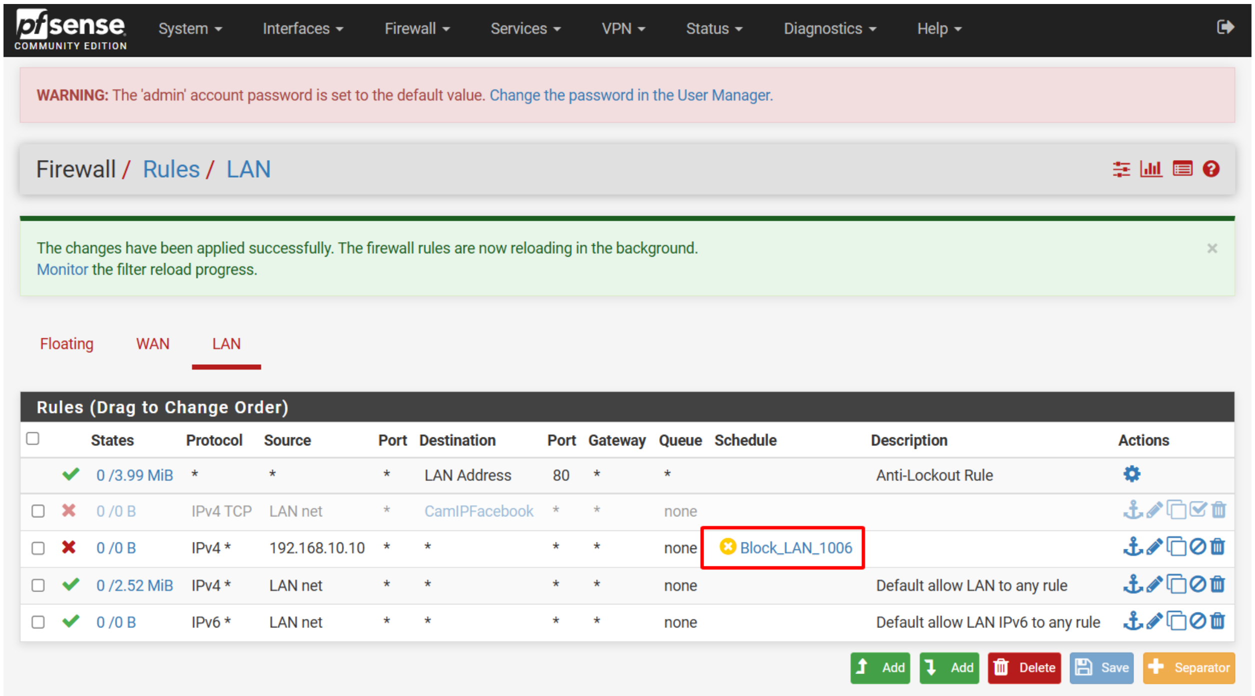
- **Lúc này đã không ping được. Thử chờ đến hết lịch**



Administrator: C:\Windows\system32\cmd.exe

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\LAN>_
```

- **Lịch đã dừng khi hết thời gian**



WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.

Firewall / Rules / LAN

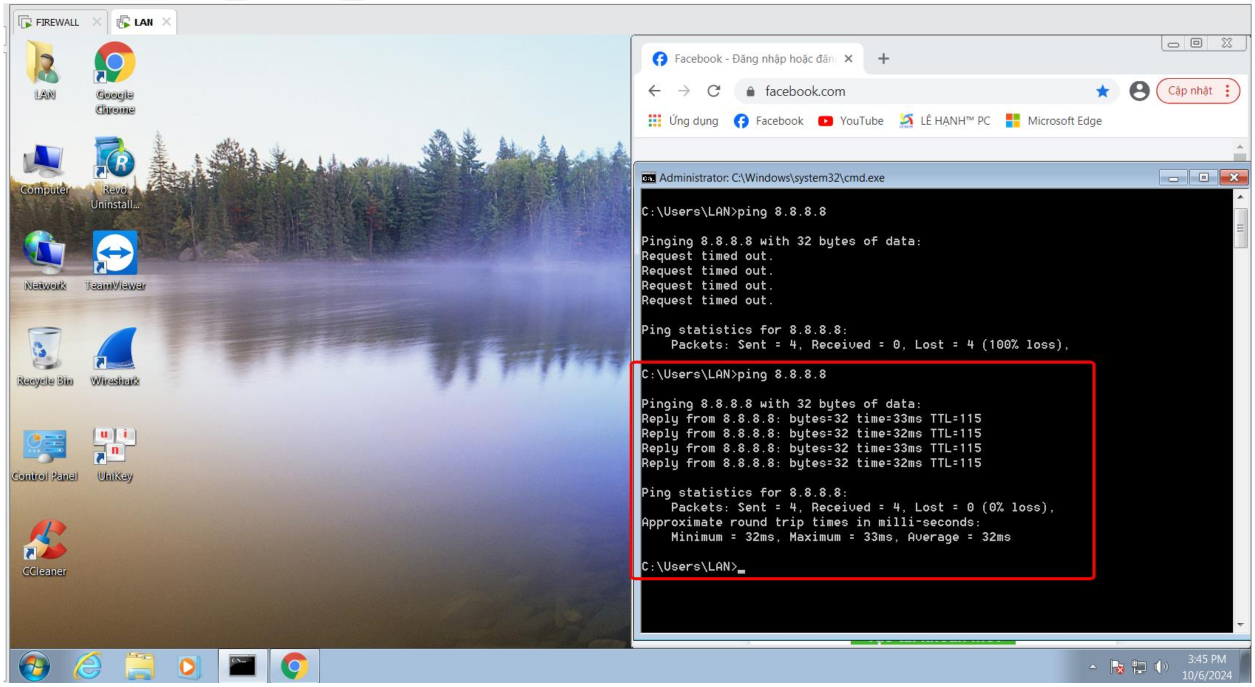
The changes have been applied successfully. The firewall rules are now reloading in the background. Monitor the filter reload progress.

