

# Penetration Testing a pfSense Firewall (3e)

Network Security, Firewalls, and VPNs, Third Edition - Lab 10

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Time on Task:

2 hours, 50 minutes

Progress:

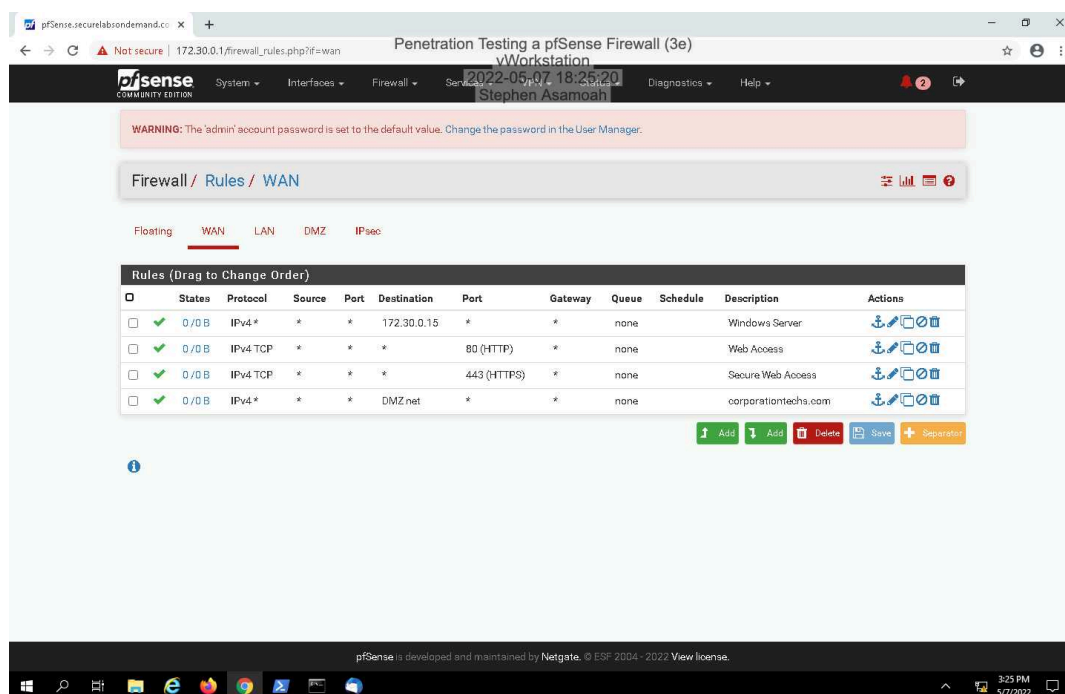
100%

Report Generated: Saturday, May 7, 2022 at 8:58 PM

## Section 1: Hands-On Demonstration

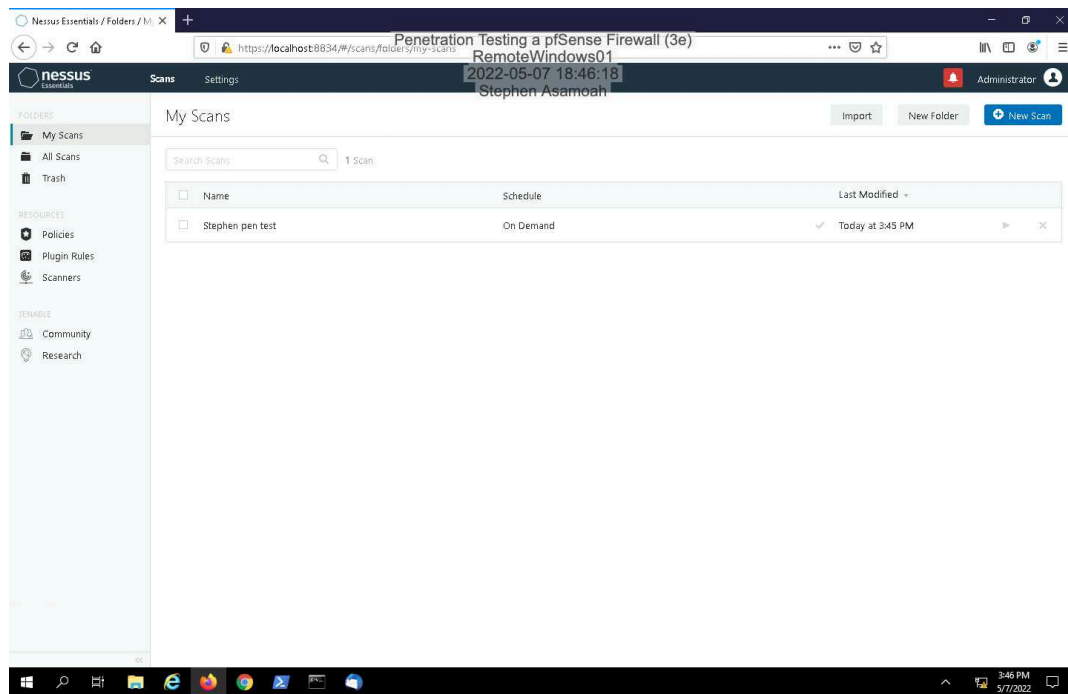
### Part 1: Examine a pfSense Firewall Configuration

