

# CyberSecurity: Principle and Practice

*BSc Degree in Computer Science  
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## Lesson 2: Intro to Exercise Settings

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DIPARTIMENTO  
**MATEMATICA**

- highly recommended Ubuntu
  - a Virtual Machine is enough
  - it allows you to focus on the exercises and not on installation issues



- set of CTF provided in each lesson
- CTF = Capture the Flag
  - a code / program with security vulnerabilities
  - by exploiting a vulnerability, you obtain a flag
- several languages to study
  - Python, js, C, ...



- each set of exercise focuses on a specific vulnerability threat
  - different difficulty levels
- we provide additional hints
  - help you if you are stuck



1. You are given a challenge
2. You identify the macro-area
  - a. e.g., web, crypto
  - b. they can be also combined
3. You define a set of suitable vulnerabilities (injection, ...)
4. You search on Google how to do it  
(how to SQL injection,...)
5. Repeat until you solve it



- Sometimes there are multiple ways to hack
- Try to keep open multiple solutions
- In particular for complex systems

Additional games are available online at [PicoCTF](#)



# Questions? Feedback? Suggestions?



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