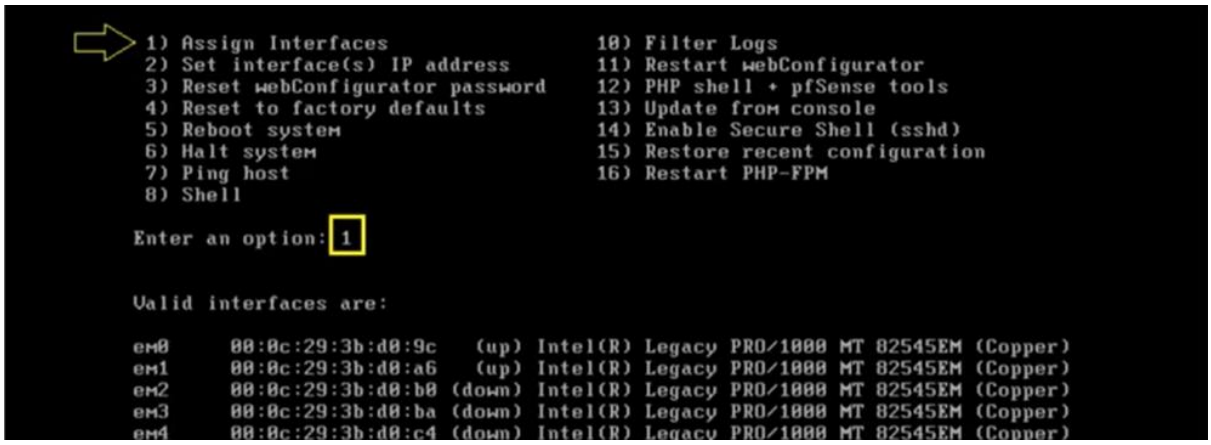
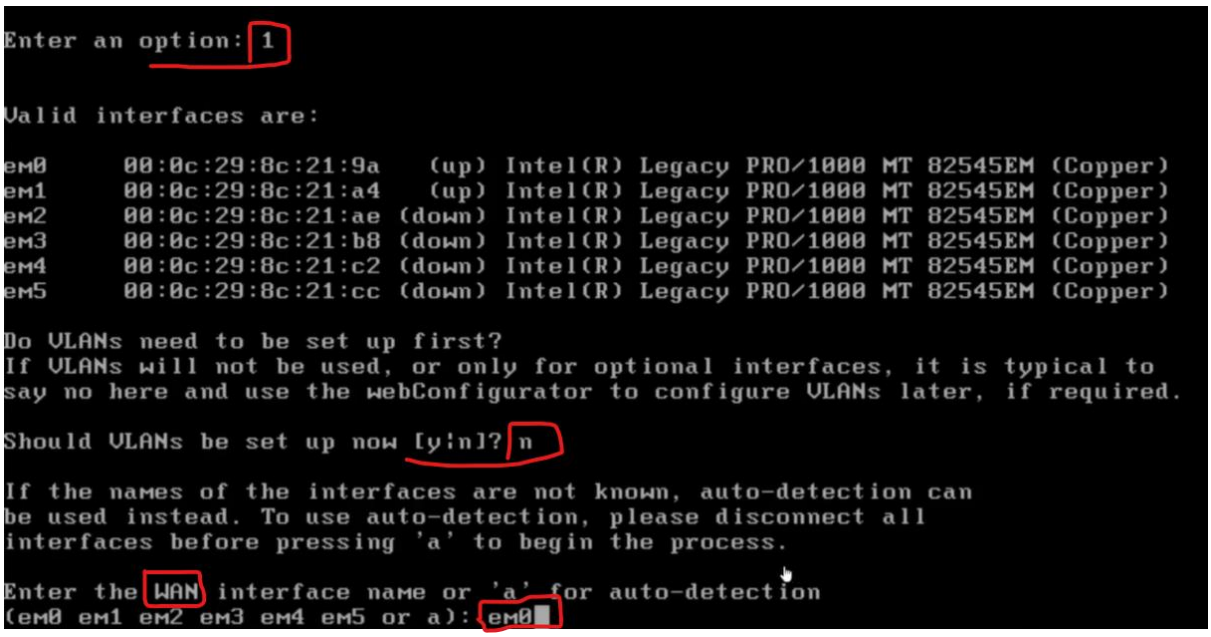
PfSence Firewall initial configuration

The PfSense firewall rebooted press 1 to create the interface mappings. It will show us the valid interface available and then ask the prompt should VLANs be set up no type n.

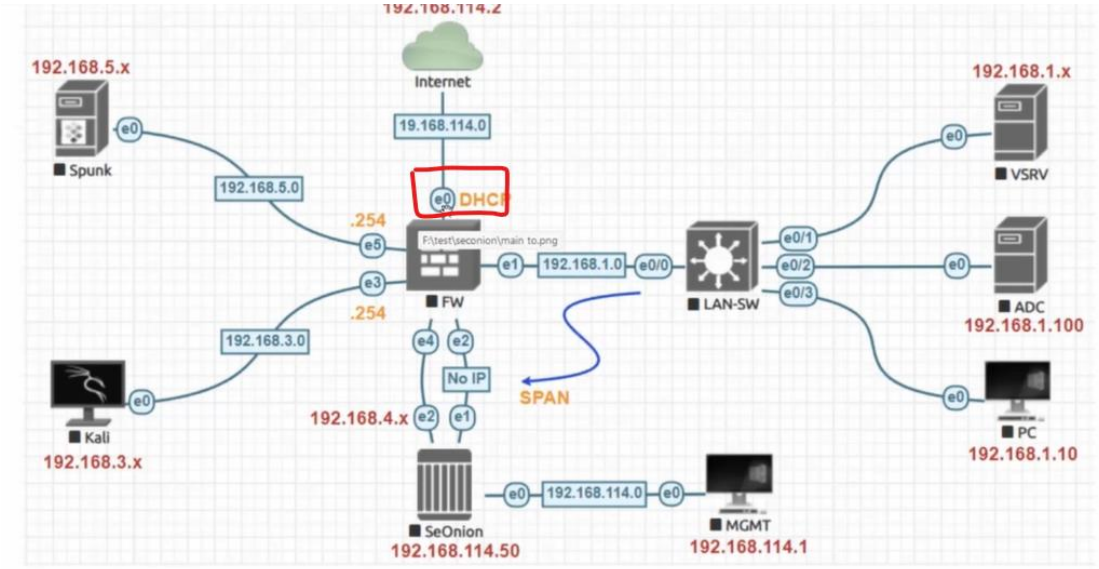
1- Assign interface
2- Set interface's ip address
3- Reset webconfiguration password
4- And more option to 16.



First I want to Assign Interface by using option 1.



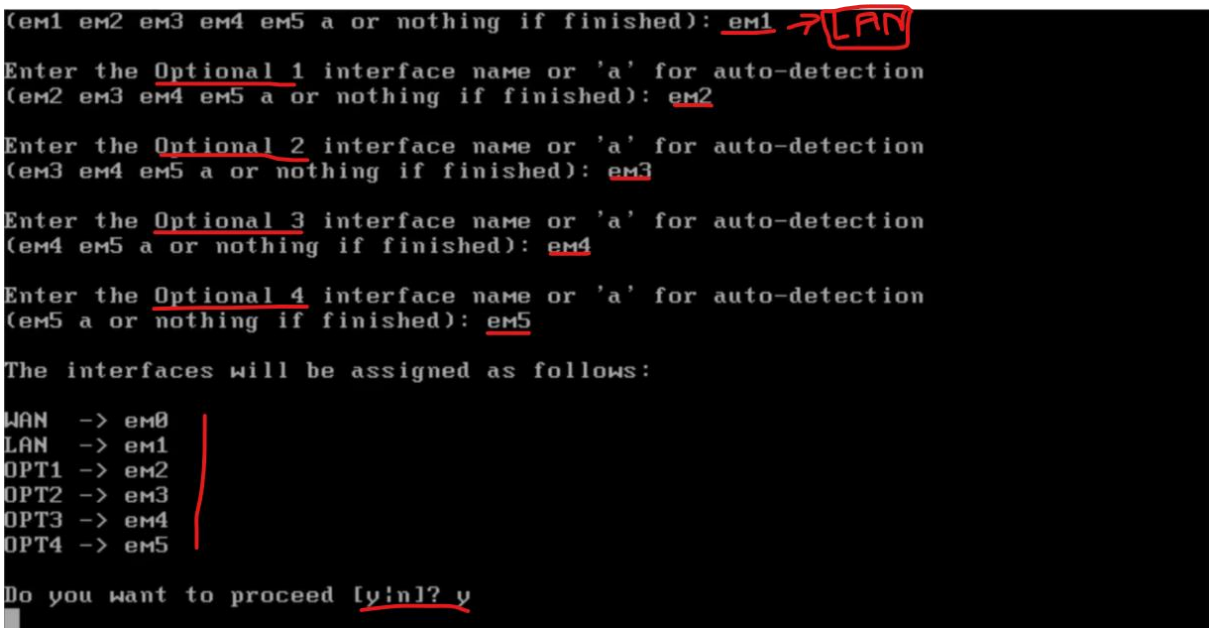
For the first interface which I want to configure at WAN as per lab set up idea.