12. Make a screen capture showing the WAN rules table.

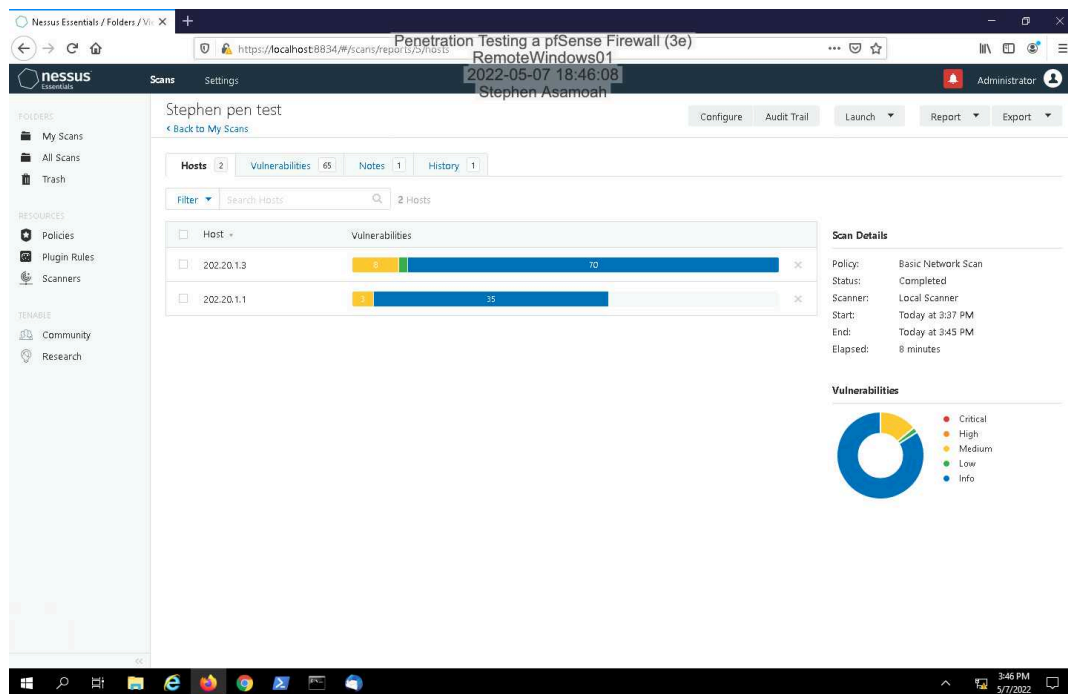


### Part 2: Conduct a Penetration Test on the Network

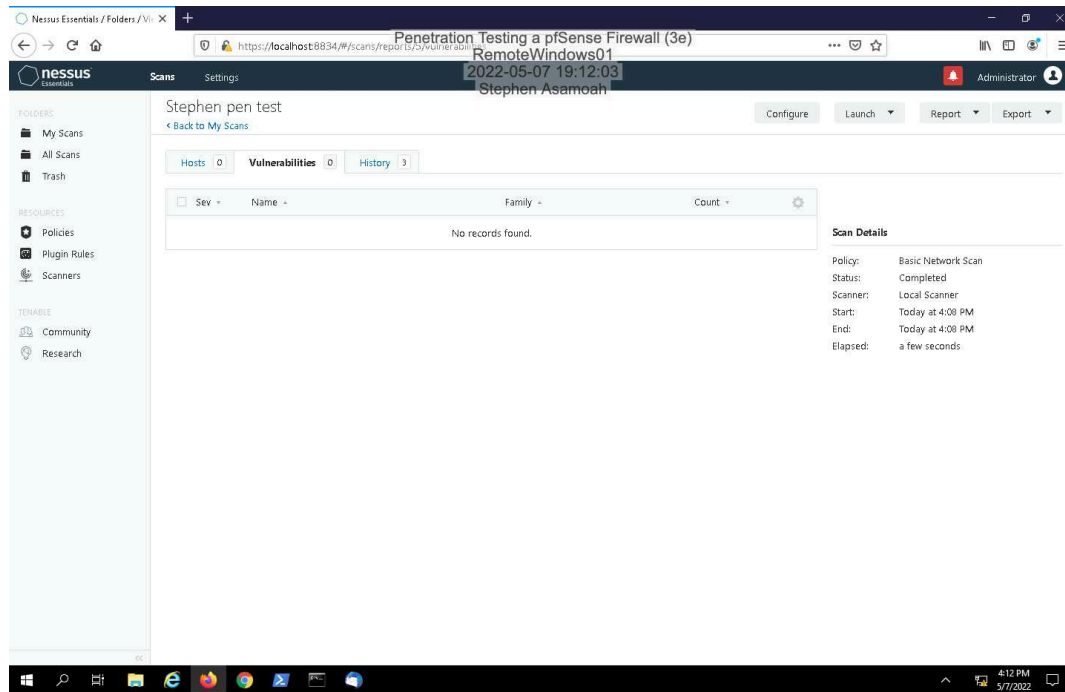
## 11. Make a screen capture showing the *yourname* pen test scan results.



## 13. Make a screen capture showing the list of vulnerabilities.



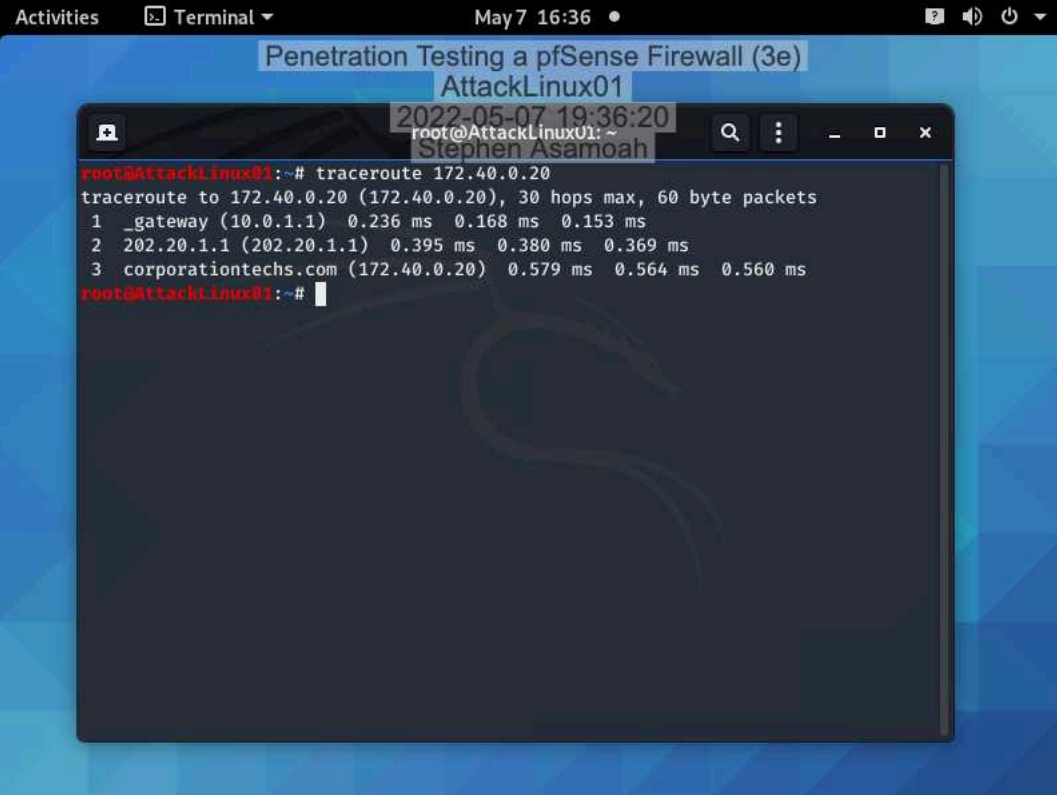
## 29. Make a screen capture showing the updated vulnerability report summary.



## Section 2: Applied Learning

### Part 1: Conduct a Port Scan on the Network

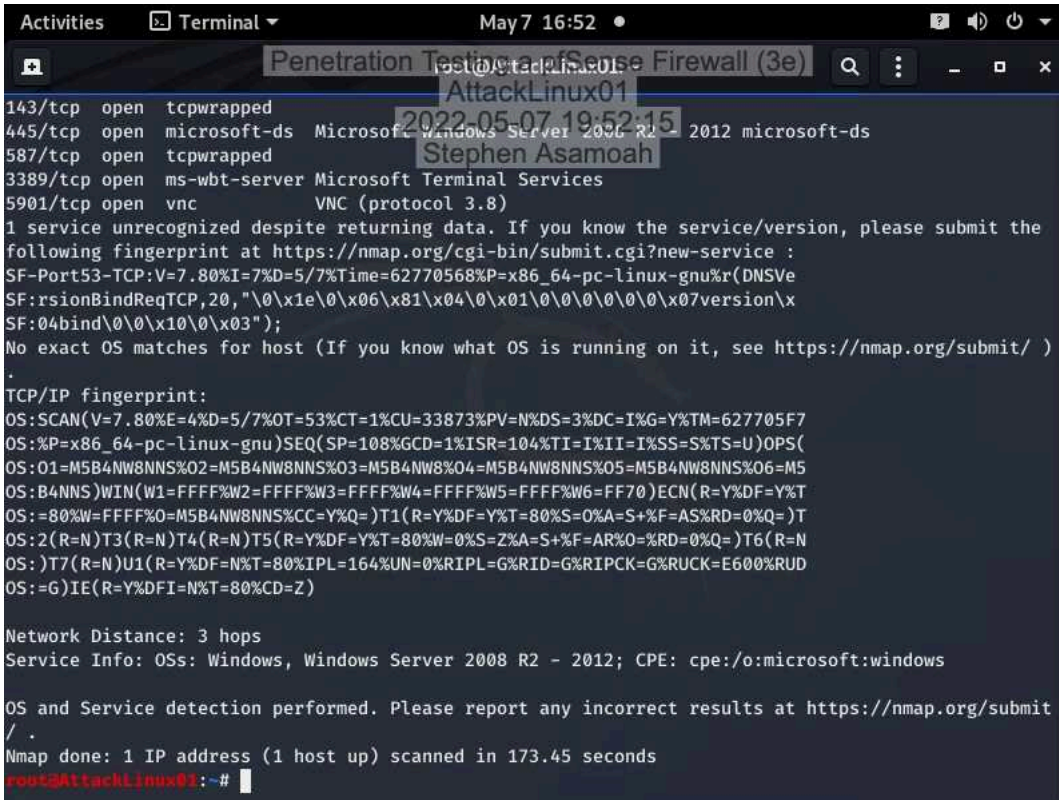
7. Make a screen capture showing the results of the traceroute command.