Rules (Drag to Change Order)

□		States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
	✓	0 /3.99 MiB	*	*	*	LAN Address	80	*	*		Anti-Lockout Rule	
□	✗	0 /0 B	IPv4 TCP	LAN net	*	CamIPFacebook	*	*	none			
□	✗	0 /0 B	IPv4 *	192.168.10.10	*	*	*	*	none	Block_LAN_1006		
□	✓	0 /2.52 MiB	IPv4 *	LAN net	*	*	*	*	none		Default allow LAN to any rule	
□	✓	0 /0 B	IPv6 *	LAN net	*	*	*	*	none		Default allow LAN IPv6 to any rule	

-

- **Sau đó, thử ping lại ra imternet, và xem kết quả**



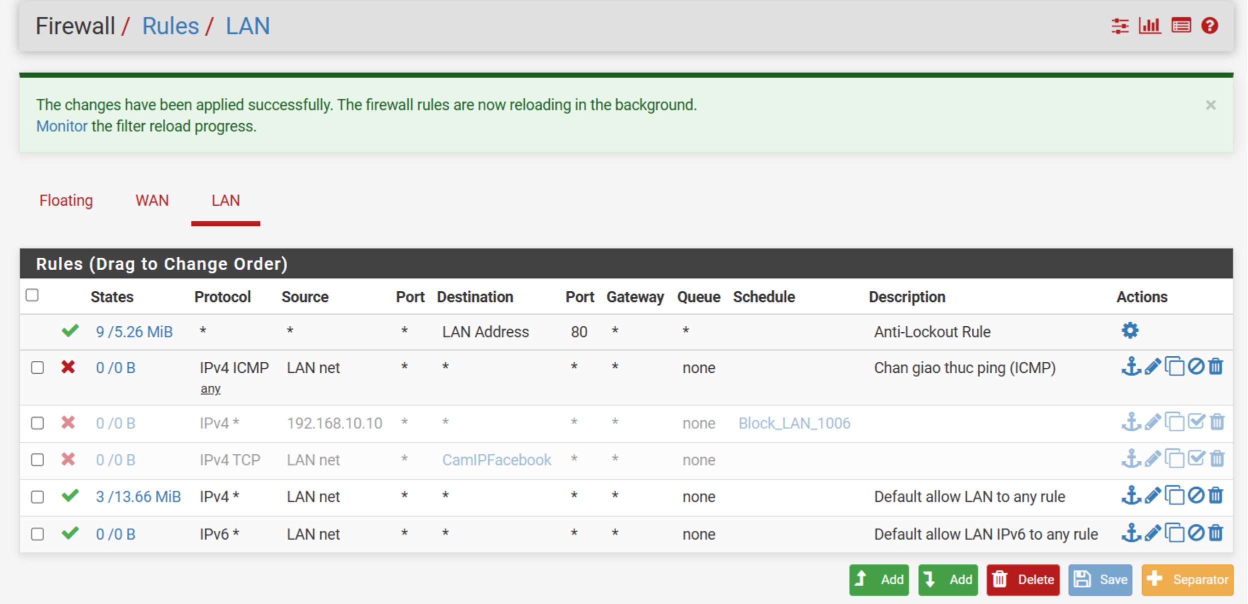
```
C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=33ms TTL=115
Reply from 8.8.8.8: bytes=32 time=32ms TTL=115
Reply from 8.8.8.8: bytes=32 time=33ms TTL=115
Reply from 8.8.8.8: bytes=32 time=32ms TTL=115

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 32ms, Maximum = 33ms, Average = 32ms

C:\Users\LAN>_
```

-

--- Kết thúc 4. lập lịch schedules ---

- ## 5. CHẶN PING ICMP

- ## Tạo rules chặn ping ICMP



Firewall / Rules / LAN

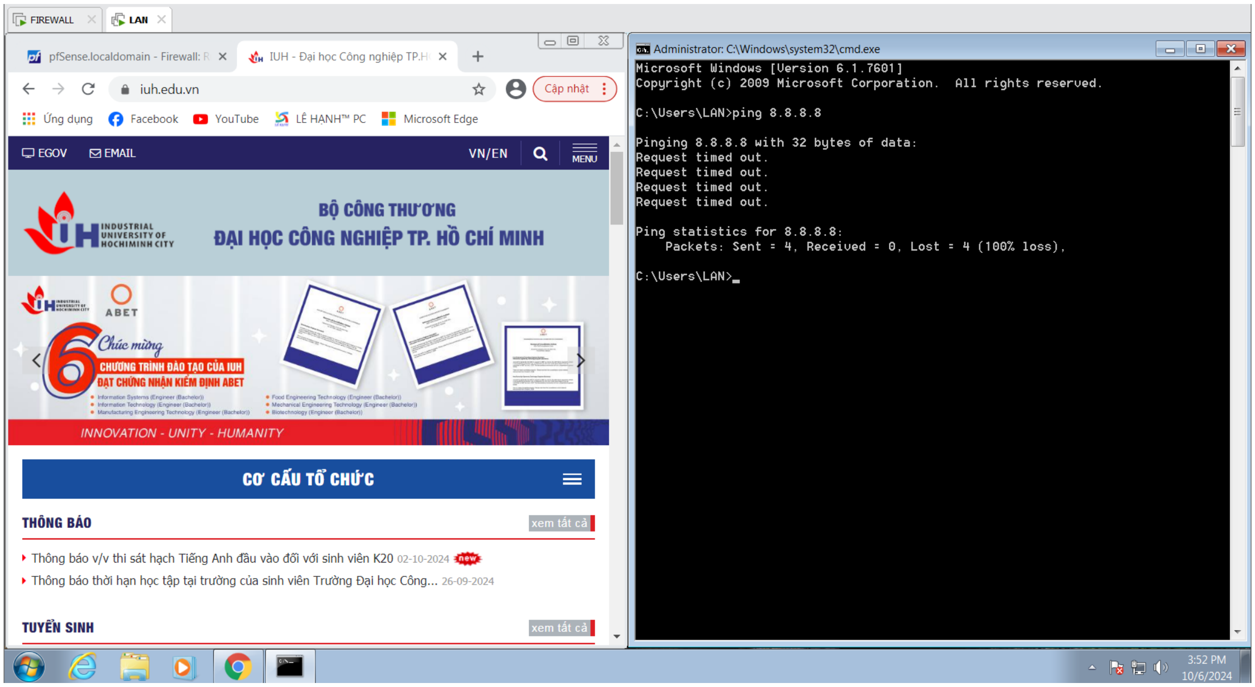
The changes have been applied successfully. The firewall rules are now reloading in the background.
