



In []: Training Day 2 Report- 24 June 2025

Introduction

On Day 2 we focused on networking fundamentals which underpin nearly all cybersecurity work. Understanding how systems communicate, how packets traverse networks, and how addressing works is essential for effective reconnaissance and later exploitation. The trainer framed networking knowledge as both an investigative tool and as a source of signals.

Key Concepts Discussed

We examined the OSI and TCP/IP models, explaining layered responsibilities from physical connectivity through application protocols. IP addressing and subnetting were covered, with emphasis on how address allocation affects discovery and segmentation. Distinctions between TCP and UDP, common port numbers, and basic packet flow concepts were clarified.

Lab Preparation in Theory

The theoretical lab plan included configuring virtual network interfaces, creating subnets for test VMs, and simulating simple client-server setups. We discussed how to safely capture traffic on an isolated network and how to interpret packet captures to identify protocols and services.

Practical Understanding (Theory)

We reviewed common network troubleshooting commands and their purposes conceptually: how ICMP helps test reachability, what traceroute reveals about path hopping, and how ARP relates to local link mapping. The class discussed how these concepts apply to reconnaissance and how defenders can monitor for abnormal traffic patterns.

Key Takeaways

Networking models help structure thought when analyzing systems. Basic address ranges, ports, and protocol knowledge allow ethical hackers to map target environments effectively while defenders can use the same knowledge to detect unusual behaviors.

Conclusion

Network fundamentals were reinforced as a building block for scanning and reconnaissance. The next class will focus on reconnaissance techniques and OSINT.