The screenshot shows a terminal window titled "AttackLinux01" with a timestamp of "2022-05-07 19:36:20" and the user "Stephen Asamoah". The terminal displays the output of the command `traceroute 172.40.0.20`. The output shows the path from the local gateway to the destination IP 172.40.0.20, with three hops and their respective round-trip times.

```
root@AttackLinux01:~# traceroute 172.40.0.20
traceroute to 172.40.0.20 (172.40.0.20), 30 hops max, 60 byte packets
 1 _gateway (10.0.1.1)  0.236 ms  0.168 ms  0.153 ms
 2 202.20.1.1 (202.20.1.1)  0.395 ms  0.380 ms  0.369 ms
 3 corporationtechs.com (172.40.0.20)  0.579 ms  0.564 ms  0.560 ms
root@AttackLinux01:~#
```

11. **Make a screen capture** showing the result of the **nmap scan with OS detection activated**.



```
Activities Terminal May 7 16:52
Penetration Testing a pfSense Firewall (3e)
AttackLinux01
2022-05-07 19:52:15
Stephen Asamoah

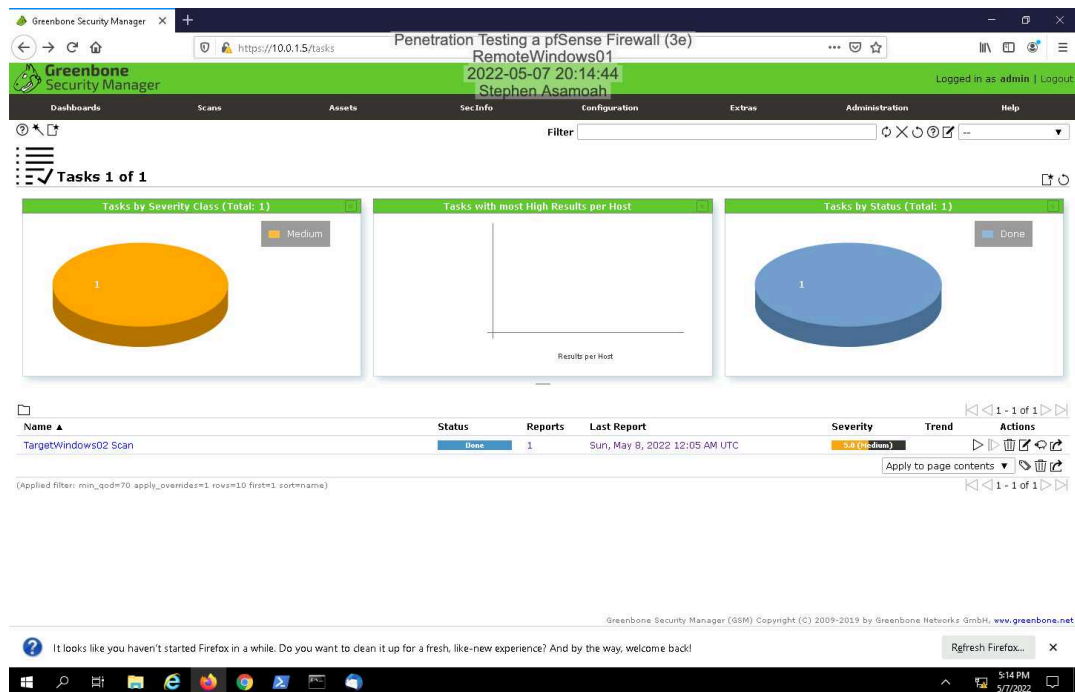
143/tcp open  tcpwrapped
445/tcp open  microsoft-ds Microsoft Windows Server 2008 R2 - 2012 microsoft-ds
587/tcp open  tcpwrapped
3389/tcp open  ms-wbt-server Microsoft Terminal Services
5901/tcp open  vnc VNC (protocol 3.8)
1 service unrecognized despite returning data. If you know the service/version, please submit the
following fingerprint at https://nmap.org/cgi-bin/submit.cgi?new-service :
SF-Port53-TCP:V=7.80%I=7%D=5/7%OT=62770568%P=x86_64-pc-linux-gnu%r(DNSVe
SF:rsionBindReqTCP,20,"\0\x1e\0\x06\x81\x04\0\x01\0\0\0\0\0\0\0\x07version\x
SF:04bind\0\0\x10\0\x03");
No exact OS matches for host (If you know what OS is running on it, see https://nmap.org/submit/ )
.
TCP/IP fingerprint:
OS:SCAN(V=7.80%E=4%D=5/7%OT=53%CT=1%CU=33873%PV=N%DS=3%DC=I%G=Y%TM=627705F7
OS:%P=x86_64-pc-linux-gnu)SEQ(SP=108%GCD=1%ISR=104%TI=I%II=I%SS=S%TS=U)OPS(
OS:O1=M5B4NW8NNS%O2=M5B4NW8NNS%O3=M5B4NW8%O4=M5B4NW8NNS%O5=M5B4NW8NNS%O6=M5
OS:B4NNS)WIN(W1=FFFF%W2=FFFF%W3=FFFF%W4=FFFF%W5=FFFF%W6=FF70)ECN(R=Y%DF=Y%T
OS:=80%W=FFFF%O=M5B4NW8NNS%CC=Y%Q=)T1(R=Y%DF=Y%T=80%S=O%A=S+%F=AS%RD=0%Q=)T
OS:2(R=N)T3(R=N)T4(R=N)T5(R=Y%DF=Y%T=80%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)T6(R=N
OS:)T7(R=N)U1(R=Y%DF=N%T=80%IPL=164%UN=0%RIPL=G%RID=G%RIPCK=G%RUCK=E600%RUD
OS:=G)IE(R=Y%DFI=N%T=80%CD=Z)

Network Distance: 3 hops
Service Info: OSs: Windows, Windows Server 2008 R2 - 2012; CPE: cpe:/o:microsoft:windows

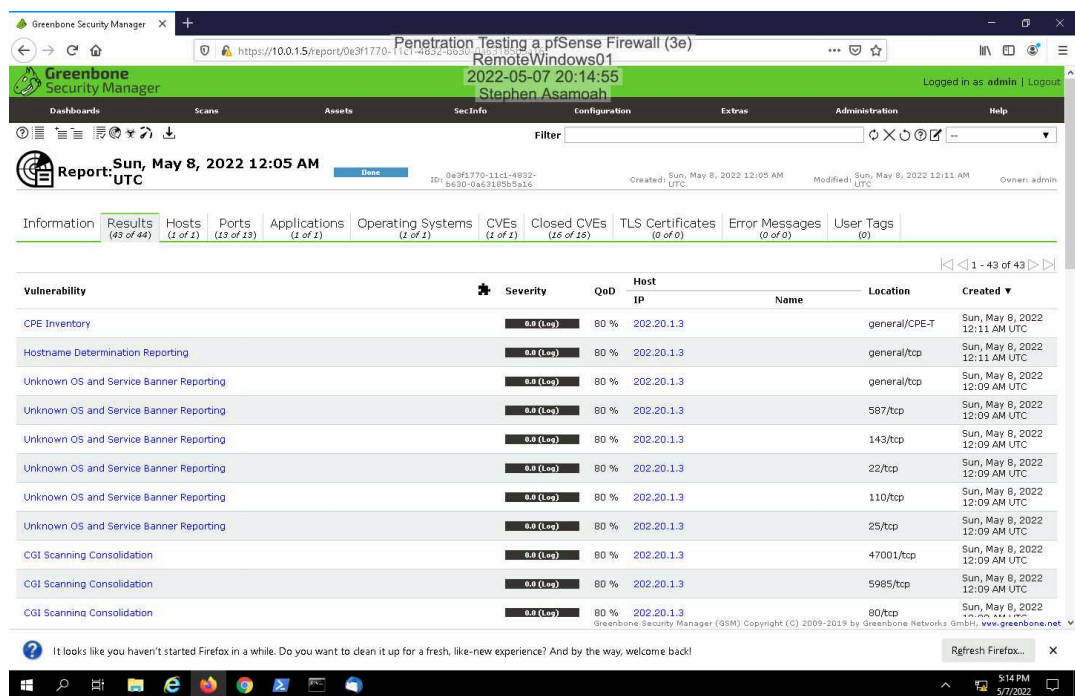
OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit
/ .
Nmap done: 1 IP address (1 host up) scanned in 173.45 seconds
root@AttackLinux01:~#
```

