Lab 04 Template - Ethan Roepke

Don't forget to follow these lab report instructions.

1.) Screenshot of pfSense pinging gateway (10 points)

```
cpre230_eroepke_pfsense
00
      $ | ↔ | ↔ | ⊟ | @ | <
 1) Assign Interfaces
                                              10) Filter Logs
 2) Set interface(s) IP address
                                              11) Restart webConfigurator
                                              12) PHP shell + pfSense tools
3) Reset webConfigurator password
                                              13) Update from console
4) Reset to factory defaults
                                              14) Enable Secure Shell (sshd)
5) Reboot system
6) Halt system
                                              15) Restore recent configuration
 7) Ping host
                                              16) Restart PHP-FPM
8) Shell
Enter an option: 7
Enter a host name or IP address: 105.148.172.254
PING 105.148.172.254 (105.148.172.254): 56 data bytes
64 bytes from 105.148.172.254: icmp_seq=0 ttl=63 time=0.651 ms
64 bytes from 105.148.172.254: icmp_seq=1 ttl=63 time=0.268 ms
64 bytes from 105.148.172.254: icmp_seq=2 ttl=63 time=0.329 ms
 -- 105.148.172.254 ping statistics --
3 packets transmitted, 3 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 0.268/0.416/0.651/0.168 ms
Press ENTER to continue.
```

2.) Discussion of pros/cons of port forwarding only vs virtual IPs AND port forwarding

(10 points)

The pros of port forwarding only is you may open access to certain servers. To run a website port forwarding is required so it is not blocked from firewall. Significant in increase speed is a big benefit and lastly you can start a VPN server.

The cons of port forwarding is creating holes in your firewall that outsiders can access to your network. Port forwarding can be complex to people if unfamiliar.

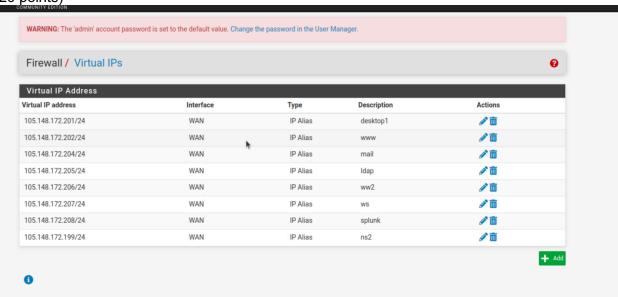
The pros of virtual IPs and port forwarding is the security, given applications to prevent from Trojans to hackers. This is a private network so won't be connected to external networks. Losses of internet connectivity will not affect the performance of the private network.

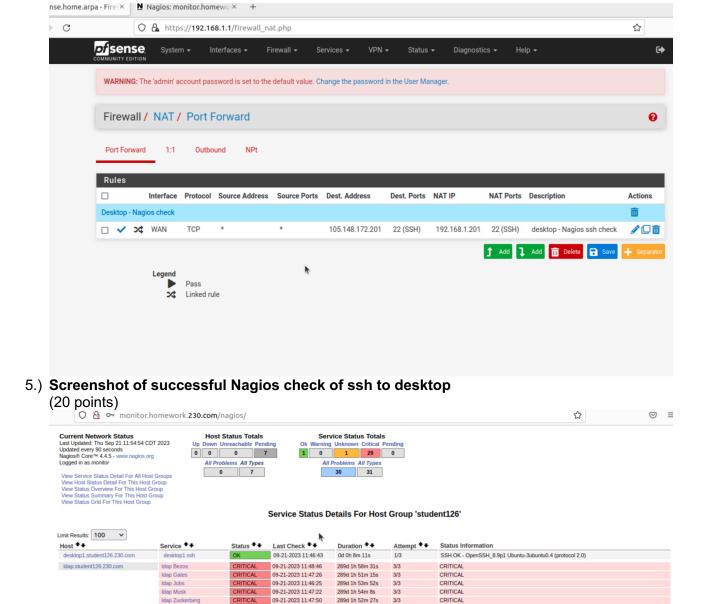
The cons of virtual IPs and port forwarding is maintenance cost and being a private network doesn't allow for networks IP addresses to go onto public networks to communicate to other computers.

