

Week 3 Reflection

This week's lecture focused on **authentication and password security**, emphasizing the importance of verifying user identities to protect systems and data. The topics covered included **why authentication is necessary**, **password management**, **threats to passwords**, **preventive measures**, **two-factor authentication (2FA)**, and **SMS-based 2FA**.

What I Learned

- I understood why **authentication is critical** for ensuring that only authorized users can access sensitive information.
- Learning about **passwords** highlighted the importance of creating strong, unique credentials and the risks associated with weak or reused passwords.
- I explored various **threats to passwords**, including brute-force attacks, phishing, keylogging, and credential stuffing.
- **Preventive measures** like password policies, hashing, salting, and account lockout mechanisms were discussed to mitigate these threats.
- I learned how **two-factor authentication (2FA)** adds an additional layer of security beyond passwords, improving overall account protection.
- **SMS-based 2FA** was explained as a common but sometimes vulnerable method of second-factor authentication.

Challenges Faced

- Understanding the technical details of **hashing and salting** required careful attention.
- Evaluating the **strengths and weaknesses of different 2FA methods**, especially SMS-based 2FA, was initially confusing.

Reflection and Personal Growth

- This week reinforced the idea that **authentication is a critical part of cybersecurity**, and passwords alone are often insufficient.

- I realized the importance of **layered security** and adopting best practices like 2FA to protect accounts from evolving threats.
- The lectures motivated me to **review my personal accounts** and ensure that strong passwords and 2FA are applied wherever possible.

Next Steps

- I plan to **practice setting up 2FA** on different platforms to understand how it works in real scenarios.
- I will explore **advanced authentication methods** such as authenticator apps and hardware tokens.
- I aim to **connect these concepts with previous lessons** on network security and the CIA triad to see how authentication contributes to overall security.