Monitor the filter reload progress.

Rules (Drag to Change Order)

□	States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
	✓ 9 /5.26 MiB	*	*	*	LAN Address	80	*	*		Anti-Lockout Rule	⚙
□	✗ 0 /0 B	IPv4 ICMP any	LAN net	*	*	*	*	none		Chan giao thuc ping (ICMP)	
□	✗ 0 /0 B	IPv4 *	192.168.10.10	*	*	*	*	none	Block_LAN_1006		
□	✗ 0 /0 B	IPv4 TCP	LAN net	*	CamIPFacebook	*	*	none			
□	✓ 3 /13.66 MiB	IPv4 *	LAN net	*	*	*	*	none		Default allow LAN to any rule	
□	✓ 0 /0 B	IPv6 *	LAN net	*	*	*	*	none		Default allow LAN IPv6 to any rule	

-

- ## Kết quả: chặn được ping những vẫn truy cập được internet



FIREWALL
LAN
pfSense.localdomain - Firewall: R
IUH - Đại học Công nghiệp TP.H
iuh.edu.vn
Cập nhật
Ứng dụng
Facebook
YouTube
LÊ HẠNH™ PC
Microsoft Edge
EGOV
EMAIL
VN/EN
MENU
INDUSTRIAL UNIVERSITY OF HOCHIMINH CITY
BỘ CÔNG THƯƠNG
ĐẠI HỌC CÔNG NGHIỆP TP. HỒ CHÍ MINH
ABET
Chúc mừng
6
CHƯƠNG TRÌNH ĐÀO TẠO CỦA IUH
ĐẠT CHỨNG NHẬN KIỂM ĐỊNH ABET
INNOVATION - UNITY - HUMANITY
CƠ CẤU TỔ CHỨC
THÔNG BÁO
xem tất cả
Thông báo v/v thi sát hạch Tiếng Anh đầu vào đối với sinh viên K20 02-10-2024
Thông báo thời hạn học tập tại trường của sinh viên Trường Đại học Công... 26-09-2024