Then also assign other interfaces that we will added during installation.

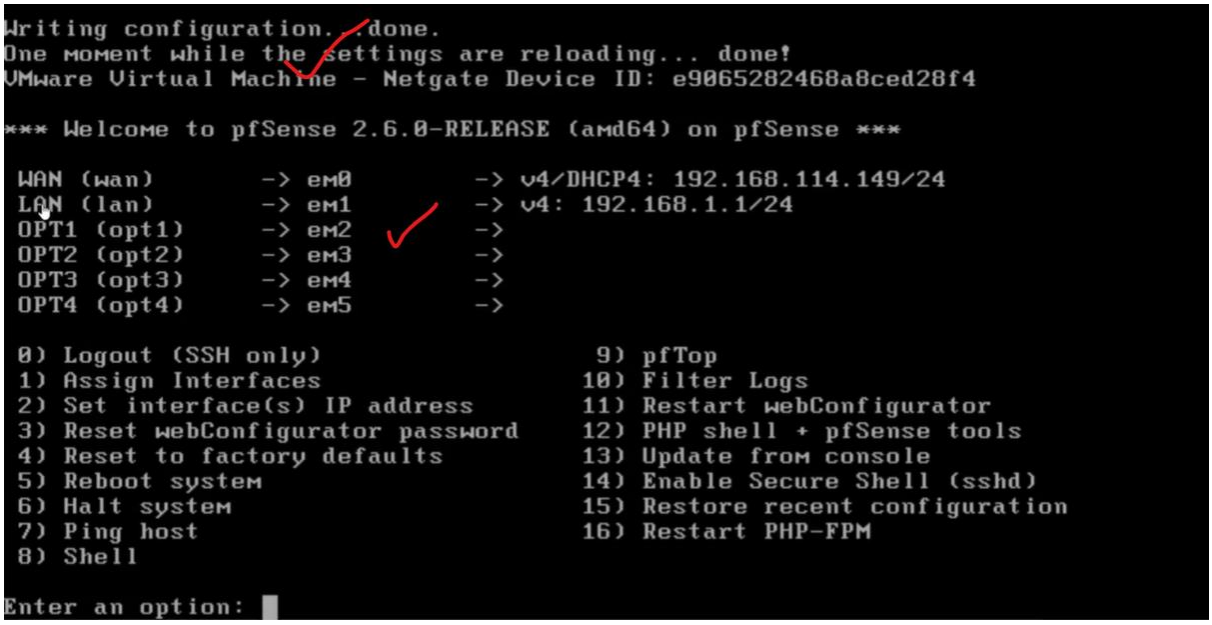
Assign second **em1** interface to **LAN** as per lab set up.

Other interface currently set as default option 1-3 that will set later.



After entering **y** and hitting enter, the process start and done after some time.

As it done, it will take to you start menu where options will display.



Now the first step **assign interface** will **complte.**

Move to next step now (set interface(s) IP Address)

Select the option 2 and hit enter.

In this step, we will set up static ip to interfaces that I selected for lab setup.

IP Subnet	Network Connection	Role	PfSense Interfaces	VMware Adopter
192.168.114.0/24	NAT	WAN	EM0	Network Adopter
192.168.1.0/24	VMNet2	LAN	EM1	Network Adopter 2
No IP Address	VMNet3	SPAN	EM2	Network Adopter 3
192.168.3.0/24	VMNet4	KALI	EM3	Network Adopter 4
192.168.4.0/24	VMNet5	SECONION	EM4	Network Adopter 5
192.168.5.0/24	VMNet6	SPLUNK	EM5	Network Adopter 6

So we select the second option it will display interfaces as like show below.

Their first interface (WAN) have correct ip address but the second interface have ip address not as like our lab idea.

So we will change it.

Enter the number of em1 is **2** the hit enter.

Select ipv4 address and the subnet that is **24**.

```
 8) Shell

Enter an option: 2

Available interfaces:

1 - WAN (em0 - dhcp, dhcp6)
2 - LAN (em1 - static)
3 - OPT1 (em2)
4 - OPT2 (em3)
5 - OPT3 (em4)
6 - OPT4 (em5)

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

Enter the new LAN IPv4 address.  Press <ENTER> for none:
> 192.168.1.254

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 32):
>
```

Enter the subnet mass.

Enter the gateway but not needed her so press enter.

No need to set ipv6.

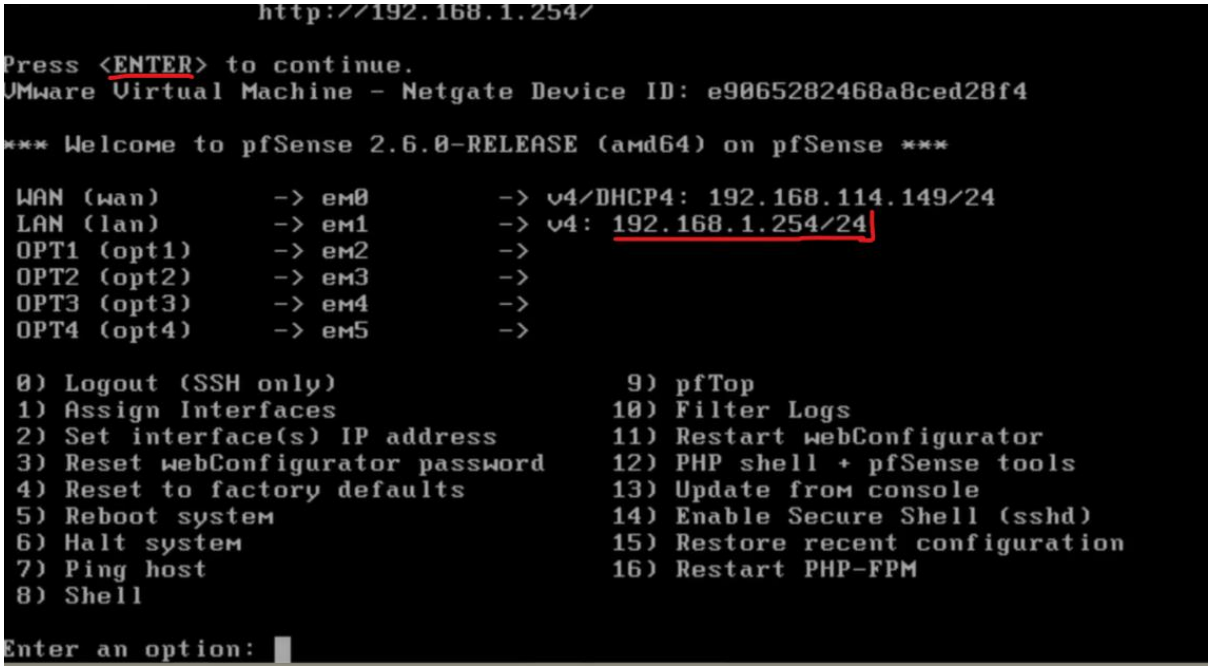
Enable DHCP server and set ip range start from 192.168.1.1 to 192.168.1.253.

