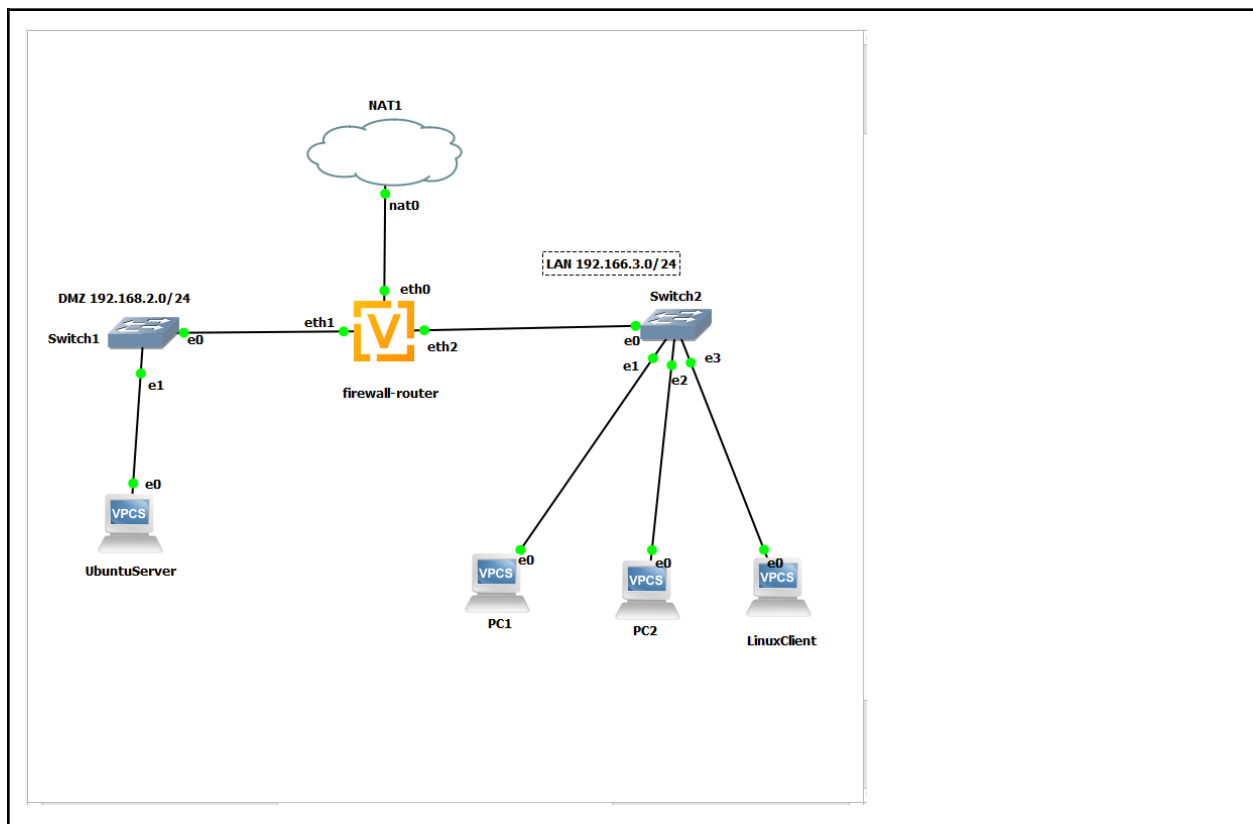Mubariz Saeed
CSF 432 - Lab#08
Fall 2021

Lab 08: Configuring Firewall Rules

Part 1: Topology Setup

⁉️ Question 1 - Submit a screenshot of your topology setup.

Part 3: DNS Forwarding and NAT

⁉️ Question 2 - Submit a screenshot of VPCS1 and VPCS2 pinging google.com

```
PC1> ip 192.168.3.2 255.255.255.0 gateway 192.168.3.1
Checking for duplicate address...
PC1 : 192.168.3.2 255.255.255.0 gateway 192.168.3.1

PC1> ip dns 8.8.8.8

PC1> ping google.com
google.com resolved to 142.251.40.206

84 bytes from 142.251.40.206 icmp_seq=1 ttl=126 time=12.470 ms
84 bytes from 142.251.40.206 icmp_seq=2 ttl=126 time=13.578 ms
84 bytes from 142.251.40.206 icmp_seq=3 ttl=126 time=13.754 ms
84 bytes from 142.251.40.206 icmp_seq=4 ttl=126 time=12.629 ms
84 bytes from 142.251.40.206 icmp_seq=5 ttl=126 time=13.609 ms
```

```
PC2> ip dns 8.8.8.8

PC2> ping google.com
google.com resolved to 142.251.40.238

84 bytes from 142.251.40.238 icmp_seq=1 ttl=126 time=13.029 ms
84 bytes from 142.251.40.238 icmp_seq=2 ttl=126 time=13.513 ms
84 bytes from 142.251.40.238 icmp_seq=3 ttl=126 time=13.524 ms
84 bytes from 142.251.40.238 icmp_seq=4 ttl=126 time=14.043 ms
84 bytes from 142.251.40.238 icmp_seq=5 ttl=126 time=12.357 ms

PC2>
```

