

CYBERSECURITY DAILY DAIRY

Day 13: Cryptography and Capture The Flag Challenges (July 2, 2025)

Topics Covered:

- Basics of Cryptography.
- TryHackMe CTF module.
- Steganography with Steghide and spectrograms.
- Concept of Security Through Obscurity.

What I Did:

I practiced cryptography and steganography through **TryHackMe CTF challenges**. I decoded messages, hid data in files using **Steghide** and **audio spectrograms**, and learned about **security through obscurity**.

TryHackMe Module: Capture the Flag

1. **Decode and Translate Challenges:** Decoded Base64, hexadecimal, ROT13, Caesar Cipher with **CyberChef**.
2. **Hidden Data in Audio using Spectrograms:** Used **Audacity** to find hidden messages in audio files by viewing spectrograms.
3. **Steganography using Steghide:** Embedded text into images with **Steghide** using a passphrase, and extracted it.
4. **Security Through Obscurity:** Learned that hiding flaws isn't enough; proper crypto and access control are needed.

Key Learnings:

- Basic encryption is essential for CTFs.
- CyberChef simplifies decoding.
- Steganography offers covert communication.
- Spectrograms can hide/extract messages from audio.
- Security needs sound practices, not just hiding.