Enable the HTTP server also and press enter.

```
     255.255.0.0   = 16
     255.0.0.0     = 8

Enter the new LAN IPv4 subnet bit count (1 to 32):
> 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) y
Enter the start address of the IPv4 client address range: 192.168.1.1
Enter the end address of the IPv4 client address range: 192.168.1.253
Disabling IPv6 DHCPD...

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

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

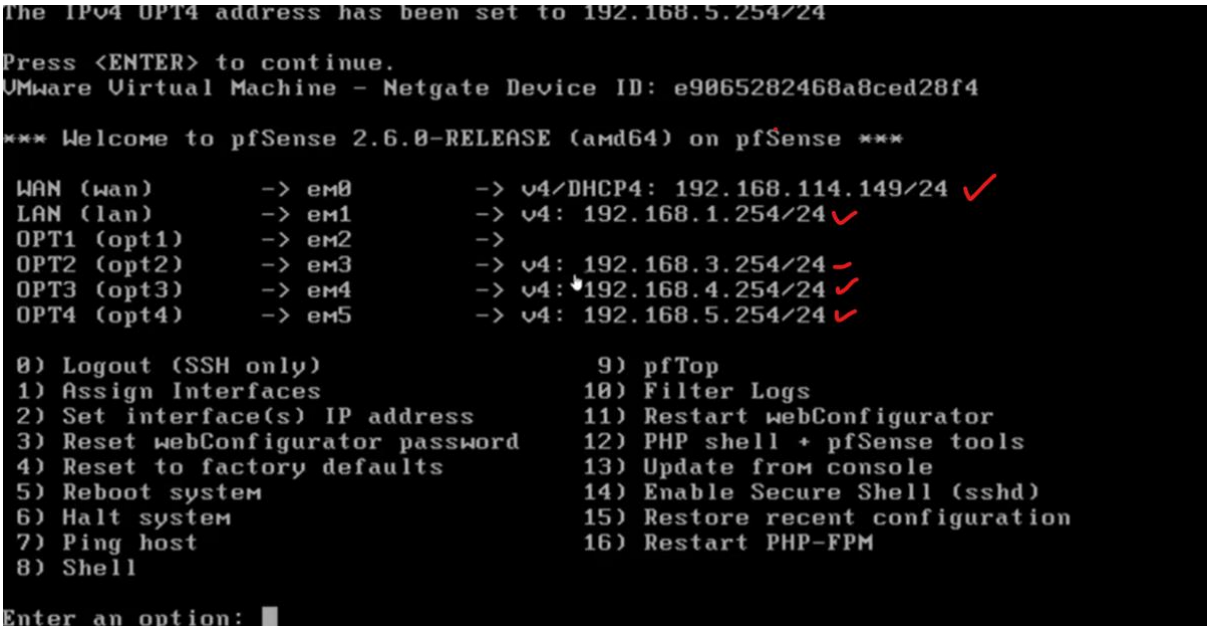
It will complete the setup and the press enter.

First interface setup complete, other will also do as like this do that.



All other interface alos configure as like above.

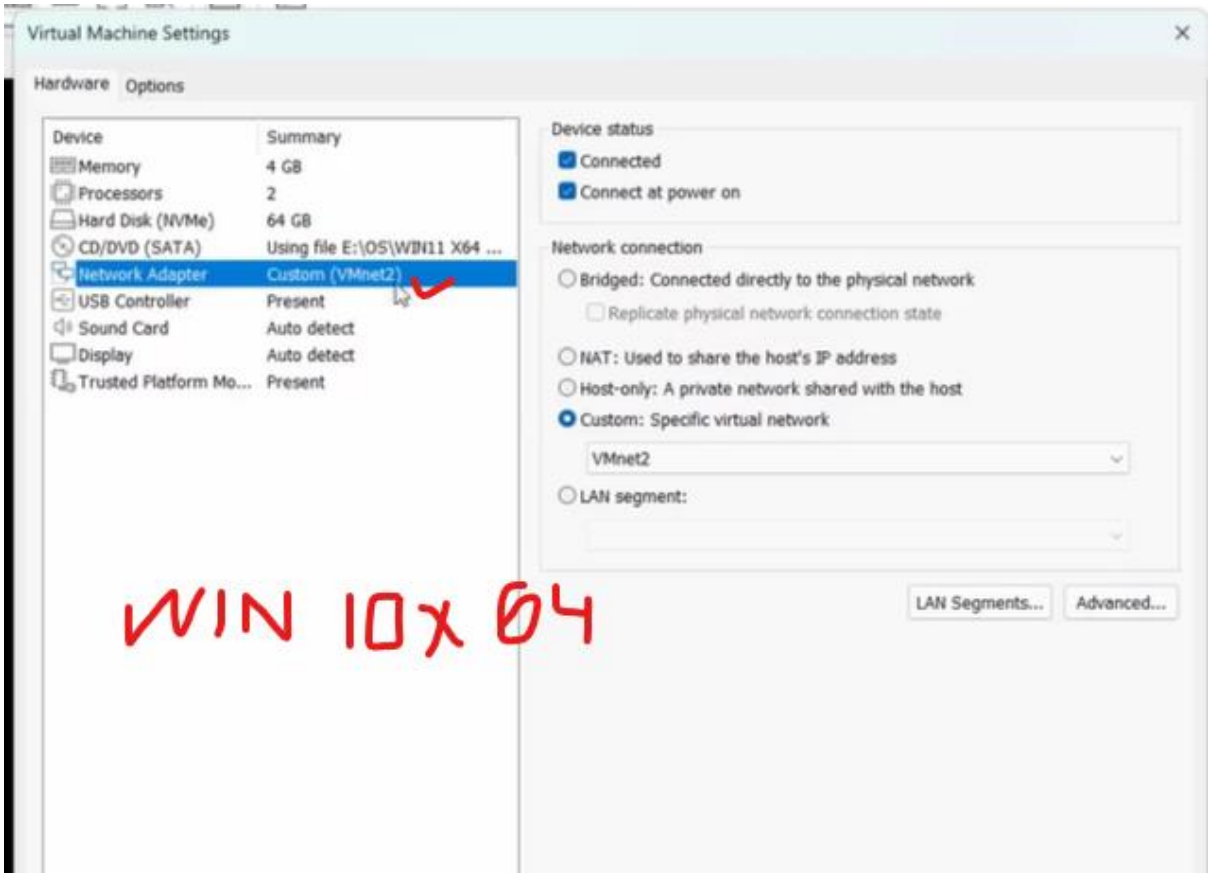
But interface **em2** have no ip addess as per lab set up.



Noe these 2 steps will complete.