3.) Screenshot of successful ssh connection from your ns1 to your desktop (20 points)

```
To check for new updates run: sudo apt update
Last login: Wed Sep 13 19:29:40 UTC 2023 on tty1
eroepke@ns1:~$ ssh eroepke@105.148.172.201
The authenticity of host '105.148.172.201 (105.148.172.201)' can't be established.
ED25519 key fingerprint is SHA256:UfORIGYXGKuEA3Ov9WRmtwoyRMf1z9+qek6gRNB/gh0.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes Warning: Permanently added '105.148.172.201' (ED25519) to the list of known hosts.
eroepke@105.148.172.201's password:
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0–32–generic x86_64)
 * Documentation: https://help.ubuntu.com
 * Management:
                     https://landscape.canonical.com
 * Support:
                     https://ubuntu.com/advantage
Expanded Security Maintenance for Applications is not enabled.
53 updates can be applied immediately.
36 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
eroepke@desktop:~$ uname -a
Linux desktop 6.2.0-32-generic #32~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Fri Aug 18 10:40:13 UTC 2 x86_
64 x86_64 x86_64 GNU/Linux
eroepke@desktop:~$ _
```

4.) Screenshots (2) of Virtual IP & NAT Forwarding config pages (20 points)





6.) StudentXX.230.com diagram with only machines and services currently running (20 points)

09-21-2023 11:49:24

09-21-2023 11:48:35

09-21-2023 11:46:45

09-21-2023 11:52:30

09-21-2023 11:45:21

09-21-2023 11:45:39

09-21-2023 11:44:52

09-21-2023 11:50:38

09-21-2023 11:47:55

09-21-2023 11:50:15

09-21-2023 11:48:17

09-21-2023 11:47:43

09-21-2023 11:46:50

09-21-2023 11:51:29

09-21-2023 11:48:16

09-21-2023 11:53:08

09-21-2023 11:47:36

09-21-2023 11:50:00 09-21-2023 11:46:42 289d 1h 57m 44s

263d 22h 21m 20s

289d 1h 56m 25s

289d 1h 52m 7s

289d 1h 54m 6s

263d 22h 32m 24s

263d 22h 29m 46s

263d 22h 18m 5s

263d 22h 17m 54s

263d 22h 22m 19s

263d 22h 20m 10s

263d 22h 24m 6s

263d 22h 19m 3s

263d 22h 27m 7s

289d 2h 33m 8s

289d 2h 27m 55s

289d 2h 34m 21s 289d 2h 35m 43s

289d 2h 34m 18s

3/3

3/3

3/3

3/3

3/3

3/3

3/3

3/3

3/3

CRITICAL

CRITICAL - Plugin timed out while executing system call

CRITICAL - Plugin timed out while executing system call CRITICAL - Plugin timed out while executing system call CRITICAL - Plugin timed out while executing system call

CRITICAL - Plugin timed out while executing system call

CRITICAL - Plugin timed out while executing system call

CRITICAL - Plugin timed out while executing system call CRITICAL - Plugin timed out while executing system call

DNS failed: dig exit code 9

IMAP CRITICAL - Invalid hostname, address or socket: mail.student126.230.com

IMAP CRITICAL - Invalid hostname, address or socket: mail.student126.230.com check_smtp: Invalid hostname/address - mail.student126.230.com

Idap service

secure imap

secure smtp

dns mail

dns ns1

dns www

dns www2

reverse dns mail

reverse dns ns1

reverse dns www

dns desktop1

reverse dns ws

dns Idap

reverse dns www2

reverse dns desktop1

secure imap login

dns MX

mail.student126.230.com

ns1.student126.230.com

ns2.student126.230.com

