

IT Security course

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NET 2

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October 10, 2016



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# Chapter 1

## NET 2

### 1.1 Introduction

### 1.2 Handin

Being late, you'll get the note 0/20. Don't be late!

## 1.3 Instructions

Here is what you *MUST* respect to do your work:

1. If a list of function is given at the beginning of the exercise, you can *ONLY* use these for that exercise.
2. If no function name is listed at the beginning of an exercise, you can use any function you want for that exercise.
3. The sign `>`, in the exemples, represents the prompt of your shell. The line where you can write inputs.
4. You can do the work on team of 2 people max if you want. Only one will give a tarball back with both names in the file AUTHORS.
5. You *MUST* give back a tarball using template name: *your\_lastname.tar.bz2*
6. Your tarball must be clean. No binaries, temporary files, ... or any other files than the ones asked.
7. Your solutions to the exercises *MUST* run on GNU/Linux 32bits machines using Debian-like operating systems (Ubuntu is OK).
8. A dirty tarball will give you 0/20.
9. Being late when handing the tarbal will give you 0/20.

The tarball you'll be giving back must looks like this (using *tree* command):

```
$ tree your_lastname
your_lastname
|-- ANSWERS
|-- AUTHORS
|-- ex1
|   --- port_knocking.nse
|-- ex2
|   --- dnsbruteforce.nse
|-- ex3
|   --- dnsbruteforce.rb
|   --- port_knocking.rb
--- README
```

3 directories, 7 files

- ANSWERS contains your answers (questions out of exercises).
- AUTHORS contains you firstname + lastname (and the ones of your mates if you work in team).
- README contains comments on how you did the exercises. Short sentences are enough.

Hints:

- Remember to use the *man* command!
- Read the outputs from the computer, it helps!

## 1.4 NSE : nmap scripting

Scripting for nmap will give you more possibilities to get informations from a remote computer.

See <http://nmap.org/book/nse.html> for the official how to write a nmap script.

## 1.5 Exercise 0: Learn

Learn how to use the tools. Read the manuals of the tools. Try them on you computer and try to understand what you are seeing when running them on you network card interface.

Remember to use *tcpdump* to debug your work.



## 1.6 Exercise 1: Simulated port knocking

Using a nmap script, write a script to simulate a port knocking system.

Use this sequence :

- knock on port 12567 with a UDP packet.
- knock on port 3615 with a TCP packet.
- knock on port 1617 with a UDP packet.
- knock on port 3617 with a TCP packet.
- knock on port 22000 with a UDP packet.

But only if the system has a SSH server running on it (port 22, version 5.x).

Write the script in a file named *port\_knocking.nse*.

## 1.7 Exercise 2: DNS Bruteforce

Using a nmap script, write a script to discover at least 5 DNS FQDN<sup>1</sup> names from the domain written on the blackboard.

Exemples are :

- www.unmondelibre.fr
- smtp.unmondelibre.fr

Of course, the exemples cannot be part of the 5 FQDN you have to find.

Write the script in a file named *dnsbruteforce.nse*.

---

<sup>1</sup>Fully Qualified Domain Name

## 1.8 Exercise 3: Advanced Exploitation

Do the 2 previous exercises using <http://www.metasploit.com/> (Community version).

Write the module you created in files named *port\_knocking.rb* and *dnsbruteforce.rb*.



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