## Part 2: Conduct a Vulnerability Scan on the Network

## 12. Make a screen capture showing the OpenVAS scan report.



## 14. Make a screen capture showing the detailed OpenVAS scan results.





## Section 3: Challenge and Analysis

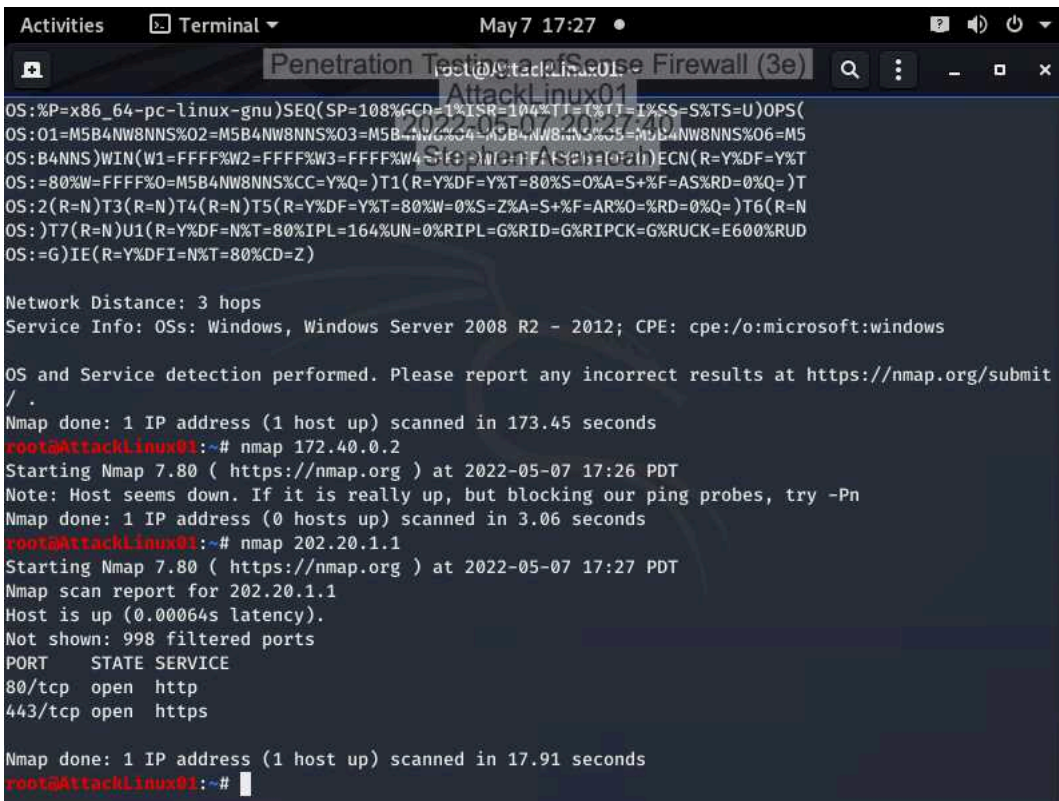
### Part 1: Research DMZ Deployment Best Practices

Before beginning the technical portion of your penetration test, you decide to spend some time brushing up on best practices and common mistakes for DMZ deployments - both the network aspect and the servers located therein. Use the Internet to **research** DMZ deployments, then **identify** three best practices and one potential mistake or vulnerability.

These are some of the 3 best DMZ deployment practices 1.Preserve isolation as much as possible 2.Practice good vulnerability management 3.Use application layer defenses for exposed services One potential mistake is Monitoring. The DMZ should be one of the major focus of an organization's network. IDS, systems logs and other tools must be used to remain vigilant for signs of attacks

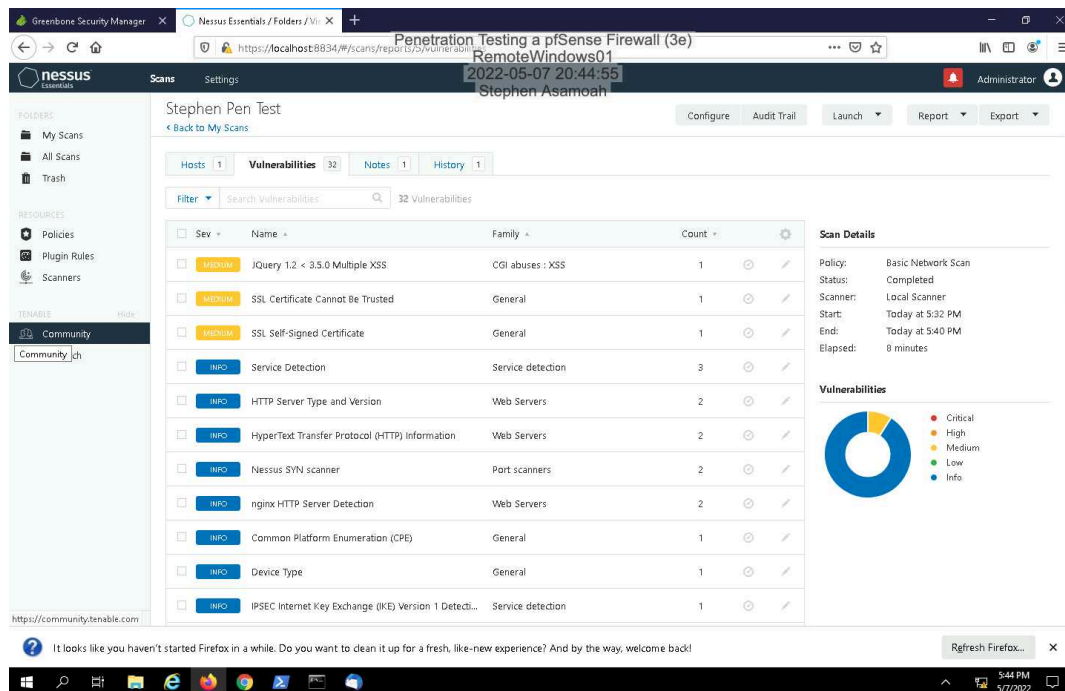
### Part 2: Conduct a Penetration Test on the DMZ

Make a screen capture showing the open ports on TargetLinux01 and the DMZ firewall interface.