PfSence firewall configuration:

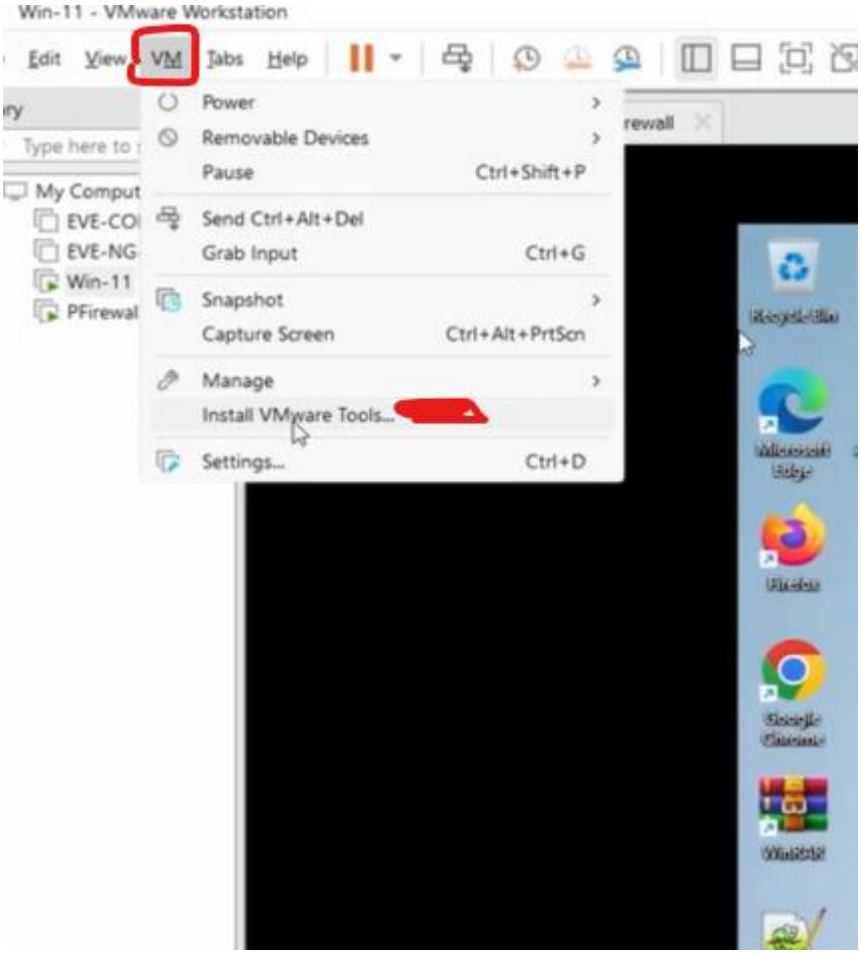
Next to create a firewall rule and naming the interface also to create bridge port. To further configure pfsense we need to access it through the web configuration at through IP address. However, we need a machine to do this from. We will use windows 10 LAN PC administrate Pfsense firewall from. Let's change Network adapter to VMnet2 LAN.



Window size is small of win 10. So, install drive to set it.

Click on VM and select install VMware Tools.

It will automatic and give full view.



If it not run automatic then go to DVD and run it manually.

The file name is **setup64** .

When it is finish then it give full screen view and also allow copy and paste.

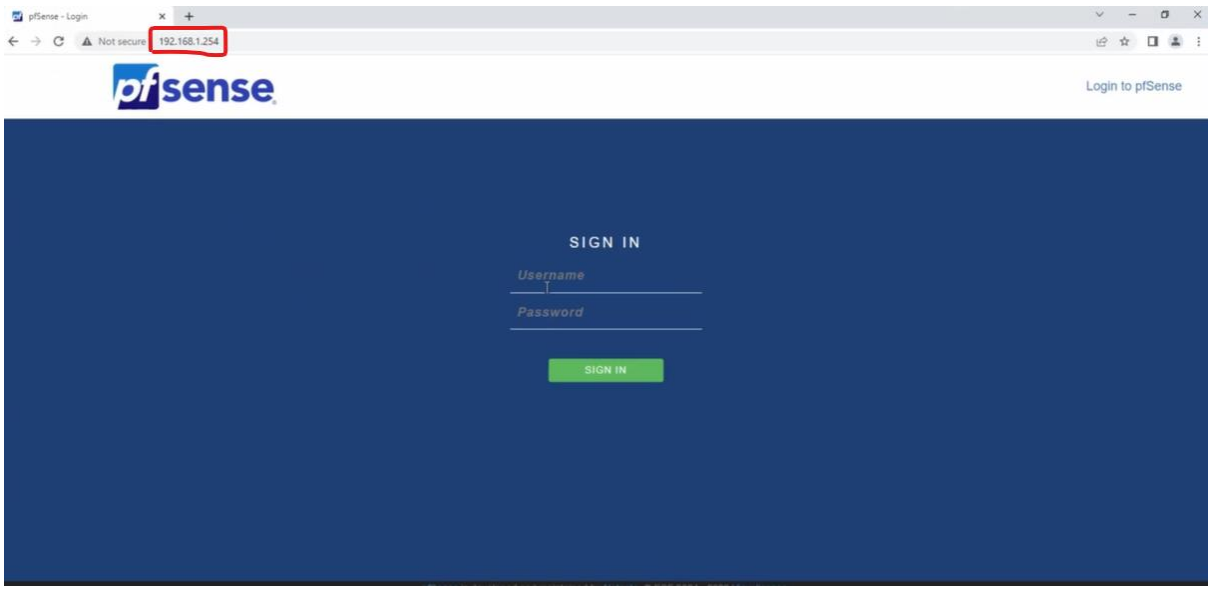
- After this check that window will get the ip from range that I selected.