TUYỂN SINH
xem tất cả
Administrator: C:\Windows\system32\cmd.exe
3:52 PM
10/6/2024

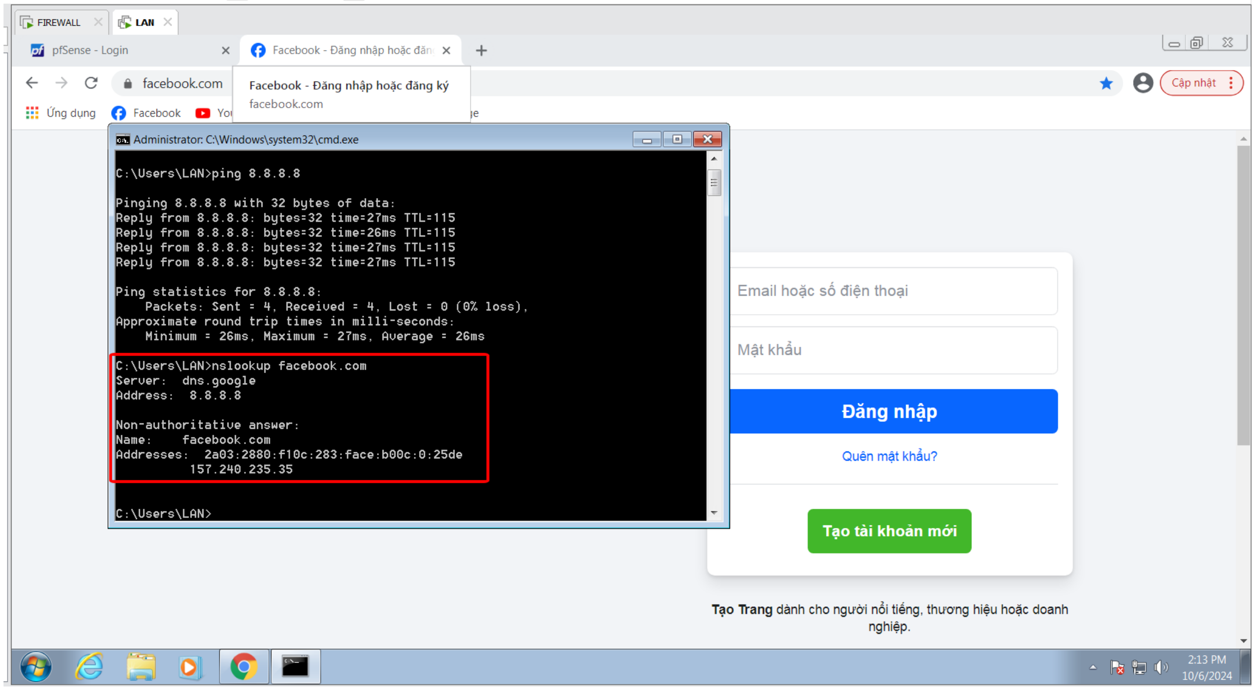
```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\LAN>_
```

-

--- Kết thúc 5. Chặn ping ICMP ---

- 6. CHẶN TRUY CẬP IP CỦA TRANG WEB WWW.FACEBOOK.COM

- Thử tạo rules cấm truy cập DNS của facebook.com. tìm địa chỉ ip của facebook.com bằng nslookup

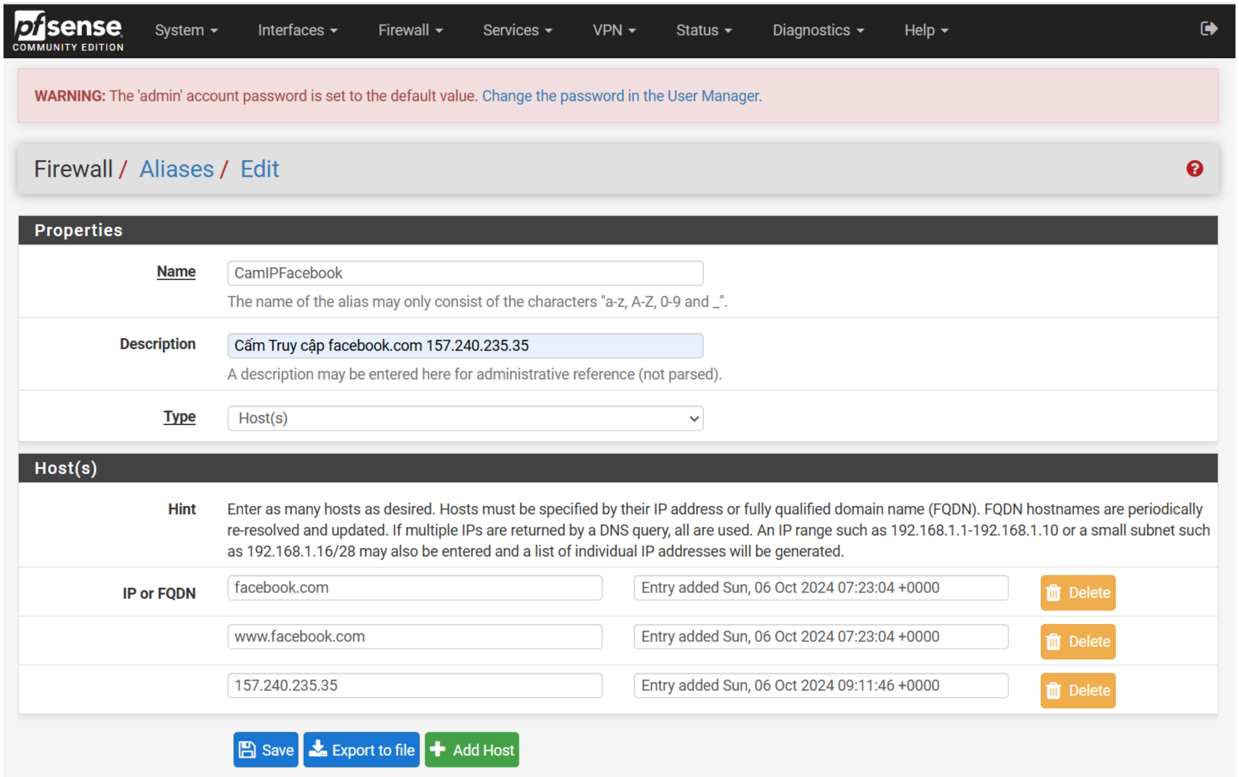


```
C:\Users\LAN>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=27ms TTL=115
Reply from 8.8.8.8: bytes=32 time=26ms TTL=115
Reply from 8.8.8.8: bytes=32 time=27ms TTL=115
Reply from 8.8.8.8: bytes=32 time=27ms TTL=115

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 26ms, Maximum = 27ms, Average = 26ms

C:\Users\LAN>nslookup facebook.com
Server:  dns.google
Address:  8.8.8.8

Non-authoritative answer:
Name:    facebook.com
Addresses:  2a03:2880:f10c:283:face:b00c:0:25de
          157.240.235.35

C:\Users\LAN>
```

FIREWALL
LAN
pfSense - Login
Facebook - Đăng nhập hoặc đăng
facebook.com
Facebook - Đăng nhập hoặc đăng ký
facebook.com
Cập nhật
Ứng dụng