A terminal window titled 'Terminal' with a date and time of 'May 7 17:27'. The terminal shows the output of an Nmap scan. The first scan is for '172.40.0.2' and the second is for '202.20.1.1'. The output for the second scan shows that the host is up and has two open ports: 80/tcp (http) and 443/tcp (https). The terminal text is as follows:

```
OS: %P=x86_64-pc-linux-gnu)SEQ(SP=108%GCP=1%ISR=104%TT=0%TT=I%SS=S%TS=U)OPS(
OS: O1=M5B4NW8NNS%O2=M5B4NW8NNS%O3=M5B4NW8NNS%O4=M5B4NW8NNS%O5=M5B4NW8NNS%O6=M5
OS: B4NNS)WIN(W1=FFFF%W2=FFFF%W3=FFFF%W4=FFFF%W5=FFFF%W6=FFFF%W7=FFFF%W8=FFFF%W9=FFFF%W10=FFFF%W11=FFFF%W12=FFFF%W13=FFFF%W14=FFFF%W15=FFFF%W16=FFFF%W17=FFFF%W18=FFFF%W19=FFFF%W20=FFFF%W21=FFFF%W22=FFFF%W23=FFFF%W24=FFFF%W25=FFFF%W26=FFFF%W27=FFFF%W28=FFFF%W29=FFFF%W30=FFFF%W31=FFFF%W32=FFFF%W33=FFFF%W34=FFFF%W35=FFFF%W36=FFFF%W37=FFFF%W38=FFFF%W39=FFFF%W40=FFFF%W41=FFFF%W42=FFFF%W43=FFFF%W44=FFFF%W45=FFFF%W46=FFFF%W47=FFFF%W48=FFFF%W49=FFFF%W50=FFFF%W51=FFFF%W52=FFFF%W53=FFFF%W54=FFFF%W55=FFFF%W56=FFFF%W57=FFFF%W58=FFFF%W59=FFFF%W60=FFFF%W61=FFFF%W62=FFFF%W63=FFFF%W64=FFFF%W65=FFFF%W66=FFFF%W67=FFFF%W68=FFFF%W69=FFFF%W70=FFFF%W71=FFFF%W72=FFFF%W73=FFFF%W74=FFFF%W75=FFFF%W76=FFFF%W77=FFFF%W78=FFFF%W79=FFFF%W80=FFFF%W81=FFFF%W82=FFFF%W83=FFFF%W84=FFFF%W85=FFFF%W86=FFFF%W87=FFFF%W88=FFFF%W89=FFFF%W90=FFFF%W91=FFFF%W92=FFFF%W93=FFFF%W94=FFFF%W95=FFFF%W96=FFFF%W97=FFFF%W98=FFFF%W99=FFFF%W100=FFFF%W101=FFFF%W102=FFFF%W103=FFFF%W104=FFFF%W105=FFFF%W106=FFFF%W107=FFFF%W108=FFFF%W109=FFFF%W110=FFFF%W111=FFFF%W112=FFFF%W113=FFFF%W114=FFFF%W115=FFFF%W116=FFFF%W117=FFFF%W118=FFFF%W119=FFFF%W120=FFFF%W121=FFFF%W122=FFFF%W123=FFFF%W124=FFFF%W125=FFFF%W126=FFFF%W127=FFFF%W128=FFFF%W129=FFFF%W130=FFFF%W131=FFFF%W132=FFFF%W133=FFFF%W134=FFFF%W135=FFFF%W136=FFFF%W137=FFFF%W138=FFFF%W139=FFFF%W140=FFFF%W141=FFFF%W142=FFFF%W143=FFFF%W144=FFFF%W145=FFFF%W146=FFFF%W147=FFFF%W148=FFFF%W149=FFFF%W150=FFFF%W151=FFFF%W152=FFFF%W153=FFFF%W154=FFFF%W155=FFFF%W156=FFFF%W157=FFFF%W158=FFFF%W159=FFFF%W160=FFFF%W161=FFFF%W162=FFFF%W163=FFFF%W164=FFFF%W165=FFFF%W166=FFFF%W167=FFFF%W168=FFFF%W169=FFFF%W170=FFFF%W171=FFFF%W172=FFFF%W173=FFFF%W174=FFFF%W175=FFFF%W176=FFFF%W177=FFFF%W178=FFFF%W179=FFFF%W180=FFFF%W181=FFFF%W182=FFFF%W183=FFFF%W184=FFFF%W185=FFFF%W186=FFFF%W187=FFFF%W188=FFFF%W189=FFFF%W190=FFFF%W191=FFFF%W192=FFFF%W193=FFFF%W194=FFFF%W195=FFFF%W196=FFFF%W197=FFFF%W198=FFFF%W199=FFFF%W200=FFFF%W201=FFFF%W202=FFFF%W203=FFFF%W204=FFFF%W205=FFFF%W206=FFFF%W207=FFFF%W208=FFFF%W209=FFFF%W210=FFFF%W211=FFFF%W212=FFFF%W213=FFFF%W214=FFFF%W215=FFFF%W216=FFFF%W217=FFFF%W218=FFFF%W219=FFFF%W220=FFFF%W221=FFFF%W222=FFFF%W223=FFFF%W224=FFFF%W225=FFFF%W226=FFFF%W227=FFFF%W228=FFFF%W229=FFFF%W230=FFFF%W231=FFFF%W232=FFFF%W233=FFFF%W234=FFFF%W235=FFFF%W236=FFFF%W237=FFFF%W238=FFFF%W239=FFFF%W240=FFFF%W241=FFFF%W242=FFFF%W243=FFFF%W244=FFFF%W245=FFFF%W246=FFFF%W247=FFFF%W248=FFFF%W249=FFFF%W250=FFFF%W251=FFFF%W252=FFFF%W253=FFFF%W254=FFFF%W255=FFFF%W256=FFFF%W257=FFFF%W258=FFFF%W259=FFFF%W260=FFFF%W261=FFFF%W262=FFFF%W263=FFFF%W264=FFFF%W265=FFFF%W266=FFFF%W267=FFFF%W268=FFFF%W269=FFFF%W270=FFFF%W271=FFFF%W272=FFFF%W273=FFFF%W274=FFFF%W275=FFFF%W276=FFFF%W277=FFFF%W278=FFFF%W279=FFFF%W280=FFFF%W281=FFFF%W282=FFFF%W283=FFFF%W284=FFFF%W285=FFFF%W286=FFFF%W287=FFFF%W288=FFFF%W289=FFFF%W290=FFFF%W291=FFFF%W292=FFFF%W293=FFFF%W294=FFFF%W295=FFFF%W296=FFFF%W297=FFFF%W298=FFFF%W299=FFFF%W300=FFFF%W301=FFFF%W302=FFFF%W303=FFFF%W304=FFFF%W305=FFFF%W306=FFFF%W307=FFFF%W308=FFFF%W309=FFFF%W310=FFFF%W311=FFFF%W312=FFFF%W313=FFFF%W314=FFFF%W315=FFFF%W316=FFFF%W317=FFFF%W318=FFFF%W319=FFFF%W320=FFFF%W321=FFFF%W322=FFFF%W323=FFFF%W324=FFFF%W325=FFFF%W326=FFFF%W327=FFFF%W328=FFFF%W329=FFFF%W330=FFFF%W331=FFFF%W332=FFFF%W333=FFFF%W334=FFFF%W335=FFFF%W336=FFFF%W337=FFFF%W338=FFFF%W339=FFFF%W340=FFFF%W341=FFFF%W342=FFFF%W343=FFFF%W344=FFFF%W345=FFFF%W346=FFFF%W347=FFFF%W348=FFFF%W349=FFFF%W350=FFFF%W351=FFFF%W352=FFFF%W353=FFFF%W354=FFFF%W355=FFFF%W356=FFFF%W357=FFFF%W358=FFFF%W359=FFFF%W360=FFFF%W361=FFFF%W362=FFFF%W363=FFFF%W364=FFFF%W365=FFFF%W366=FFFF%W367=FFFF%W368=FFFF%W369=FFFF%W370=FFFF%W371=FFFF%W372=FFFF%W373=FFFF%W374=FFFF%W375=FFFF%W376=FFFF%W377=FFFF%W378=FFFF%W379=FFFF%W380=FFFF%W381=FFFF%W382=FFFF%W383=FFFF%W384=FFFF%W385=FFFF%W386=FFFF%W387=FFFF%W388=FFFF%W389=FFFF%W390=FFFF%W391=FFFF%W392=FFFF%W393=FFFF%W394=FFFF%W395=FFFF%W396=FFFF%W397=FFFF%W398=FFFF%W399=FFFF%W400=FFFF%W401