- Also disable the ipv6 and also disable the firewall form window to run the firewall properly.

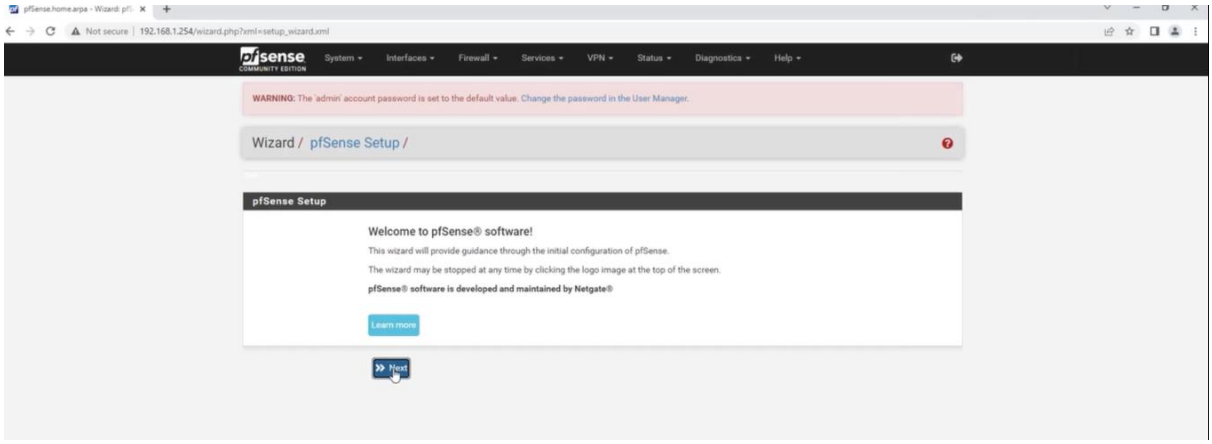
Now we want to access the firewall graphically form window for further configuration.

Enter the ip of LAN that assign to LAN interface in firewall, in the browser and enter.

The graphical view open on screen.

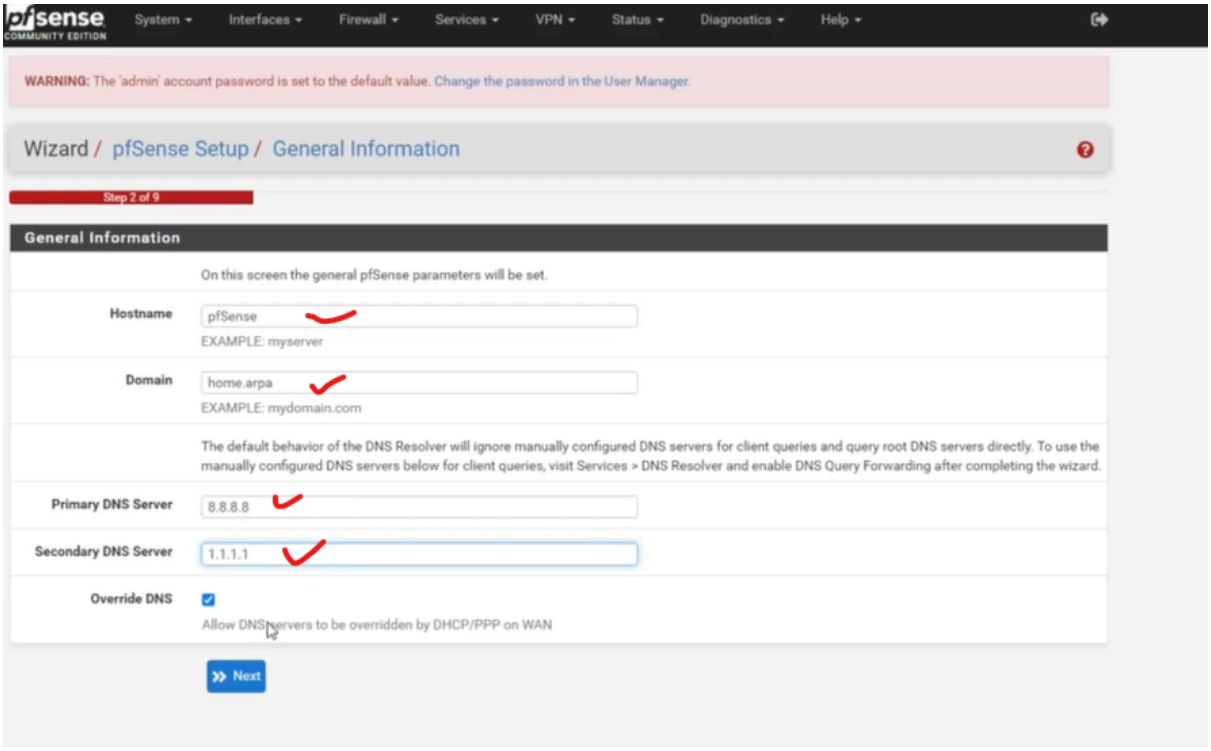
The **username** is **admin** and **password** is **pfsense** .





The firewall is open.

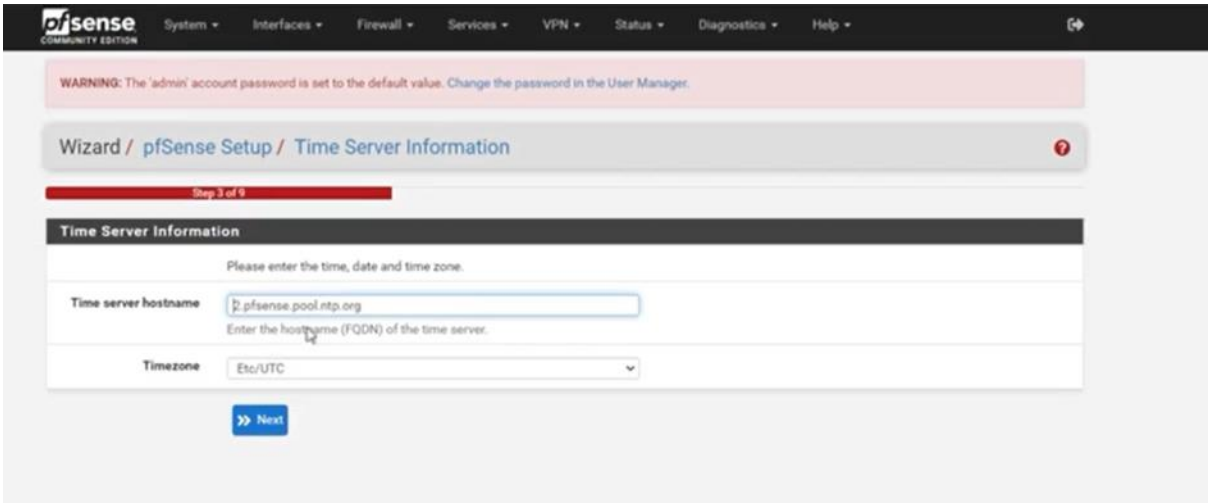
Here do next and then also next.



Here set the **hostname , domain DNS server.**

Then hit next.

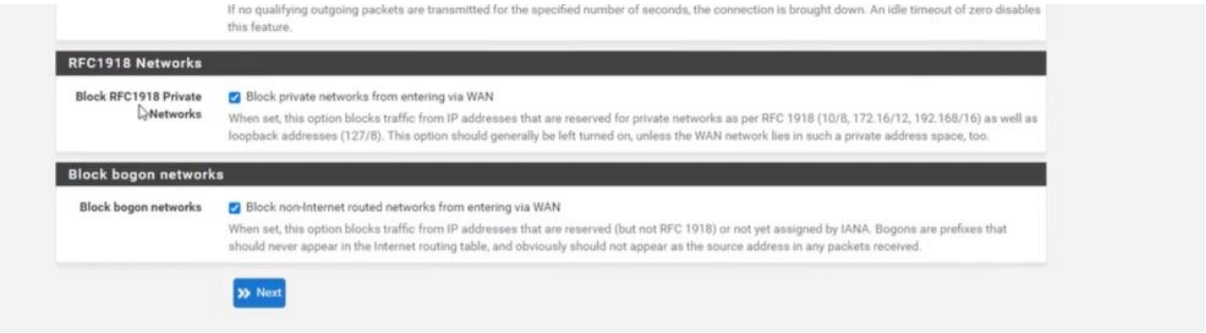
Time span will occur if you want to change it do.



Hit next.

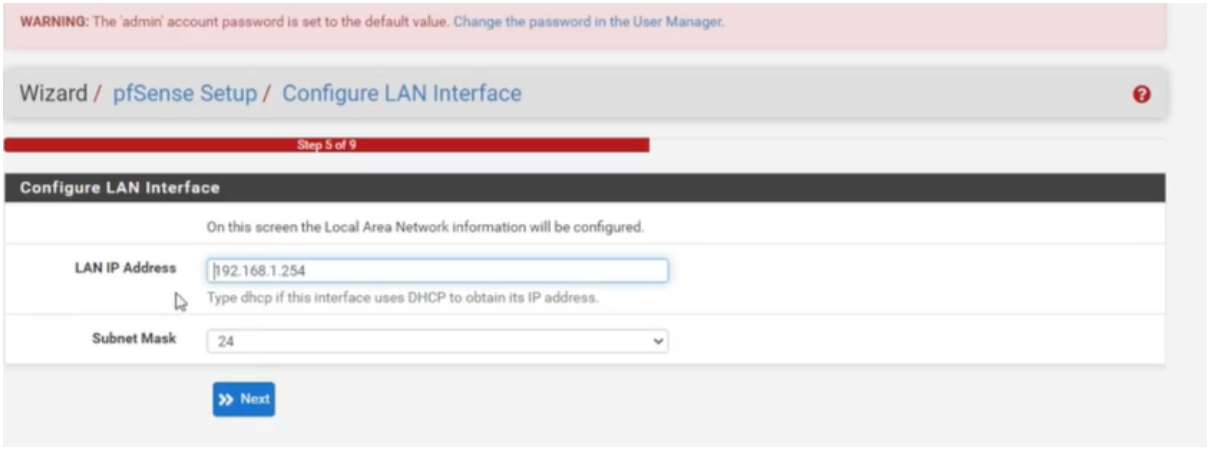
Then in next step enable the DHCP and **uncheck** the two options that shown blow:

Uncheck is necessary at WAN because at WAN have no private ip.



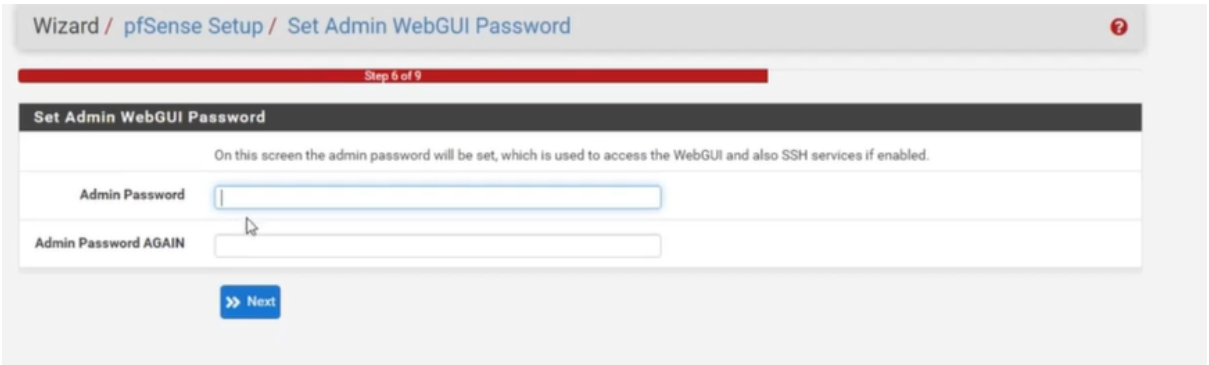
hit next.

Donot change the WAN ip.



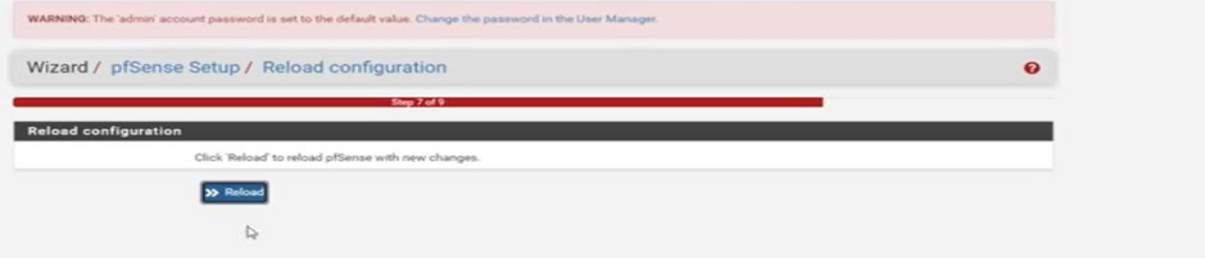
Hit next.

Change the admin password if you want.



Hit next.

Then reload .

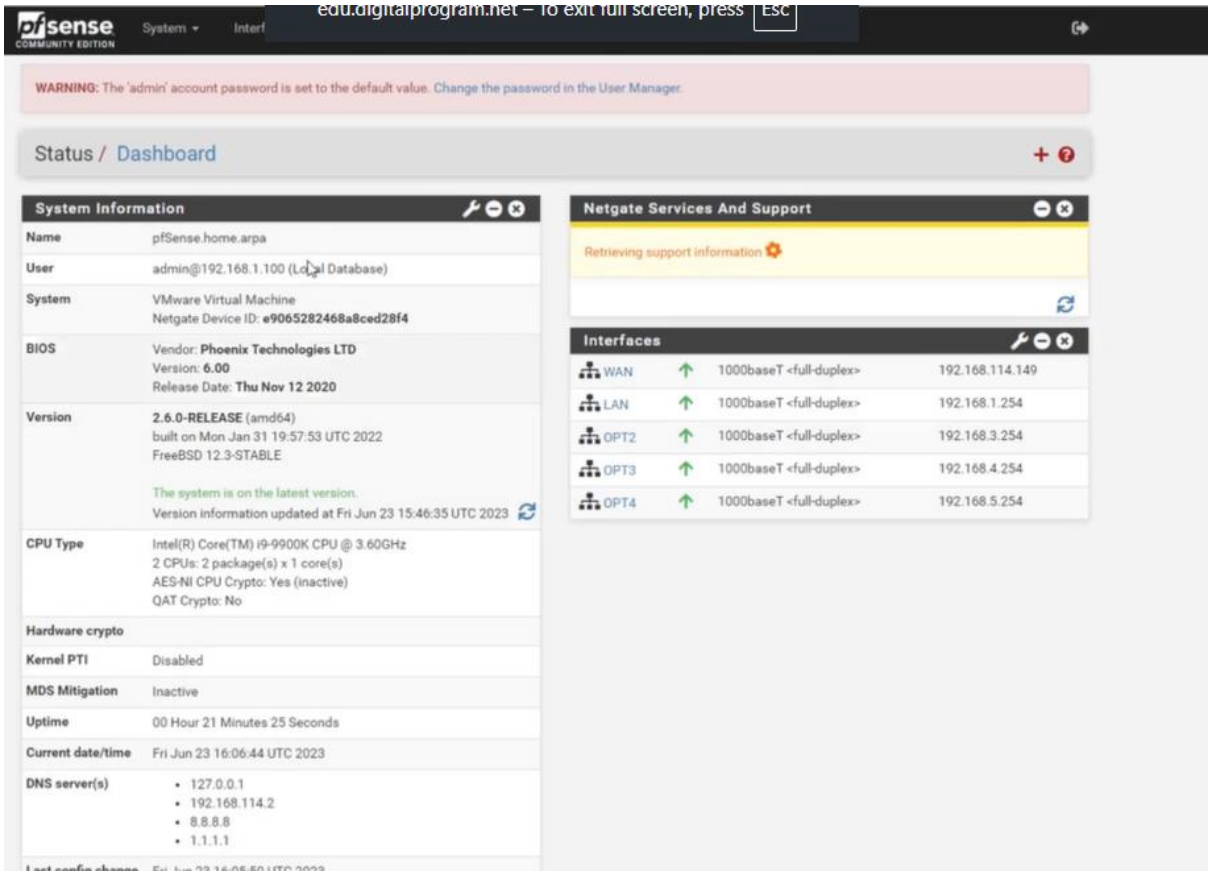


hit reload.

It will complete and in next step it will give option **finish,** hit it.

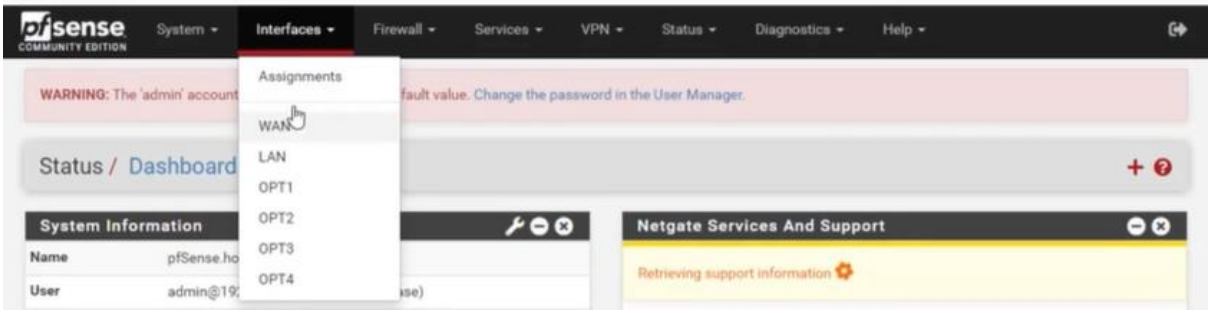
Accept the policy.

Then first time firewall will display.



Now we will change the name of interfaces that remains.

Go to **Interface** and select the OPT1 and change it's name and then others same.

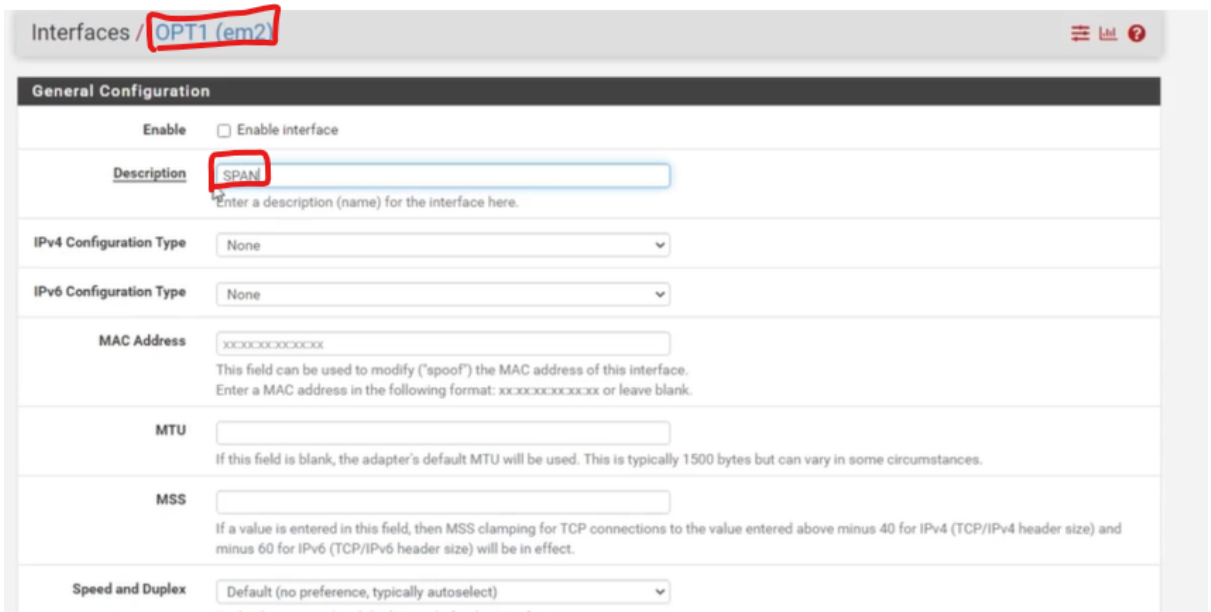


Select interface.

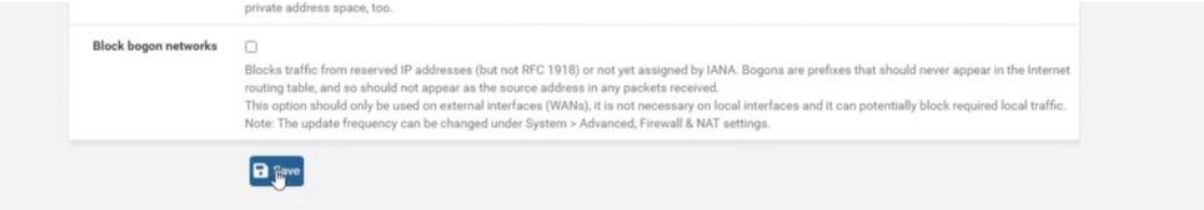
Give name to interfaces as like have name on below table.

