



# Project A – OS and Networking

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# Executive Summary

- Upgrading a client's IT system by installing:
  - New firewall, CEO PC, Webserver, DNS server,
  - and some Linux machines for monitoring and conducting cybersecurity related tasks.

## Execution: What I Created

- Created and configured virtual machines with new network.
- Creating a new user account on the web server.
- Verified trusted network can't be pinged by untrusted network.
- Designed security baseline for the server.
- This reduced cost and met client's operational needs.

# Problems Identified and Their Resolution

Problem	Solution
<ul style="list-style-type: none"><li>Initially couldn't connect to internet on CEO's PC<ul style="list-style-type: none"><li>- IPv4 settings misconfigured.</li></ul></li></ul>	<ul style="list-style-type: none"><li>Manually configured the correct IP and DNS Server address</li><li>Fixed network inconnection problem</li><li>Able to visit "<a href="http://www.seclab.net">www.seclab.net</a>" with firefox afterwards.</li></ul>

# Problems Identified and Their Resolution – Cont'd



**Editing Auto eth2**

Connection name: Auto eth2

☐ Connect automatically

☐ Available to all users

Wired 802.1x Security **IPv4 Settings** IPv6 Settings

Method: Automatic (DHCP)

**Addresses**

Address	Netmask	Gateway

Add

Delete

DNS servers:

Search domains:

DHCP client ID: 192.168.0.1

☒ Require IPv4 addressing for this connection to complete

Routes...

Cancel Apply

## Problems Identified and Their Resolution – Cont'd

Problem	Solution
<ul style="list-style-type: none"><li>• Unable perform port scans on DNS, webserver in Kali Linux.</li></ul>	<ul style="list-style-type: none"><li>• Utilized "sudo su" command.</li><li>• Perform port scans on the DNS, Web servers.</li></ul>

# Problems Identified and Their Resolution – Cont'd

```
kali@kali: ~  
File Actions Edit View Help  
valid_lft forever preferred_lft forever  
kali@kali:~$ nmap -sO 10.200.0.11  
You requested a scan type which requires root privileges.  
QUITTING!  
kali@kali:~$ nmap -sS 10.200.0.11 -O  
You requested a scan type which requires root privileges.  
QUITTING!  
kali@kali:~$ sudo -s  
[sudo] password for kali:  
root@kali:/home/kali# nmap -sS 10.200.0.11 -O  
Starting Nmap 7.80 ( https://nmap.org ) at 2020-11-01 19:17 EST  
Nmap scan report for ns1.seclab.net (10.200.0.11)  
Host is up (0.00071s latency).  
Not shown: 998 closed ports  
PORT      STATE SERVICE  
22/tcp    open  ssh  
53/tcp    open  domain  
Device type: general purpose  
Running: Linux 2.6.X  
OS CPE: cpe:/o:linux:linux_kernel:2.6.32  
OS details: Linux 2.6.32  
Network Distance: 2 hops  
  
OS detection performed. Please report any incorrect results at https://nmap.org/submit/ .  
Nmap done: 1 IP address (1 host up) scanned in 1.70 seconds  
root@kali:/home/kali#
```



# Recommendations

- Update Firewall software periodically.
- Use secured passwords.
- Company wide password resets every 6 months.





Thanks!!

Any Questions!

