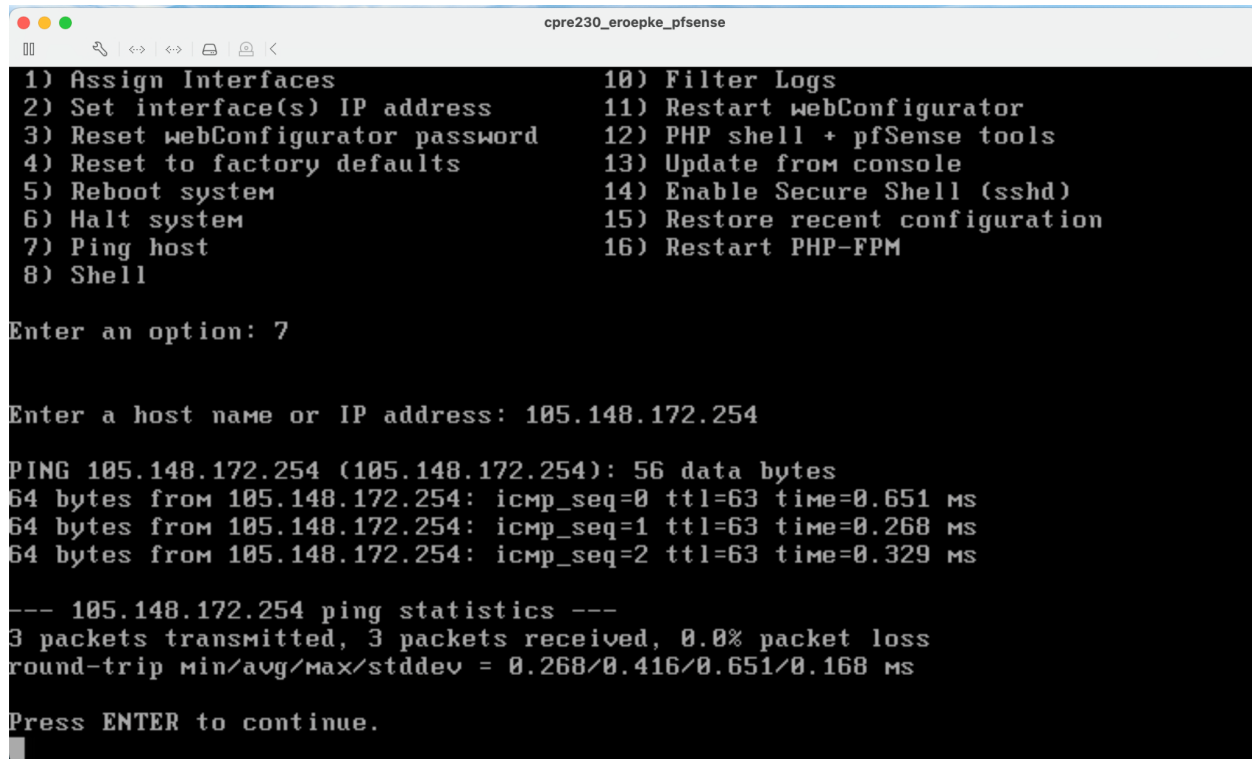# Lab 04 Template - Ethan Roepke

[Don't forget to follow these lab report instructions.](#)

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

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)

COMMUNITY EDITION

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

Firewall / Virtual IPs   ❓

Virtual IP Address

Virtual IP address	Interface	Type	Description	Actions
105.148.172.201/24	WAN	IP Alias	desktop1	✏️🗑️
105.148.172.202/24	WAN	IP Alias	www	✏️🗑️
105.148.172.204/24	WAN	IP Alias	mail	✏️🗑️
105.148.172.205/24	WAN	IP Alias	ldap	✏️🗑️
105.148.172.206/24	WAN	IP Alias	ww2	✏️🗑️
105.148.172.207/24	WAN	IP Alias	ws	✏️🗑️
105.148.172.208/24	WAN	IP Alias	splunk	✏️🗑️
105.148.172.199/24	WAN	IP Alias	ns2	✏️🗑️