Facebook
Administrator: C:\Windows\system32\cmd.exe
Email hoặc số điện thoại
Mật khẩu
Đăng nhập
Quên mật khẩu?
Tạo tài khoản mới
Tạo Trang dành cho người nổi tiếng, thương hiệu hoặc doanh nghiệp.
2:13 PM
10/6/2024

-

- Tạo aliases chứ host www.facebook.com hoặc ip 157.240.235.35



WARNING: The 'admin' account password is set to the default value. Change the password in the User Manager.

Firewall / Aliases / Edit

Properties

Name: CamIPFacebook
The name of the alias may only consist of the characters "a-z, A-Z, 0-9 and _".

Description: Cấm Truy cập facebook.com 157.240.235.35
A description may be entered here for administrative reference (not parsed).

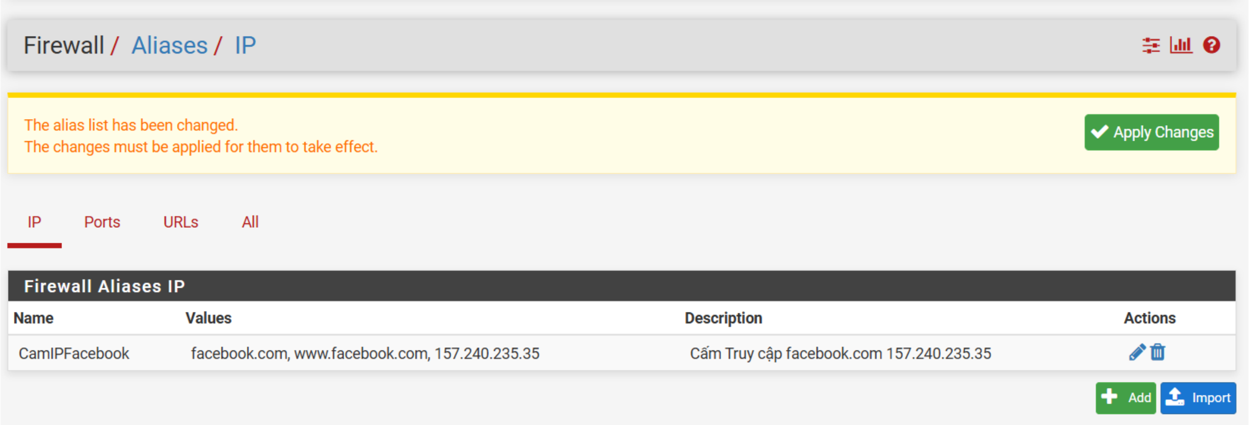
Type: Host(s)

Host(s)

Hint: Enter as many hosts as desired. Hosts must be specified by their IP address or fully qualified domain name (FQDN). FQDN hostnames are periodically re-resolved and updated. If multiple IPs are returned by a DNS query, all are used. An IP range such as 192.168.1.1-192.168.1.10 or a small subnet such as 192.168.1.16/28 may also be entered and a list of individual IP addresses will be generated.

