

#My3MTT
#3MTTWeeklyReflection
@3MTTNigeria
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Summary of what I learned from last week's cybersecurity course, focusing on key concepts, practical applications, and some code snippets.

Key Concepts Covered:

1. Network Security:

- **Firewalls:** Configuring and managing firewall rules to control incoming and outgoing network traffic.
- **Intrusion Detection Systems (IDS):** Implementing IDS to monitor network traffic for suspicious activities.

2. Cryptography:

- **Symmetric and Asymmetric Encryption:** Understanding the differences and using cases for each.
- **Hash Functions:** Using hash functions to ensure data integrity.

3. Security Information and Event Management (SIEM):

- **Log Management:** Collecting and analyzing logs from various sources to detect potential security incidents.
- **Incident Response:** Steps to take when a security breach is detected.

Practical Applications:

- **Python for Cybersecurity:**

- Writing scripts to automate security tasks such as scanning open ports and checking for vulnerabilities.

Code Snippets:

Here's a simple Python script to scan for open ports on a given IP address:

Python

```
import socket

def scan_ports(ip):
    open_ports = []
    for port in range (1, 1025):
        sock = socket.socket(socket.AF_INET,
socket.SOCK_STREAM)
        sock.settimeout(1)
        result = sock.connect_ex((ip, port))
        if result == 0:
            open_ports.append(port)
        sock.close()
    return open_ports

ip_address = '192.168.1.1'
open_ports = scan_ports(ip_address)
print(f"Open ports on {ip_address}: {open_ports}")
```

Design Work:

Below is a basic network architecture diagram showing the placement of firewalls, IDS, and SIEM systems:



Network Architecture

Screenshots:

Above is a screenshot of Network architecture

Here are some screenshots from the course:

1. **Firewall Configuration:** Firewall Configuration
2. **SIEM Dashboard:** SIEM Dashboard

This summary encapsulates the core learnings and practical applications from last week's cybersecurity course. Including code snippets and design work helps demonstrate the hands-on experience gained.