Ethical Hacking
A.A. 2024/2025
Course Introduction

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WHOIS: Daniele Friolo

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Computer Science department - Sapienza University of Rome

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G24 Room, G Building, via Regina Elena 295

Office Hours: by appointment.

I do research on Cryptography, in particular:

multi-party computation, zero-knowledge, advanced encryption schemes, blockchain applications.

WHOIS: Davide Guerri (LAB)

Currently employed by Google Italy 🇮🇹, worked in the UK 🇬🇧 for 10 years

17+ years of experience in the Cybersecurity industry

G Security Engineering at Google, Italy

G Site Reliability Engineering Manager (Cybersecurity) at Google, UK

∞ Production Engineering Manager (Cybersecurity) at Facebook/Meta UK

Education

First Level Master in Security - Department of Computer Science, La Sapienza

Master in Computer Science - La Sapienza

davide.guerri@uniroma1.it

Office Hours: by appointment.

Textbook

The course is based on the following textbook:

Title: Hacking exposed 7 : Network Security Secrets & Solutions

Authors: George Kurtz, Joel Scambray, Stuart McClure

Publisher: McGraw-Hill (2012)

ISBN-10: 0071780289

ISBN-13: 978-0071780285

Topics Covered

- Footprinting
- Scanning
- Enumeration
- Advanced Persistent Threats
- Hacking:
  - **Web (LAB)**
  - **Unix (LAB)**
  - Remote and VOIP
  - Wireless
  - Hardware
  - Windows
  - Mobile

Classes - Theory

Tuesdays and Wednesdays 8am to 10 am

Aula 1L, Via del Castro Laurenziano 7a

- Covers the topics of the previous slides in a conceptual and theoretical fashion

Classes - Ethical Hacking Lab

Fridays 8am to 11am - Aula 15, Via Tiburtina 205

- Get a theoretical understanding of hacking techniques, focusing on UNIX

- Practice hacking tools and techniques

- Learn to think and act like a red-teamer and defend like a blue-teamer

Classes - Ethical Hacking Lab

Topics

- Vulnerabilities
- Remote access
- Web security
- Hacking Unix (Lat Mov/PE, exploiting insecure configurations, …)
- Linux Binary exploitation

NOTE: Bring your laptop

- More info on the lab, and how to set up your lab environment this Friday (February 28th)

Updated slides will be published 1-2 days before lessons, on the ETH website (see next slide)

Class material and communications

https://t.ly/Hj5GY

Fill this Google form to be added to our Google Group (**now!**)
- ○ to have visualization rights to open the course website
  - https://sites.google.com/a/di.uniroma1.it/ethical-hacking/
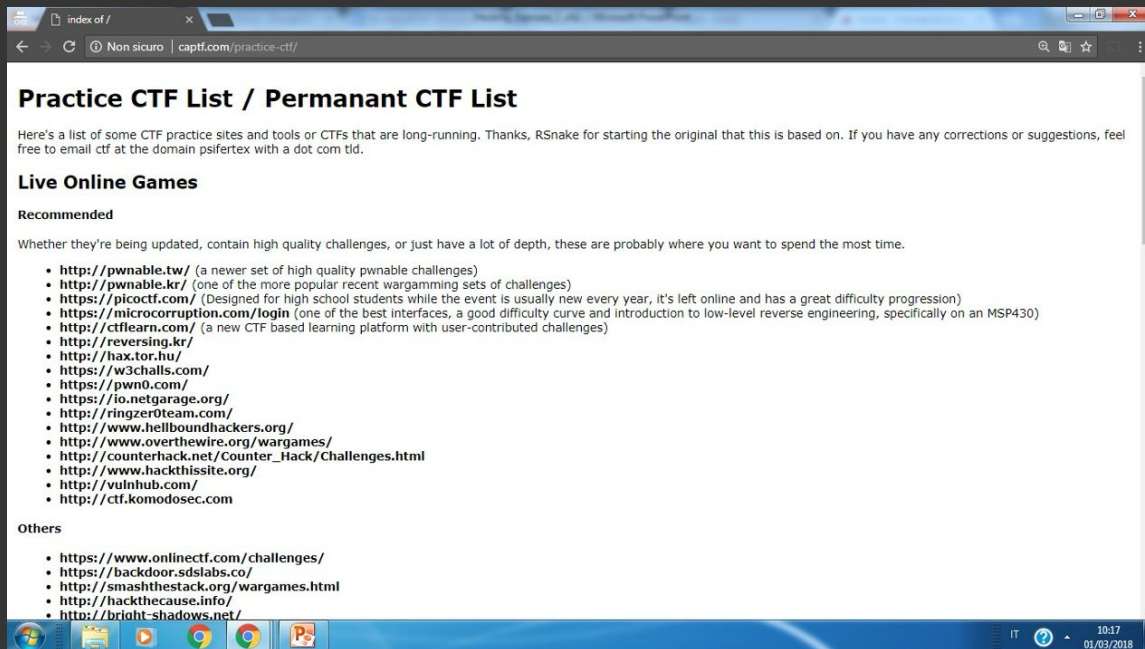- ○ to receive official communications and events invites
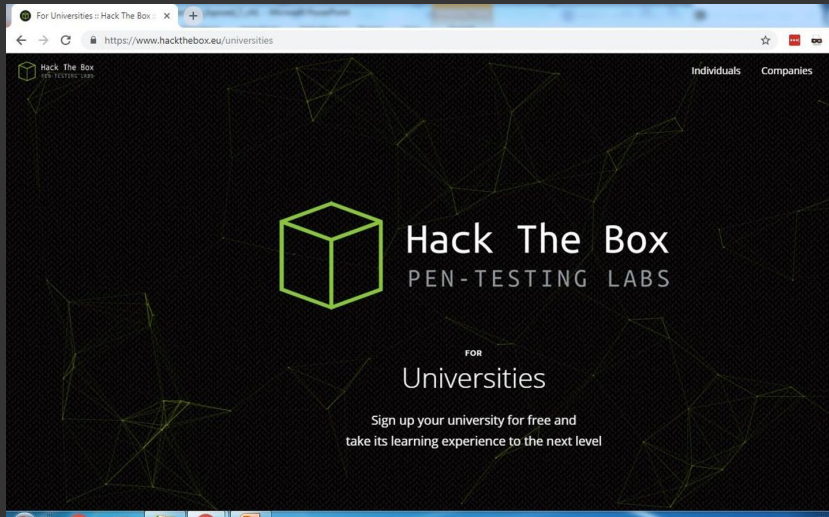
https://t.ly/lZ9wR