IP or FQDN		
facebook.com	Entry added Sun, 06 Oct 2024 07:23:04 +0000	Delete
www.facebook.com	Entry added Sun, 06 Oct 2024 07:23:04 +0000	Delete
157.240.235.35	Entry added Sun, 06 Oct 2024 09:11:46 +0000	Delete

-



Firewall / Aliases / IP

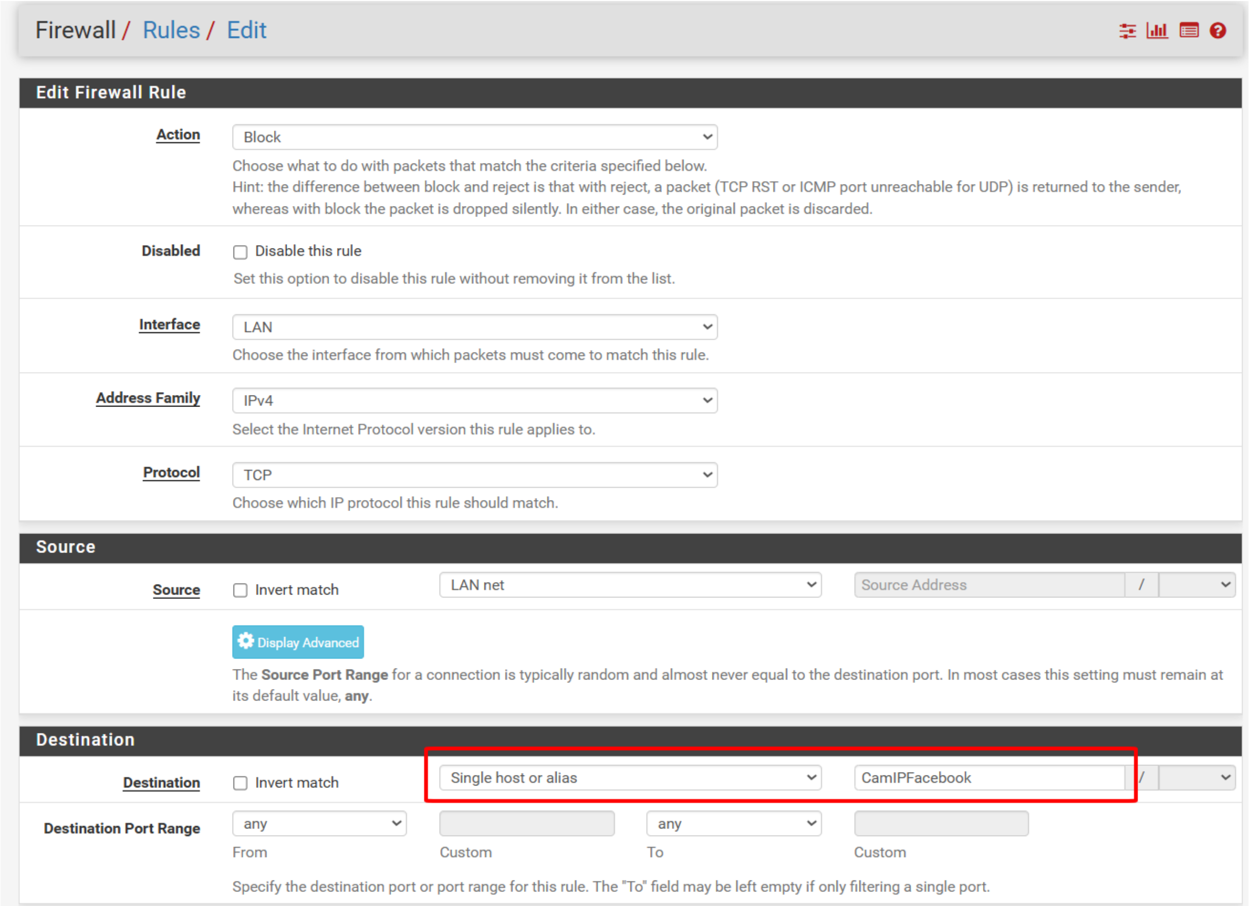
The alias list has been changed.
