

## Exercise 1

# Introduction to Ethical Hacking + System Fundamentals + Cryptography + Footprinting

### Assignment 1 (Discussion):

Pair up, and discuss the following topics from today's lesson:

- Introduction to Ethical Hacking
  - The evolution of hacking
  - What is an ethical hacker
- System fundamentals
  - Network topologies
  - TCP/IP
  - MAC
  - IP & IDS
  - Operating systems
  - Backup
- Cryptography
  - Applications of cryptography
  - Symmetric and asymmetric cryptography
  - Working with hashing
  - Purposes of keys
  - Types of algorithms
  - Key management issues
- Footprinting
  - IP address ranges
  - Namespaces
  - Employee information
  - Phone numbers
  - Facility information
  - Job information

### Assignment 2 (Group work):

Go through the review questions of Chapter 1 + 2 + 3 + 4. For each question, discuss and see if you can agree on the answer, before checking with the answers section.

### Assignment 3 (MAC addresses):

Exercise 2.1 in chapter 2.

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*Exercise1.docx*

### Assignment 4 (Footprinting tools):

All exercises in chapter 4: 4.1, 4.2, 4.3, 4.4, 4.5.

Further, test other tools mentioned in the book/slides (except PoliteMail) – write down your results.

Potential targets:

Mark Zuckerberg (CEO facebook)

Alexander Tayler (former CEO, Cambridge analytica)

Donald Trump (US president)

Yourself ☺

### Assignment 5 (Zip file cracking):

Create password protected zip files using Archive Manager in Kali Linux. Try both weak and strong passwords.

Crack the zip files using John The Ripper, and potentially a wordlist, e.g. rockyou.txt, that can be found online.

In order to get the hash from the zip file, run zip2john first, and pipe (>) into a .hash file.

### Assignment 6 (Videos):

Maltego intro 1: [https://www.youtube.com/watch?v=sP-PI\\_SRQVo](https://www.youtube.com/watch?v=sP-PI_SRQVo)

Maltego intro 2: [https://www.youtube.com/watch?v=wx4mEQZM\\_0s](https://www.youtube.com/watch?v=wx4mEQZM_0s)