- ○ join the ETH Telegram channel to stay updated on the latest communications.
- ○ particularly useful for Lab

Hacking Labs

HackTheBox

Join the <u>Sapienza Hack the Box</u> (HtB Labs) team

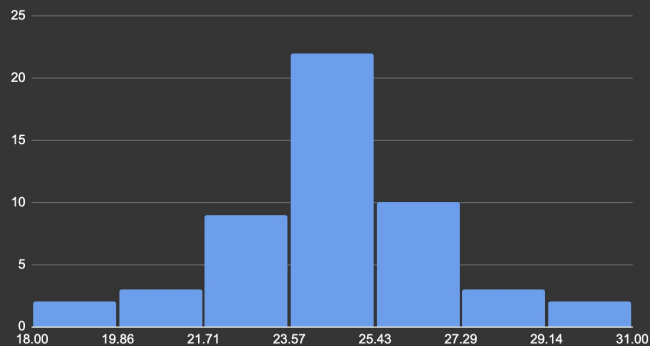Students who exceed <u>45 points</u> will be awarded **+1** bonus point on the exam

- More info on the first Lab lesson
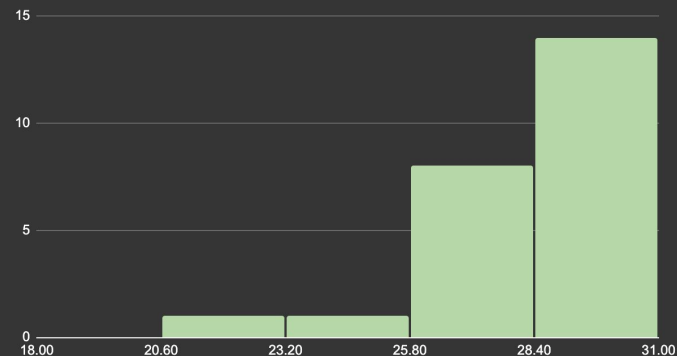
The importance of training

- Training with **HackTheBox**, **CTFs** and **TryHackMe** have a meaningful impact on your preparation for the final exam

Istogramma

Istogramma

- No HTB
  - 24/87 rejected - 27%
  - Mean (passed): 24.5
  - Median (passed): 24

- Yes HTB (+45 points)
  - 1/31 rejected - 3%
  - Mean (passed): 28.8
  - Median (passed): 30

Ethical Hacking 2024/2025

12

Student evaluation criteria

- **Lab Project - Optional -** More details on the first Lab lesson
  - 49% of the final grade (if submitted)
- **Written Exam**
  - 51% of the final grade (if Lab Project is submitted)
  - 100% of the final grade (if Lab Project is **NOT** submitted)

✅ The exam is conducted in person on the Exam.net platform.

🖥️ You need to **bring your laptop or tablet for the written exam!**

Common Q&A

"The amount of study material is humongous. What can I do?"

    ❌ Rote memorization won't help–unless you're a memory champion!

    ✅ Best approach: Practice hands-on! Use platforms like TryHackMe and

Hack The Box to reinforce what you're studying.

"The exercises are too hard for me!"

    💡 Solution: Training, training, and more training!

    🔹 Lab classes and consistent practice will make you bulletproof.

Common Q&A

"Will my Lab Project grade carry over to the next academic year?"

✅ Yes, as long as the ETH teaching team remains unchanged, your Lab Project grade will be retained.

⚠️ However, we **strongly encourage** you to complete everything within the current academic year.