➕ Add

ℹ️
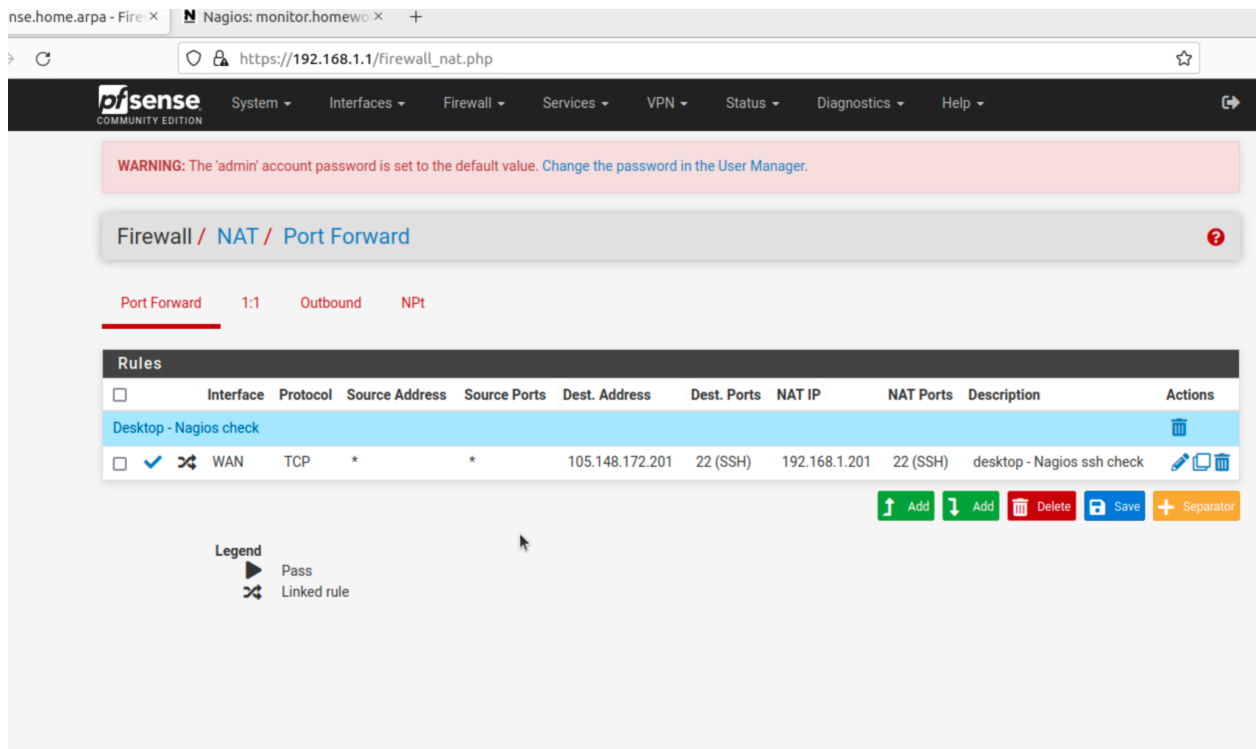
5.) Screenshot of successful Nagios check of ssh to desktop
(20 points)
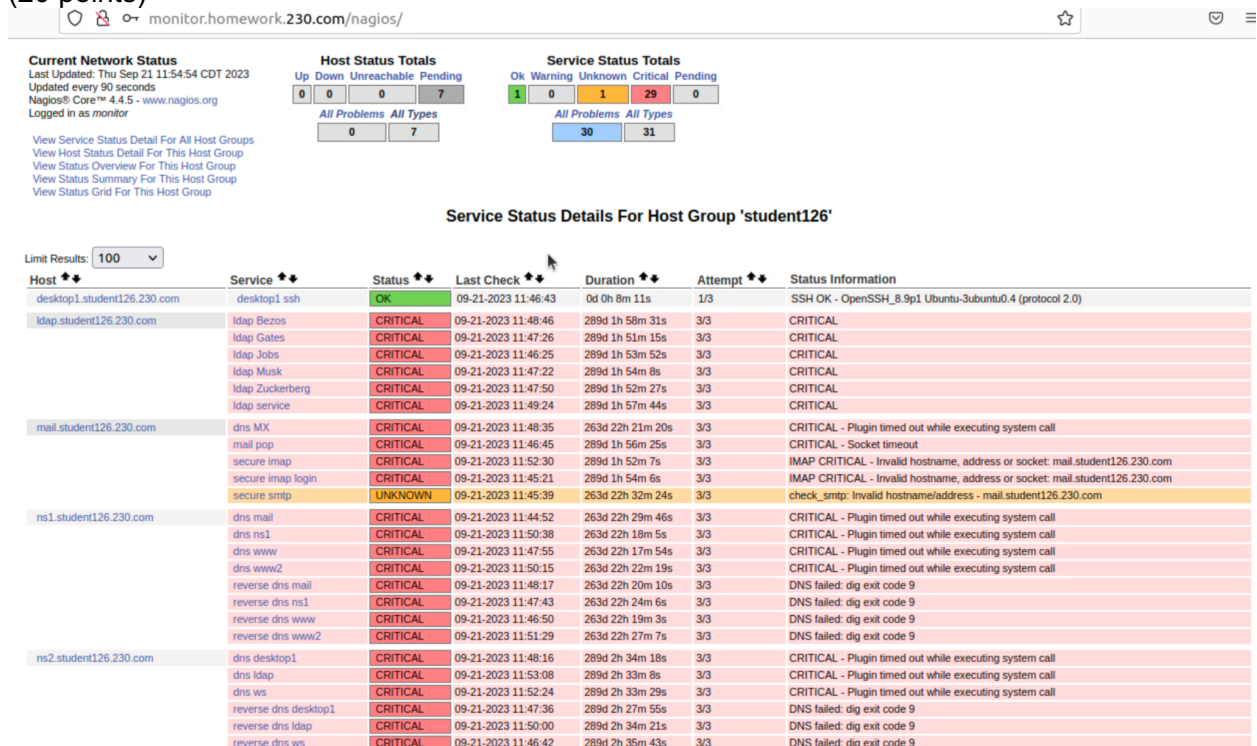
6.) StudentXX.230.com diagram with only machines and services currently running
(20 points)

Portforwarding:
105.148.172.206:22(ssh)

105.148.172.0/24

Default Gateway
105.148.172.254

ns1
105.148.172.200
53/tcp – dns
53/udp - dns

105.148.172.0/24

pfSense
105.148.172.100

105.148.172.1

Desktop1
105.148.172.201