The changes must be applied for them to take effect.

Firewall Aliases IP

Name	Values	Description	Actions
CamIPFacebook	facebook.com, www.facebook.com, 157.240.235.35	Cấm Truy cập facebook.com 157.240.235.35	

-

- Tạo rules cấm mạng LAN truy cập vào alias CamIPFacebook



Firewall / Rules / Edit

Edit Firewall Rule

Action: Block
Choose what to do with packets that match the criteria specified below.
Hint: the difference between block and reject is that with reject, a packet (TCP RST or ICMP port unreachable for UDP) is returned to the sender, whereas with block the packet is dropped silently. In either case, the original packet is discarded.

Disabled: ☐ Disable this rule
Set this option to disable this rule without removing it from the list.

Interface: LAN
Choose the interface from which packets must come to match this rule.

Address Family: IPv4
Select the Internet Protocol version this rule applies to.

Protocol: TCP
Choose which IP protocol this rule should match.

Source

Source: ☐ Invert match | LAN net | Source Address /

The **Source Port Range** for a connection is typically random and almost never equal to the destination port. In most cases this setting must remain at its default value, **any**.

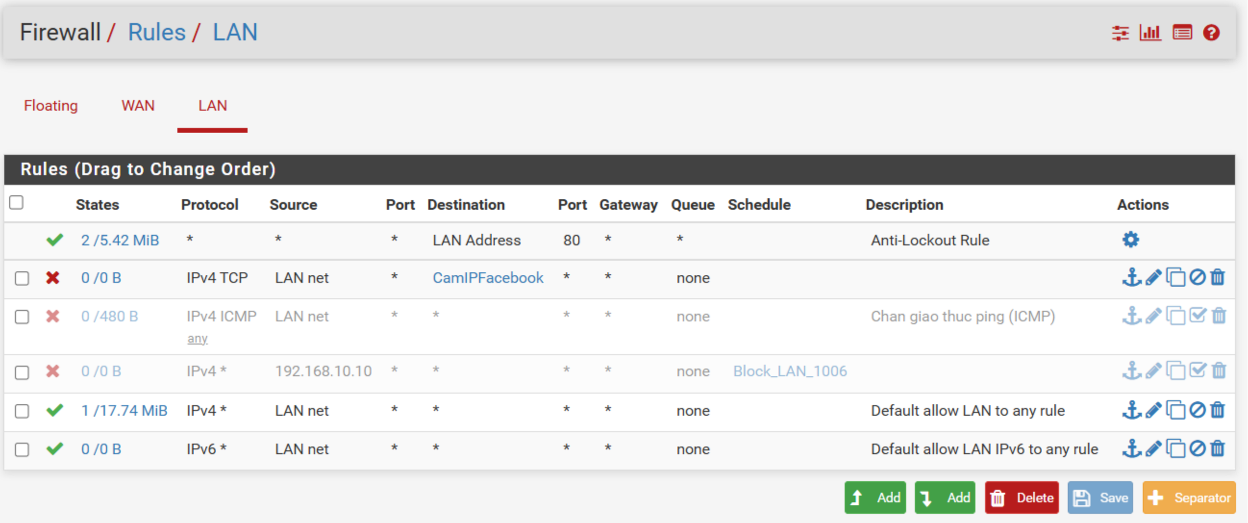
Destination

Destination: ☐ Invert match | Single host or alias | CamIPFacebook /

Destination Port Range: any (From) | Custom | any (To) | Custom
Specify the destination port or port range for this rule. The "To" field may be left empty if only filtering a single port.

