ICT, Cyber Security Portfolio

Mohammed Nasser Alshukaili.

ICT, Fontys University of Applied Sciences.

Cyber Security, Semester 4.

2022

Contents

[INTRODUCTION 3](#_Toc117498396)

[Background 3](#_Toc117498397)

[LEARNING OUTCOMES 5](#_Toc117498398)

[Ethical Hacker 5](#_Toc117498399)

[Risk Consultant 5](#_Toc117498400)

[Security Engineer 5](#_Toc117498401)

[Security Analyst 5](#_Toc117498402)

[Security Professional 5](#_Toc117498403)

[PERSONAL PROJECTS 5](#_Toc117498404)

[PVI 5](#_Toc117498405)

[Internship 5](#_Toc117498406)

[PSP 5](#_Toc117498407)

[Overall Conclusion and Reflection 5](#_Toc117498408)

# INTRODUCTION

## Background

#### What was your relevant prior knowledge and experience on security, Linux and networking or what did you do to obtain this knowledge?

I only studied security in the first semester at Fontys ICT, there was a course called Infrastructure Engineering, it was super interesting for me, and I enjoyed it the most. However, I made the biggest mistake when I did not choose it for my profile. I chose media design for personal reasons.

I know that I made big mistake by not going to that path, but I did not let it stop me from learning that subject by myself. I asked some friends that studied Infrastructure about their course content, and I decided to self-study everything that is related to this side of IT. I subscribed to <https://tryhackme.com/> to learn about security, Linux, networking, and other cool stuff. I chose this path to learn because the website offers courses and exercises at the same time. I also got to learn good things throughout my media design journey as it introduced me to the web and how it works. I got so good at JavaScript which would definitely help me in my security journey.

#### What was your preferred learning style. Why?

I think it was always self-studying. Why? Because when you self-study something, there will be no pressure on you that slows you down from learning new things. I spent my holidays at home learning new things. When I had to leave home, I always wait until I go back to learning, this is how I know that I enjoy self-studying too much.

Also, this method works for me because there is no one is waiting for you to submit this assignment before the deadline, I was just going as the perfect pace for me.

I used to hate reading to learn, but this method helped me to love looking up new things and be patient to get better.

Nevertheless, school is as important as that. Because school gives me the real-life experience. In 6 months, I will be doing this stuff for a company as an intern, I would not be able to gain this experience only from the online courses.

#### What motivated you to join cyber security?

Curiosity.

For my profile (media design), it was about building websites and being creative to design and all this was repetitive. I did not find myself enjoying doing the same job for every assignment.

When I studied Cyber Security at home, I found out that it consists of endless information that I can obtain. Also, whenever I solved a problem, I found myself curious about how to solve the next problem, this was how I kept learning non-stop. Therefore, I chose Cyber Security as my specialisation.

#### What are your strengths and weaknesses? (Use these to develop your personal development goals.)

|  |  |
| --- | --- |
| **Strength** | **Weakness** |
| * Curiosity * Patience * Hard worker * Enthusiasm * Able to use the computer for so long without stopping | * Doing research * Referencing * Presenting * Lack of experience |

This semester, I will show the thing that I am good at. On the other hand, I will improve the weaknesses that I am struggling with.

# LEARNING OUTCOMES

## Ethical Hacker

This subject was new for me, and I was excited the most about it. I got familiar with this concept using online open-source website called DVWA. That website introduced me to the ethical hacking concept. I did good at it, I managed to complete most of the exercises.

I got to find vulnerabilities in many websites. Some of the vulnerabilities are SQL injections, Cross-Site scripting, file inclusion, Brute force, and many more.

I am proud of the successful hacks that I did against vulnerable websites. However, this is not enough to be a professional hacker. Next step is to extend my skills to more secure websites.

I thought ethical hacking was going to be the path that I want. However, I found something that is more suitable for me, which is blue teaming.

## Risk Consultant

As a cyber security specialist, I need to learn how to analyse the risk of most of the vulnerabilities to provide a secure system.

This subject introduced me to some of online threats and how to deal with them.

It also explained to me the CIA triad which is an integral part of any cyber security direction.

I did 2 research about this subject that helped me to gain a better view of the security of the internet.

However, I need to experience online threats in real life to help me more to analyse the risk and come up with solutions. This can be done by working at a tech company as an intern.

I believe that security threats can be avoided by continuously pen testing the system.

Try to reach the vulnerabilities of the system before the black hat hackers do.

## Security Engineer

I am enjoying this subject the most. I learned how firewalls work, and I learned how to secure networks by implementing everything I learned on my private network.

As I was learning firewalls, I also learned how to pass firewalls, this gets me closer to know how the hackers think.

I learned about VPN which is a great tool for working remotely. I always wondered how remote jobs can allow the employees to work from home and VPN was the answer.

I used an open-source package called OpenVPN to connect my private network with outsiders.

Intrusion detection and prevention system (IDS/IPS) is a great tool to implement beside the firewalls.

It helps to detect and block malicious data that the firewall did not know about. I got to implement IDS on both a network and a host, HIDS is important to work against frauds that are already passed the firewall and the NIDS.

I secured my web server using the ModSecurity tool that was made for web application firewall.

This tool uses thousands of lines to prevent hackers from exploiting most of the web application vulnerabilities.

I figured out that this is the path that I want to take as a cyber security student. I enjoyed implementing firewalls and VPN connections. I also liked coming up with new ways to stop the hackers from gaining access for my system.

## Security Analyst

## Security Professional

# PERSONAL PROJECTS

## PVI

## Internship

## PSP

# Overall Conclusion and Reflection