=FFFF%W402=FFFF%W403=FFFF%W404=FFFF%W405=FFFF%W406=FFFF%W407=FFFF%W408=FFFF%W409=FFFF%W410=FFFF%W411=FFFF%W412=FFFF%W413=FFFF%W414=FFFF%W415=FFFF%W416=FFFF%W417=FFFF%W418=FFFF%W419=FFFF%W420=FFFF%W421=FFFF%W422=FFFF%W423=FFFF%W424=FFFF%W425=FFFF%W426=FFFF%W427=FFFF%W428=FFFF%W429=FFFF%W430=FFFF%W431=FFFF%W432=FFFF%W433=FFFF%W434=FFFF%W435=FFFF%W436=FFFF%W437=FFFF%W438=FFFF%W439=FFFF%W440=FFFF%W441=FFFF%W442=FFFF%W443=FFFF%W444=FFFF%W445=FFFF%W446=FFFF%W447=FFFF%W448=FFFF%W449=FFFF%W450=FFFF%W451=FFFF%W452=FFFF%W453=FFFF%W454=FFFF%W455=FFFF%W456=FFFF%W457=FFFF%W458=FFFF%W459=FFFF%W460=FFFF%W461=FFFF%W462=FFFF%W463=FFFF%W464=FFFF%W465=FFFF%W466=FFFF%W467=FFFF%W468=FFFF%W469=FFFF%W470=FFFF%W471=FFFF%W472=FFFF%W473=FFFF%W474=FFFF%W475=FFFF%W476=FFFF%W477=FFFF%W478=FFFF%W479=FFFF%W480=FFFF%W481=FFFF%W482=FFFF%W483=FFFF%W484=FFFF%W485=FFFF%W486=FFFF%W487=FFFF%W488=FFFF%W489=FFFF%W490=FFFF%W491=FFFF%W492=FFFF%W493=FFFF%W494=FFFF%W495=FFFF%W496=FFFF%W497=FFFF%W498=FFFF%W499=FFFF%W500=FFFF%W501=FFFF%W502=FFFF%W503=FFFF%W504=FFFF%W505=FFFF%W506=FFFF%W507=FFFF%W508=FFFF%W509=FFFF%W510=FFFF%W511=FFFF%W512=FFFF%W513=FFFF%W514=FFFF%W515=FFFF%W516=FFFF%W517=FFFF%W518=FFFF%W519=FFFF%W520=FFFF%W521=FFFF%W522=FFFF%W523=FFFF%W524=FFFF%W525=FFFF%W526=FFFF%W527=FFFF%W528=FFFF%W529=FFFF%W530=FFFF%W531=FFFF%W532=FFFF%W533=FFFF%W534=FFFF%W535=FFFF%W536=FFFF%W537=FFFF%W538=FFFF%W539=FFFF%W540=FFFF%W541=FFFF%W542=FFFF%W543=FFFF%W544=FFFF%W545=FFFF%W546=FFFF%W547=FFFF%W548=FFFF%W549=FFFF%W550=FFFF%W551=FFFF%W552=FFFF%W553=FFFF%W554=FFFF%W555=FFFF%W556=FFFF%W557=FFFF%W558=FFFF%W559=FFFF%W560=FFFF%W561=FFFF%W562=FFFF%W563=FFFF%W564=FFFF%W565=FFFF%W566=FFFF%W567=FFFF%W568=FFFF%W569=FFFF%W570=FFFF%W571=FFFF%W572=FFFF%W573=FFFF%W574=FFFF%W575=FFFF%W576=FFFF%W577=FFFF%W578=FFFF%W579=FFFF%W580=FFFF%W581=FFFF%W582=FFFF%W583=FFFF%W584=FFFF%W585=FFFF%W586=FFFF%W587=FFFF%W588=FFFF%W589=FFFF%W590=FFFF%W591=FFFF%W592=FFFF%W593=FFFF%W594=FFFF%W595=FFFF%W596=FFFF%W597=FFFF%W598=FFFF%W599=FFFF%W600=FFFF%W601=FFFF%W602=FFFF%W603=FFFF%W604=FFFF%W605=FFFF%W606=FFFF%W607=FFFF%W608=FFFF%W609=FFFF%W610=FFFF%W611=FFFF%W612=FFFF%W613=FFFF%W614=FFFF%W615=FFFF%W616=FFFF%W617=FFFF%W618=FFFF%W619=FFFF%W620=FFFF%W621=FFFF%W622=FFFF%W623=FFFF%W624=FFFF%W625=FFFF%W626=FFFF%W627=FFFF%W628=FFFF%W629=FFFF%W630=FFFF%W631=FFFF%W632=FFFF%W633=FFFF%W634=FFFF%W635=FFFF%W636=FFFF%W637=FFFF%W638=FFFF%W639=FFFF%W640=FFFF%W641=FFFF%W642=FFFF%W643=FFFF%W644=FFFF%W645=FFFF%W646=FFFF%W647=FFFF%W648=FFFF%W649=FFFF%W650=FFFF%W651=FFFF%W652=FFFF%W653=FFFF%W654=FFFF%W655=FFFF%W656=FFFF%W657=FFFF%W658=FFFF%W659=FFFF%W660=FFFF%W661=FFFF%W662=FFFF%W663=FFFF%W664=FFFF%W665=FFFF%W666=FFFF%W667=FFFF%W668=FFFF%W669=FFFF%W670=FFFF%W671=FFFF%W672=FFFF%W673=FFFF%W674=FFFF%W675=FFFF%W676=FFFF%W677=FFFF%W678=FFFF%W679=FFFF%W680=FFFF%W681=FFFF%W682=FFFF%W683=FFFF%W684=FFFF%W685=FFFF%W686=FFFF%W687=FFFF%W688=FFFF%W689=FFFF%W690=FFFF%W691=FFFF%W692=FFFF%W693=FFFF%W694=FFFF%W695=FFFF%W696=FFFF%W697=FFFF%W698=FFFF%W699=FFFF%W700=FFFF%W701=FFFF%W702=FFFF%W703=FFFF%W704=FFFF%W705=FFFF%W706=FFFF%W707=FFFF%W708=FFFF%W709=FFFF%W710=FFFF%W711=FFFF%W712=FFFF%W713=FFFF%W714=FFFF%W715=FFFF%W716=FFFF%W717=FFFF%W718=FFFF%W719=FFFF%W720=FFFF%W721=FFFF%W722=FFFF%W723=FFFF%W724=FFFF%W725=FFFF%W726=FFFF%W727=FFFF%W728=FFFF%W729=FFFF%W730=FFFF%W731=FFFF%W732=FFFF%W733=FFFF%W734=FFFF%W735=FFFF%W736=FFFF%W737=FFFF%W738=FFFF%W739=FFFF%W740=FFFF%W741=FFFF%W742=FFFF%W743=FFFF%W744=FFFF%W745=FFFF%W746=FFFF%W747=FFFF%W748=FFFF%W749=FFFF%W750=FFFF%W751=FFFF%W752=FFFF%W753=FFFF%W754=FFFF%W755=FFFF%W756=FFFF%W757=FFFF%W758=FFFF%W759=FFFF%W760=FFFF%W761=FFFF%W762=FFFF%W763=FFFF%W764=FFFF%W765=FFFF%W766=FFFF%W767=FFFF%W768=FFFF%W769=FFFF%W770=FFFF%W771=FFFF%W772=FFFF%W773=FFFF%W774=FFFF%W775=FFFF%W776=FFFF%W777=FFFF%W778=FFFF%W779=FFFF%W780=FFFF%W781=FFFF%W782=FFFF%W783=FFFF%W784=FFFF%W785=FFFF%W786=FFFF%W787=FFFF%W788=FFFF%W789=FFFF%W790=FFFF%W791=FFFF%W792=FFFF%W793=FFFF%W794=FFFF%W795=FFFF%W796=FFFF%W797=FFFF%W798=FFFF%W799=FFFF%W800=FFFF%W801=FFFF%W802=FFFF%W803=FFFF%W804=FFFF%W805=FFFF%W806=FFFF%W807=FFFF%W808=FFFF%W809=FFFF%W810=FFFF%W811=FFFF%W812=FFFF%W813=FFFF%W814=FFFF%W815=FFFF%W816=FFFF%W817=FFFF%W818=FFFF%W819=FFFF%W820=FFFF%W821=FFFF%W822=FFFF%W823=FFFF%W824=FFFF%W825=FFFF%W826=FFFF%W827=FFFF%W828=FFFF%W829=FFFF%W830=FFFF%W831=FFFF%W832=FFFF%W833=FFFF%W834=FFFF%W835=FFFF%W836=FFFF%W837=FFFF%W838=FFFF%W839=FFFF%W840=FFFF%W841=FFFF%W842