Part 4: Firewall Rule Set

⁉️ Question 3 - Ping 8.8.8.8 from VPCS1. Submit a screenshot of your failed ping

```
ole  PC1>
ma   PC1> ping 8.8.8.8
ng
igh  8.8.8.8 icmp_seq=1 timeout
elp  8.8.8.8 icmp_seq=2 timeout
     8.8.8.8 icmp_seq=3 timeout
val  8.8.8.8 icmp_seq=4 timeout
     ^C
     PC1>
```

⁉️ Question 4 - Ping 8.8.8.8 from your VyOS router. Submit a screenshot of your failed ping

```
exit
vyos@vyos:~$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
^C
--- 8.8.8.8 ping statistics ---
17 packets transmitted, 0 received, 100% packet loss, time 16036m

vyos@vyos:~$ 
```
his

⁉ Question 5 - While in `operation` mode on your VyOS device, run the `history` command. Submit a screenshot of your console.

```
232  2022-11-04T22:00:56+0000 set service dns forwarding listen-on eth2
233  2022-11-04T22:00:59+0000 set service dns forwarding name-server 8.8.8.8
234  2022-11-04T22:01:12+0000 commit
235  2022-11-04T22:01:16+0000 save
236  2022-11-04T22:15:52+0000 set firewall group network-group NET-DMZ network '192.168.2.0/24'
237  2022-11-04T22:15:57+0000 set firewall group network-group NET-LAN network '192.168.3.0/24'
238  2022-11-04T22:16:00+0000 set firewall group network-group NET-MANAGEMENT network '192.168.3.2/32'
239  2022-11-04T22:16:19+0000 exit
240  2022-11-04T22:16:22+0000 exit discard
241  2022-11-04T22:16:27+0000 configure
242  2022-11-04T22:16:31+0000 show interfaces
243  2022-11-04T22:16:40+0000 set firewall group network-group NET-DMZ network '192.168.2.0/24'
244  2022-11-04T22:16:45+0000 set firewall group network-group NET-LAN network '192.168.3.0/24'
245  2022-11-04T22:16:52+0000 et firewall group network-group NET-MANAGEMENT network '192.168.3.2/32'
246  2022-11-04T22:17:09+0000 set firewall group network-group NET-MANAGEMENT network '192.168.3.2/'
247  2022-11-04T22:17:52+0000 et firewall group network-group NET-MANAGEMENT network '192.168.3.2/32'
248  2022-11-04T22:18:18+0000 set firewall group network-group NET-MANAGEMENT network '192.168.3.2'
249  2022-11-04T22:18:45+0000 set firewall group network-group NET-MANAGEMENT network '192.168.3.2/32'
250  2022-11-04T22:18:57+0000 set firewall group network-group NET-MANAGEMENT network '192.168.3.3/32'
251  2022-11-04T22:19:06+0000 set firewall group network-group NET-WAN 192.168.122.firewall42network
252  2022-11-04T22:19:52+0000 set firewall group network-group NET-WAN network '192.168.122.42'
253  2022-11-04T22:20:01+0000 set firewall group network-group NET-WAN network '192.168.122.0'
254  2022-11-04T22:20:10+0000 set firewall group network-group NET-WAN network 192.168.122.0
255  2022-11-04T22:20:13+0000 set firewall group network-group NET-WAN network 192.168.122.24
256  2022-11-04T22:20:20+0000 show interfacce
257  2022-11-04T22:20:23+0000 show interface
258  2022-11-04T22:20:35+0000 set firewall group network-group NET-WAN network dhcp
259  2022-11-04T22:20:42+0000 exit
260  2022-11-04T22:20:45+0000 exit discard
261  2022-11-04T22:20:49+0000 show interface
262  2022-11-04T22:21:05+0000 configure
263  2022-11-04T22:21:10+0000 set firewall group network-group NET-DMZ network '192.168.2.0/24'
264  2022-11-04T22:21:14+0000 set firewall group network-group NET-LAN network '192.168.3.0/24'
265  2022-11-04T22:21:18+0000 set firewall group network-group NET-MANAGEMENT network '192.168.3.2/32'
266  2022-11-04T22:21:22+0000 set firewall group network-group NET-MANAGEMENT network '192.168.3.3/32'
267  2022-11-04T22:21:26+0000 set firewall group network-group NET-WAN 192.168.122.42/firewall24 network
268  2022-11-04T22:22:04+0000 set firewall group network-group NET-WAN network '192.168.122.42/24'
269  2022-11-04T22:22:18+0000 set firewall group network-group NET-WAN network '192.168.122.0/24'
270  2022-11-04T22:22:45+0000 set firewall name WAN-LOCAL default-action 'drop'
271  2022-11-04T22:22:52+0000 set firewall name WAN-LOCAL rule 1020 action 'drop'
272  2022-11-04T22:22:59+0000 vyos@vyos#