IP Subnet	Network Connection	Role	PfSense Interfaces	VMware Adopter
192.168.114.0/24	NAT	WAN	EM0	Network Adopter
192.168.1.0/24	VMNet2	LAN	EM1	Network Adopter 2
No IP Address	VMNet3	SPAN	EM2	Network Adopter 3
192.168.3.0/24	VMNet4	KALI	EM3	Network Adopter 4
192.168.4.0/24	VMNet5	SECONION	EM4	Network Adopter 5
192.168.5.0/24	VMNet6	SPLUNK	EM5	Network Adopter 6

After select interface give name to it.



Then scroll down and save it.

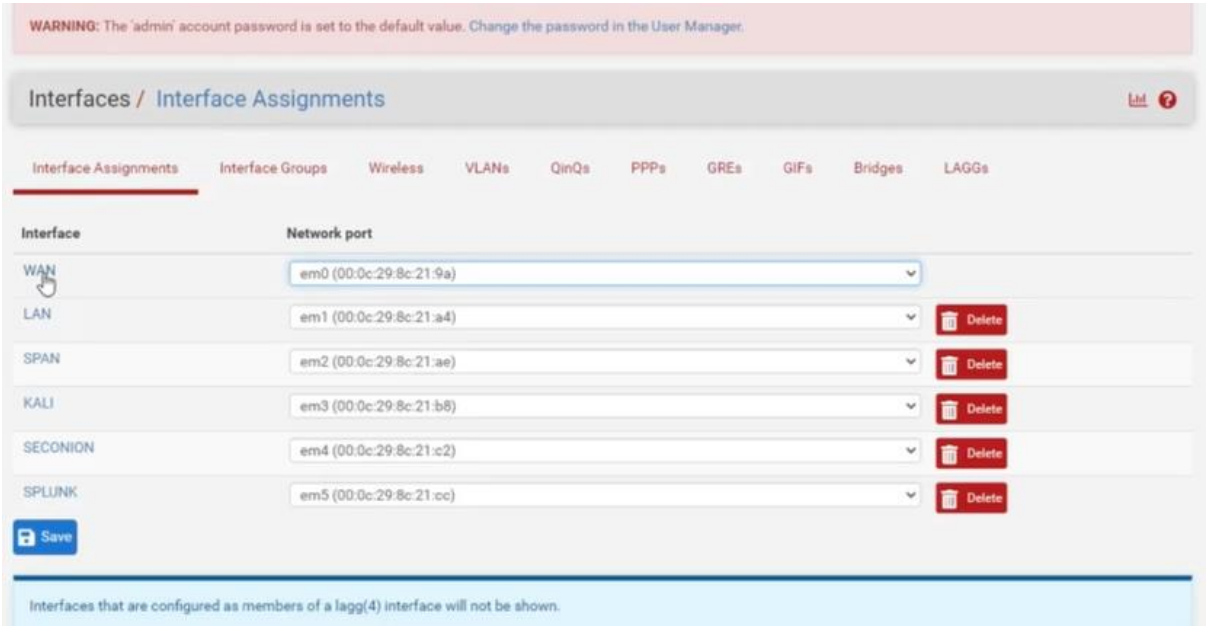


Then confirm the apply change.

First interface name change .

Do the same process for other interfaces. Give name as per lab idea shown in above table.

After it click the interface option that have in header and then assignment. You will see final result.



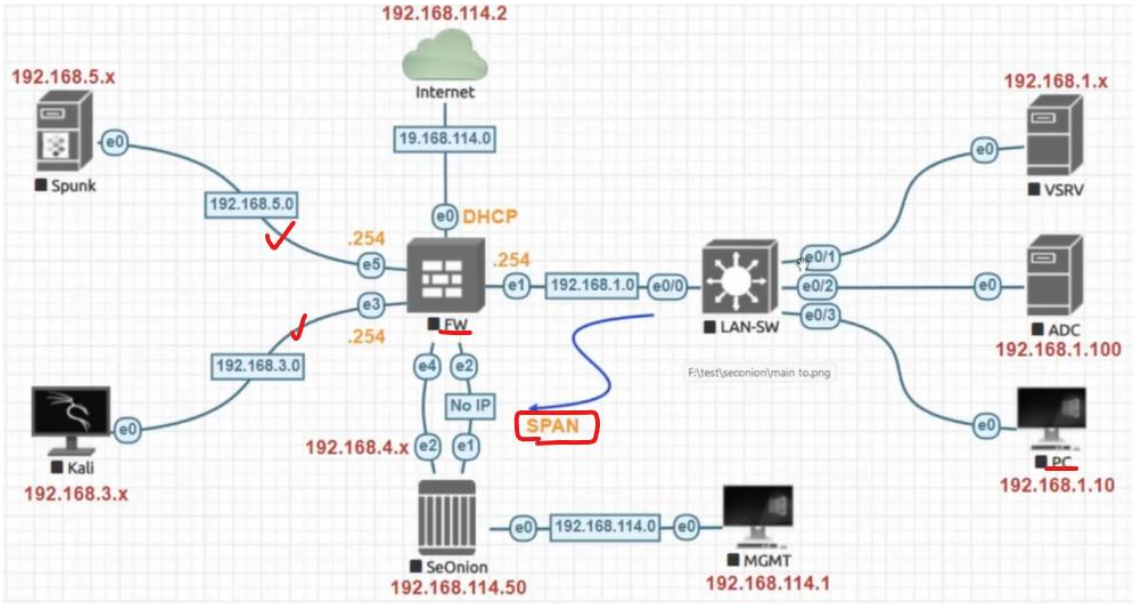
Interfaces name change successfully.

In firewall side name also change.