-

- **Cho chạy rules và kiểm thử**



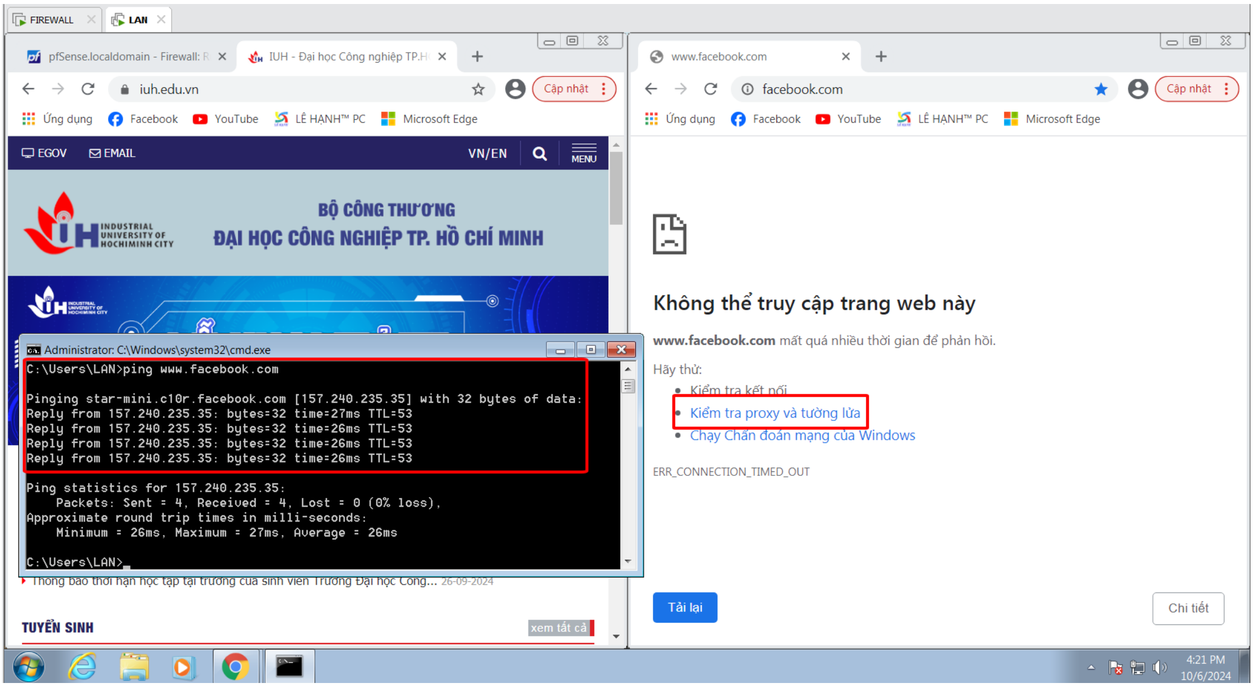
Firewall / Rules / LAN

Rules (Drag to Change Order)

□		States	Protocol	Source	Port	Destination	Port	Gateway	Queue	Schedule	Description	Actions
	✓	2 /5.42 MiB	*	*	*	LAN Address	80	*	*		Anti-Lockout Rule	
□	✗	0 /0 B	IPv4 TCP	LAN net	*	CamIPFacebook	*	*	none			
□	✗	0 /480 B	IPv4 ICMP any	LAN net	*	*	*	*	none		Chan giao thuc ping (ICMP)	
□	✗	0 /0 B	IPv4 *	192.168.10.10	*	*	*	*	none	Block_LAN_1006		
□	✓	1 /17.74 MiB	IPv4 *	LAN net	*	*	*	*	none		Default allow LAN to any rule	
□	✓	0 /0 B	IPv6 *	LAN net	*	*	*	*	none		Default allow LAN IPv6 to any rule	

-

- **Qua máy LAN và thử truy cập facebook.com. Truy cập trang khác vẫn được, vẫn ping được nhưng không truy cập được facebook.com**



FIREWALL
LAN
pfSense.localdomain - Firewall: R
IUH - Đại học Công nghiệp TP.H
iuh.edu.vn
Cập nhật
Ứng dụng
Facebook
YouTube
LÊ HẠNH™ PC
Microsoft Edge
EGOV
EMAIL
VN/EN
MENU
BỘ CÔNG THƯƠNG
ĐẠI HỌC CÔNG NGHIỆP TP. HỒ CHÍ MINH
Thông báo thời hạn học tập tại trường của sinh viên Trường Đại học Công... 26-09-2024
TUYỂN SINH
xem tất cả
www.facebook.com
facebook.com
4:21 PM
10/6/2024

Administrator: C:\Windows\system32\cmd.exe

```
C:\Users\LAN>ping www.facebook.com

Pinging star-mini.c10r.facebook.com [157.240.235.35] with 32 bytes of data:
Reply from 157.240.235.35: bytes=32 time=27ms TTL=53
Reply from 157.240.235.35: bytes=32 time=26ms TTL=53
Reply from 157.240.235.35: bytes=32 time=26ms TTL=53
Reply from 157.240.235.35: bytes=32 time=26ms TTL=53

Ping statistics for 157.240.235.35:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 26ms, Maximum = 27ms, Average = 26ms

C:\Users\LAN>
```

Không thể truy cập trang web này

www.facebook.com mất quá nhiều thời gian để phản hồi.

Hãy thử:

- Kiểm tra kết nối
- Kiểm tra proxy và tường lửa
- Chạy Chẩn đoán mạng của Windows

ERR_CONNECTION_TIMED_OUT

Tải lại

Chi tiết

-

--- Kết thúc 6. Chặn DNS IP của facebook.com ---

--- Kết thúc bài LAB ---