=FFFF%W843=FFFF%W844=FFFF%W845=FFFF%W846=FFFF%W847=FFFF%W848=FFFF%W849=FFFF%W850=FFFF%W851=FFFF%W852=FFFF%W853=FFFF%W854=FFFF%W855=FFFF%W856=FFFF%W857=FFFF%W858=FFFF%W859=FFFF%W860=FFFF%W861=FFFF%W862=FFFF%W863=FFFF%W864=FFFF%W865=FFFF%W866=FFFF%W867=FFFF%W868=FFFF%W869=FFFF%W870=FFFF%W871=FFFF%W872=FFFF%W873=FFFF%W874=FFFF%W875=FFFF%W876=FFFF%W877=FFFF%W878=FFFF%W879=FFFF%W880=FFFF%W881=FFFF%W882=FFFF%W883=FFFF%W884=FFFF%W885=FFFF%W886=FFFF%W887=FFFF%W888=FFFF%W889=FFFF%W890=FFFF%W891=FFFF%W892=FFFF%W893=FFFF%W894=FFFF%W895=FFFF%W896=FFFF%W897=FFFF%W898=FFFF%W899=FFFF%W900=FFFF%W901=FFFF%W902=FFFF%W903=FFFF%W904=FFFF%W905=FFFF%W906=FFFF%W907=FFFF%W908=FFFF%W909=FFFF%W910=FFFF%W911=FFFF%W912=FFFF%W913=FFFF%W914=FFFF%W915=FFFF%W916=FFFF%W917=FFFF%W918=FFFF%W919=FFFF%W920=FFFF%W921=FFFF%W922=FFFF%W923=FFFF%W924=FFFF%W925=FFFF%W926=FFFF%W927=FFFF%W928=FFFF%W929=FFFF%W930=FFFF%W931=FFFF%W932=FFFF%W933=FFFF%W934=FFFF%W935=FFFF%W936=FFFF%W937=FFFF%W938=FFFF%W939=FFFF%W940=FFFF%W941=FFFF%W942=FFFF%W943=FFFF%W944=FFFF%W945=FFFF%W946=FFFF%W947=FFFF%W948=FFFF%W949=FFFF%W950=FFFF%W951=FFFF%W952=FFFF%W953=FFFF%W954=FFFF%W955=FFFF%W956=FFFF%W957=FFFF%W958=FFFF%W959=FFFF%W960=FFFF%W961=FFFF%W962=FFFF%W963=FFFF%W964=FFFF%W965=FFFF%W966=FFFF%W967=FFFF%W968=FFFF%W969=FFFF%W970=FFFF%W971=FFFF%W972=FFFF%W973=FFFF%W974=FFFF%W975=FFFF%W976=FFFF%W977=FFFF%W978=FFFF%W979=FFFF%W980=FFFF%W981=FFFF%W982=FFFF%W983=FFFF%W984=FFFF%W985=FFFF%W986=FFFF%W987=FFFF%W988=FFFF%W989=FFFF%W990=FFFF%W991=FFFF%W992=FFFF%W993=FFFF%W994=FFFF%W995=FFFF%W996=FFFF%W997=FFFF%W998=FFFF%W999=FFFF%W1000=FFFF%W1001=FFFF%W1002=FFFF%W1003=FFFF%W1004=FFFF%W1005=FFFF%W1006=FFFF%W1007=FFFF%W1008=FFFF%W1009=FFFF%W1010=FFFF%W1011=FFFF%W1012=FFFF%W1013=FFFF%W1014=FFFF%W1015=FFFF%W1016=FFFF%W1017=FFFF%W1018=FFFF%W1019=FFFF%W1020=FFFF%W1021=FFFF%W1022=FFFF%W1023=FFFF%W1024=FFFF%W1025=FFFF%W1026=FFFF%W1027=FFFF%W1028=FFFF%W1029=FFFF%W1030=FFFF%W1031=FFFF%W1032=FFFF%W1033=FFFF%W1034=FFFF%W1035=FFFF%W1036=FFFF%W1037=FFFF%W1038=FFFF%W1039=FFFF%W1040=FFFF%W1041=FFFF%W1042=FFFF%W1043=FFFF%W1044=FFFF%W1045=FFFF%W1046=FFFF%W1047=FFFF%W1048=FFFF%W1049=FFFF%W1050=FFFF%W1051=FFFF%W1052=FFFF%W1053=FFFF%W1054=FFFF%W1055=FFFF%W1056=FFFF%W1057=FFFF%W1058=FFFF%W1059=FFFF%W1060=FFFF%W1061=FFFF%W1062=FFFF%W1063=FFFF%W1064=FFFF%W1065=FFFF%W1066=FFFF%W1067=FFFF%W1068=FFFF%W1069=FFFF%W1070=FFFF%W1071=FFFF%W1072=FFFF%W1073=FFFF%W1074=FFFF%W1075=FFFF%W1076=FFFF%W1077=FFFF%W1078=FFFF%W1079=FFFF%W1080=FFFF%W1081=FFFF%W1082=FFFF%W1083=FFFF%W1084=FFFF%W1085=FFFF%W1086=FFFF%W1087=FFFF%W1088=FFFF%W1089=FFFF%W1090=FFFF%W1091=FFFF%W1092=FFFF%W1093=FFFF%W1094=FFFF%W1095=FFFF%W1096=FFFF%W1097=FFFF%W1098=FFFF%W1099=FFFF%W1100=FFFF%W1101=FFFF%W1102=FFFF%W1103=FFFF%W1104=FFFF%W1105=FFFF%W1106=FFFF%W1107=FFFF%W1108=FFFF%W1109=FFFF%W1110=FFFF%W1111=FFFF%W1112=FFFF%W1113=FFFF%W1114=FFFF%W1115=FFFF%W1116=FFFF%W1117=FFFF%W1118=FFFF%W1119=FFFF%W1120=FFFF%W1121=FFFF%W1122=FFFF%W1123=FFFF%W1124=FFFF%W1125=FFFF%W1126=FFFF%W1127=FFFF%W1128=FFFF%W1129=FFFF%W1130=FFFF%W1131=FFFF%W1132=FFFF%W1133=FFFF%W1134=FFFF%W1135=FFFF%W1136=FFFF%W1137=FFFF%W1138=FFFF%W1139=FFFF%W1140=FFFF%W1141=FFFF%W1142=FFFF%W1143=FFFF%W1144=FFFF%W1145=FFFF%W1146=FFFF%W1147=FFFF%W1148=FFFF%W1149=FFFF%W1150=FFFF%W1151=FFFF%W1152=FFFF%W1153=FFFF%W1154=FFFF%W1155=FFFF%W1156=FFFF%W1157=FFFF%W1158=FFFF%W1159=FFFF%W1160=FFFF%W1161=FFFF%W1162=FFFF%W1163=FFFF%W1164=FFFF%W1165=FFFF%W1166=FFFF%W1167=FFFF%W1168=FFFF%W1169=FFFF%W1170=FFFF%W1171=FFFF%W1172=FFFF%W1173=FFFF%W1174=FFFF%W1175=FFFF%W1176=FFFF%W1177=FFFF%W1178=FFFF%W1179=FFFF%W1180=FFFF%W1181=FFFF%W1182=FFFF%W1183=FFFF%W1184=FFFF%W1185=FFFF%W1186=FFFF%W1187=FFFF%W1188=FFFF%W1189=FFFF%W1190=FFFF%W1191=FFFF%W1192=FFFF%W1193=FFFF%W1194=FFFF%W1195=FFFF%W1196=FFFF%W1197=FFFF%W1198=FFFF%W1199=FFFF%W1200=FFFF%W1201=FFFF%W1202=FFFF%W1203=FFFF%W1204=FFFF%W1205=FFFF%W1206=FFFF%W1207=FFFF%W1208=FFFF%W1209=FFFF%W1210=FFFF%W1211=FFFF%W1212=FFFF%W1213=FFFF%W1214=FFFF%W1215=FFFF%W1216=FFFF%W1217=FFFF%W1218=FFFF%W1219=FFFF%W1220=FFFF%W1221=FFFF%W1222=FFFF%W1223=FFFF%W1224=FFFF%W1225=FFFF%W1226=FFFF%W1227=FFFF%W1228=FFFF%W1229=FFFF%W1230=FFFF%W1231=FFFF%W1232=FFFF%W1233=FFFF%W1234=FFFF%W1235=FFFF%W1236=FFFF%W1237=FFFF%W1238=FFFF%W1239=FFFF%W1240=FFFF%W1241=FFFF%W1242=FFFF%W1243=FFFF%W1244=FFFF%W1245=FFFF%W1246=FFFF%W1247=FFFF%W1248=FFFF%W1249=FFFF%W1250=FFFF%W1251=FFFF%W1252=FFFF%W1253=FFFF%W1254=FFFF%W1255=FFFF%W1256=FFFF%W1257=FFFF