```
VMware Virtual Machine - Netgate Device ID: e9065282468a8ced28f4

*** Welcome to pfSense 2.6.0-RELEASE (amd64) on pfSense ***

WAN (wan)       -> em0        -> v4/DHCP4: 192.168.114.149/24
LAN (lan)       -> em1        -> v4: 192.168.1.254/24
SPAN (opt1)     -> em2        ->
KALI (opt2)     -> em3        -> v4: 192.168.3.254/24
SECONION (opt3) -> em4        -> v4: 192.168.4.254/24
SPLUNK (opt4)   -> em5        -> v4: 192.168.5.254/24

0) Logout (SSH only)                  9) pfTop
1) Assign Interfaces                 10) Filter Logs
```

According to topology we will setup the SPAN now.
so that LAN traffic copy also check by SECURITY ONION.

Now do it. The topology is.



Go to interface and then assignments as like above.

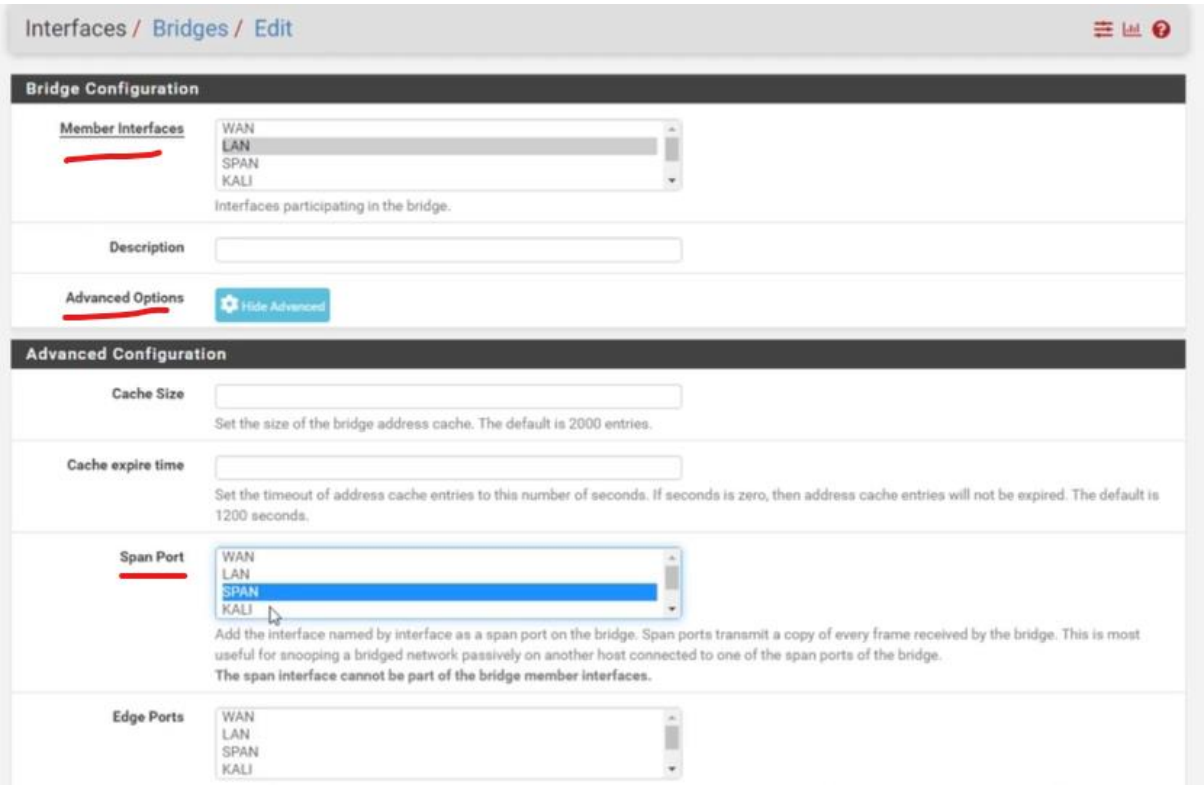
There have a option of BRIDGE select and then hit add to add new setup.

But for this purpose you will first enable the SPAN interface.

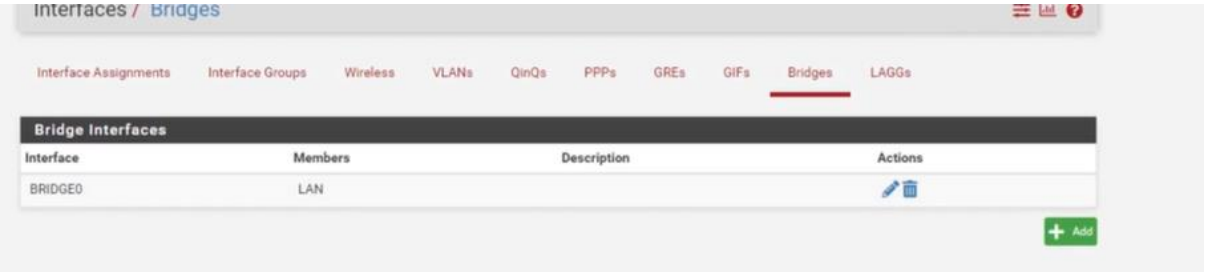
Then go to bridge and select the **LAN** in member traffic.

Then click advance options.

Then select SPAN in span port.



Then scroll down and save the change.

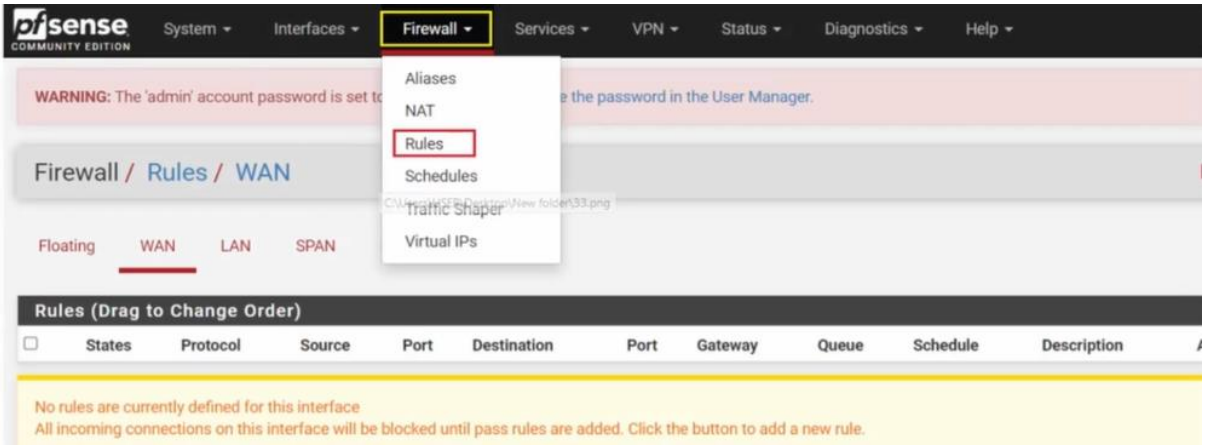


Bridge interface were created.

Create RULES for firewall traffic flow:

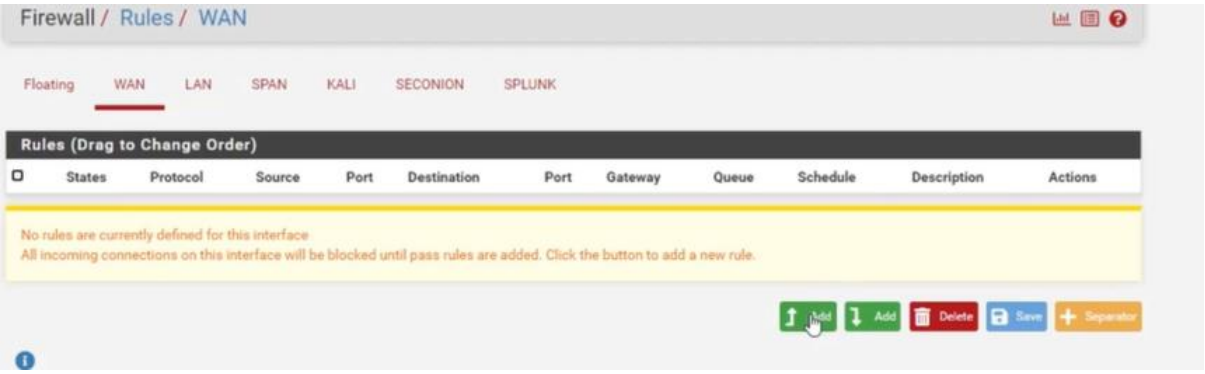
Go to Firewall and then rules.

Rules for that traffic will flow in the network.



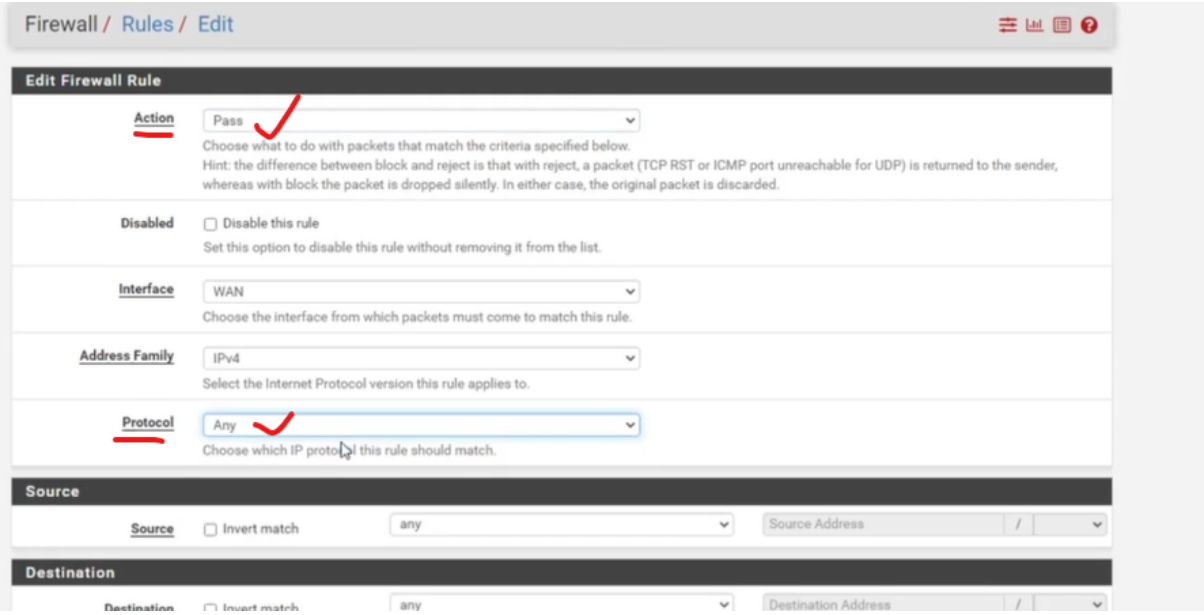
So first is WAN , no rule have on WAN.

Click add and add rule.



Their set the ACTION to PASS.

And PROTOCOL to ANY.



Scroll down and save it.

Do same for others.

If LAN have already any rule delete it.

Set rule for ipv4 only.

At end click the apply change.

Now rules will setup .

DHCP SERVER:

Dhcp is configure and if you chack it.

Go to services option and dhcp server , you will see that it will configure.

----------complete----------