Ben Weatherill
SYS-255
FA23

Deliverables:
1. In this screenshot, you can see the ping to champlain.edu and you can see that a packet was both sent and received with a 0% loss.

```
[2.5.2-RELEASE][root@fw1-benjamin.benjamin.local]/root: ping -c 1 champlain.edu
PING champlain.edu (208.115.107.132): 56 data bytes
64 bytes from 208.115.107.132: icmp_seq=0 ttl=49 time=72.121 ms

--- champlain.edu ping statistics ---
1 packets transmitted, 1 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 72.121/72.121/72.121/0.000 ms
```

2. In this deliverable, shown in the screenshot below, the commands are highlighted. The ping to google.com was successful with a 0% loss. The ipconfig command shows my ip is set to 10.0.5.100 and my default gateway is 10.0.5.2.

```
PS C:\Users\ben> whoami
wks01-benjamin\ben
PS C:\Users\ben> hostname
wks01-benjamin
PS C:\Users\ben> ping -n 1 google.com

Pinging google.com [142.250.80.78] with 32 bytes of data:
Reply from 142.250.80.78: bytes=32 time=16ms TTL=54

Ping statistics for 142.250.80.78:
    Packets: Sent = 1, Received = 1, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 16ms, Maximum = 16ms, Average = 16ms
PS C:\Users\ben> ipconfig /all

Windows IP Configuration

    Host Name . . . . . . . . . . . . : wks01-benjamin
    Primary Dns Suffix  . . . . . . . :
    Node Type . . . . . . . . . . . . : Hybrid
    IP Routing Enabled. . . . . . . . : No
    WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Ethernet0:

    Connection-specific DNS Suffix  . :
    Description . . . . . . . . . . . : Intel(R) 82574L Gigabit Network Connection
    Physical Address. . . . . . . . . : 00-50-56-A1-0A-C3
    DHCP Enabled. . . . . . . . . . . : No
    Autoconfiguration Enabled . . . . : Yes
    IPv4 Address. . . . . . . . . . . : 10.0.5.100(Preferred)
    Subnet Mask . . . . . . . . . . . : 255.255.255.0
    Default Gateway . . . . . . . . . : 10.0.5.2
    DNS Servers . . . . . . . . . . . : 10.0.5.2
    NetBIOS over Tcpip. . . . . . . . : Enabled
PS C:\Users\ben>
```
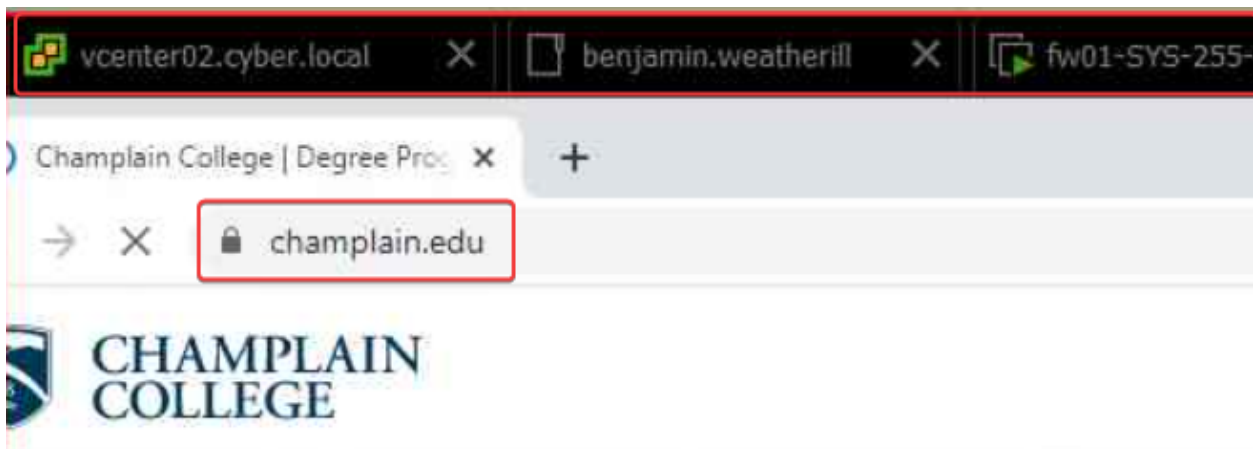
3. This screenshot shows the successful connection to the internet. The bar at the top shows that is is within my vmware(also since it is chrome and I do not have chrome installed on my computer)

4. Here is the tracert command from the windows vm. The command and the first line of output shows the maximum number of hops is set to 3. The output shows one hop to my firewall, then through that to the SYS255-WAN and from there to the CYBER network.

5. I was pretty unfamiliar with pfsense but it seems easy to navigate for me. I was a but unfamiliar with how to create a new local windows user. This lab was not that difficult for me.
   a. Default Gateway:
      i. The Default Gateway is the gateway between your local network and the internet. It also provides assistance when local computers want to talk to each other by providing ARP information.
6. I believe it does.
7. https://github.com/benjamin-weatherill/SYS255/wiki/Lab01-%E2%80%90-Virtual-Firewall-and-Windows-10-Configuration