%W1258=FFFF%W1259=FFFF%W1260=FFFF%W1261=FFFF%W1262=FFFF%W1263=FFFF%W1264=FFFF%W1265=FFFF%W1266=FFFF%W1267=FFFF%W1268=FFFF%W1269=FFFF%W1270=FFFF%W1271=FFFF%W1272=FFFF%W1273=FFFF%W1274=FFFF%W1275=FFFF%W1276=FFFF%W1277=FFFF%W1278=FFFF%W1279=FFFF%W1280=FFFF%W1281=FFFF%W1282=FFFF%W1283=FFFF%W1284=FFFF%W1285=FFFF%W1286=FFFF%W1287=FFFF%W1288=FFFF%W1289=FFFF%W1290=FFFF%W1291=FFFF%W1292=FFFF%W1293=FFFF%W1294=FFFF%W1295=FFFF%W1296=FFFF%W1297=FFFF%W1298=FFFF%W1299=FFFF%W1300=FFFF%W1301=FFFF%W1302=FFFF%W1303=FFFF%W1304=FFFF%W1305=FFFF%W1306=FFFF%W1307=FFFF%W1308=FFFF%W1309=FFFF%W1310=FFFF%W1311=FFFF%W1312=FFFF%W1313=FFFF%W1314=FFFF%W1315=FFFF%W1316=FFFF%W1317=FFFF%W1318=FFFF%W1319=FFFF%W1320=FFFF%W1321=FFFF%W1322=FFFF%W1323=FFFF%W1324=FFFF%W1325=FFFF%W1326=FFFF%W1327=FFFF%W1328=FFFF%W1329=FFFF%W1330=FFFF%W1331=FFFF%W1332=FFFF%W1333=FFFF%W1334=FFFF%W1335=FFFF%W1336=FFFF%W1337=FFFF%W1338=FFFF%W1339=FFFF%W1340=FFFF%W1341=FFFF%W1342=FFFF%W1343=FFFF%W1344=FFFF%W1345=FFFF%W1346=FFFF%W1347=FFFF%W1348=FFFF%W1349=FFFF%W1350=FFFF%W1351=FFFF%W1352=FFFF%W1353=FFFF%W1354=FFFF%W1355=FFFF%W1356=FFFF%W1357=FFFF%W1358=FFFF%W1359=FFFF%W1360=FFFF%W1361=FFFF%W1362=FFFF%W1363=FFFF%W1364=FFFF%W1365=FFFF%W1366=FFFF%W1367=FFFF%W1368=FFFF%W1369=FFFF%W1370=FFFF%W1371=FFFF%W1372=FFFF%W1373=FFFF%W1374=FFFF%W1375=FFFF%W1376=FFFF%W1377=FFFF%W1378=FFFF%W1379=FFFF%W1380=FFFF%W1381=FFFF%W1382=FFFF%W1383=FFFF%W1384=FFFF%W1385=FFFF%W1386=FFFF%W1387=FFFF%W1388=FFFF%W1389=FFFF%W1390=FFFF%W1391=FFFF%W1392=FFFF%W1393=FFFF%W1394=FFFF%W1395=FFFF%W1396=FFFF%W1397=FFFF%W1398=FFFF%W1399=FFFF%W1400=FFFF%W1401=FFFF%W1402=FFFF%W1403=FFFF%W1404=FFFF%W1405=FFFF%W1406=FFFF%W1407=FFFF%W1408=FFFF%W1409=FFFF%W1410=FFFF%W1411=FFFF%W1412=FFFF%W1413=FFFF%W1414=FFFF%W1415=FFFF%W1416=FFFF%W1417=FFFF%W1418=FFFF%W1419=FFFF%W1420=FFFF%W1421=FFFF%W1422=FFFF%W1423=FFFF%W1424=FFFF%W1425=FFFF%W1426=FFFF%W1427=FFFF%W1428=FFFF%W1429=FFFF%W1430=FFFF%W1431=FFFF%W1432=FFFF%W1433=FFFF%W1434=FFFF%W1435=FFFF%W1436=FFFF%W1437=FFFF%W1438=FFFF%W1439=FFFF%W1440=FFFF%W1441=FFFF%W1442=FFFF%W1443=FFFF%W1444=FFFF%W1445=FFFF%W1446=FFFF%W1447=FFFF%W1448=FFFF%W1449=FFFF%W1450=FFFF%W1451=FFFF%W1452=FFFF%W1453=FFFF%W1454=FFFF%W1455=FFFF%W1456=FFFF%W1457=FFFF%W1458=FFFF%W1459=FFFF%W1460=FFFF%W1461=FFFF%W1462=FFFF%W1463=FFFF%W1464=FFFF%W1465=FFFF%W1466=FFFF%W1467=FFFF%W1468=FFFF%W1469=FFFF%W1470=FFFF%W1471=FFFF%W1472=FFFF%W1473=FFFF%W1474=FFFF%W1475=FFFF%W1476=FFFF%W1477=FFFF%W1478=FFFF%W1479=FFFF%W1480=FFFF%W1481=FFFF%W1482=FFFF%W1483=FFFF%W1484=FFFF%W1485=FFFF%W1486=FFFF%W1487=FFFF%W1488=FFFF%W1489=FFFF%W1490=FFFF%W1491=FFFF%W1492=FFFF%W1493=FFFF%W1494=FFFF%W1495=FFFF%W1496=FFFF%W1497=FFFF%W1498=FFFF%W1499=FFFF%W1500=FFFF%W1501=FFFF%W1502=FFFF%W1503=FFFF%W1504=FFFF%W1505=FFFF%W1506=FFFF%W1507=FFFF%W1508=FFFF%W1509=FFFF%W1510=FFFF%W1511=FFFF%W1512=FFFF%W1513=FFFF%W1514=FFFF%W1515=FFFF%W1516=FFFF%W1517=FFFF%W1518=FFFF%W1519=FFFF%W1520=FFFF%W1521=FFFF%W1522=FFFF%W1523=FFFF%W1524=FFFF%W1525=FFFF%W1526=FFFF%W1527=FFFF%W1528=FFFF%W1529=FFFF%W1530=FFFF%W1531=FFFF%W1532=FFFF%W1533=FFFF%W1534=FFFF%W1535=FFFF%W1536=FFFF%W1537=FFFF%W1538=FFFF%W1539=FFFF%W1540=FFFF%W1541=FFFF%W1542=FFFF%W1543=FFFF%W1544=FFFF%W1545=FFFF%W1546=FFFF%W1547=FFFF%W1548=FFFF%W1549=FFFF%W1550=FFFF%W1551=FFFF%W1552=FFFF%W1553=FFFF%W1554=FFFF%W1555=FFFF%W1556=FFFF%W1557=FFFF%W1558=FFFF%W1559=FFFF%W1560=FFFF%W1561=FFFF%W1562=FFFF%W1563=FFFF%W1564=FFFF%W1565=FFFF%W1566=FFFF%W1567=FFFF%W1568=FFFF%W1569=FFFF%W1570=FFFF%W1571=FFFF%W1572=FFFF%W1573=FFFF%W1574=FFFF%W1575=FFFF%W1576=FFFF%W1577=FFFF%W1578=FFFF%W1579=FFFF%W1580=FFFF%W1581=FFFF%W1582=FFFF%W1583=FFFF%W1584=FFFF%W1585=FFFF%W1586=FFFF%W1587=FFFF%W1588=FFFF
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Make a screen capture showing the vulnerability scan results.



## Part 3: Recommend Changes to the DMZ

Based on your research in Part 1 and your findings in Part 2, **prepare a brief summary** of recommended changes that Secure Labs on Demand should make to their DMZ deployment. Remember, your recommendations should apply to both the network configuration and the web server.

There should be regular software update on the server. For example, we saw in the vulnerability results that, the JQuery hosted on the remote server needs an update. Failure to perform system updates and patches is a major vulnerability to network security. Secure Lab on demand should also ensure they are using better SSL certificate