273  2022-11-04T22:23:05+0000 set firewall name WAN-LOCAL rule 1020 icmp type-name 'echo-request'
274  2022-11-04T22:23:09+0000 set firewall name WAN-LOCAL rule 1020 protocol 'icmp'
275  2022-11-04T22:23:14+0000 set firewall name WAN-LOCAL rule 1020 state new 'enable'
276  2022-11-04T22:23:19+0000 set firewall name LAN-LOCAL default-action 'drop'
277  2022-11-04T22:23:22+0000 set firewall name LAN-LOCAL rule 1020 action 'drop'
278  2022-11-04T22:23:26+0000 set firewall name LAN-LOCAL rule 1020 icmp type-name 'echo-request'
279  2022-11-04T22:23:29+0000 set firewall name LAN-LOCAL rule 1020 protocol 'icmp'
280  2022-11-04T22:23:33+0000 set firewall name LAN-LOCAL rule 1020 state new 'enable'
281  2022-11-04T22:23:39+0000 set firewall name DMZ-LOCAL default-action 'drop'
282  2022-11-04T22:23:45+0000 set firewall name DMZ-LOCAL rule 1020 action 'drop'
283  2022-11-04T22:23:49+0000 set firewall name DMZ-LOCAL rule 1020 icmp type-name 'echo-request'
284  2022-11-04T22:23:52+0000 set firewall name DMZ-LOCAL rule 1020 protocol 'icmp'
285  2022-11-04T22:23:55+0000 set firewall name DMZ-LOCAL rule 1020 state new 'enable'
286  2022-11-04T22:23:58+0000  set interfaces ethernet eth0 firewall local name 'WAN-LOCAL'
287  2022-11-04T22:24:02+0000  set interfaces ethernet eth1 firewall local name 'DMZ-LOCAL'
288  2022-11-04T22:24:04+0000 set interfaces ethernet eth2 firewall local name 'LAN-LOCAL'
289  2022-11-04T22:24:09+0000 set firewall name LAN-IN default-action 'drop'
290  2022-11-04T22:24:12+0000 set firewall name LAN-IN rule 1020 action 'accept'
291  2022-11-04T22:24:18+0000 set firewall name LAN-IN rule 1020 state established 'enable'
292  2022-11-04T22:24:22+0000 set firewall name LAN-IN rule 1020 state related 'enable'
293  2022-11-04T22:24:28+0000 set firewall name DMZ-IN default-action 'drop'
294  2022-11-04T22:24:31+0000 set firewall name DMZ-IN rule 1020 action 'accept'
295  2022-11-04T22:24:33+0000 set firewall name DMZ-IN rule 1020 state established 'enable'
296  2022-11-04T22:24:36+0000 set firewall name DMZ-IN rule 1020 state related 'enable'
297  2022-11-04T22:24:40+0000 set firewall name DMZ-IN rule 1020 action 'drop'
298  2022-11-04T22:24:44+0000 set firewall name DMZ-IN rule 1020 state invalid 'enable'
299  2022-11-04T22:24:50+0000 set interfaces ethernet eth1 firewall in name 'DMZ-IN'
300  2022-11-04T22:24:53+0000 set interfaces ethernet eth2 firewall in name 'LAN-IN'
301  2022-11-04T22:24:59+0000 set firewall name LAN-OUT rule 1020 action 'drop'
302  2022-11-04T22:25:02+0000 set firewall name LAN-OUT rule 1020 icmp type-name 'echo-request'
303  2022-11-04T22:25:04+0000 set firewall name LAN-OUT rule 1020 protocol 'icmp'
304  2022-11-04T22:25:06+0000 set firewall name LAN-OUT rule 1020 state new 'enable'
305  2022-11-04T22:25:10+0000 set firewall name DMZ-OUT rule 1020 action 'drop'
306  2022-11-04T22:25:14+0000 set firewall name DMZ-OUT rule 1020 icmp type-name 'echo-request'
307  2022-11-04T22:25:18+0000 set firewall name DMZ-OUT rule 1020 protocol 'icmp'
308  2022-11-04T22:25:22+0000 set firewall name DMZ-OUT rule 1020 state new 'enable'
309  2022-11-04T22:25:26+0000 set interfaces ethernet eth1 firewall out name 'DMZ-OUT'
310  2022-11-04T22:25:30+0000 set interfaces ethernet eth2 firewall out name 'LAN-OUT'
311  2022-11-04T22:27:53+0000 commit
312  2022-11-04T22:27:53+0000 save
313  2022-11-04T22:25:56+0000 commit
314  2022-11-04T22:26:01+0000 save
315  2022-11-04T22:27:53+0000 exit
316  2022-11-04T22:27:57+0000 ping 8.8.8.8
317  2022-11-04T22:28:52+0000 history
vyos@vyos:~$ ▮
```

⁉️ Question 6 - Save your VyOS device console in a `.txt` file and include it into your .zip submission (in your console, cmd+s or ctrl+s depending on your host OS).

complete

Part 5: Submission

Convert your answer document into a .PDF and upload a single `lastname_lab8.zip` containing your answer document and your VyOS device console history containing all of your VyOS device commands to Brightspace through the attachment uploads option.