Operating Systems Security

General information about this course

Radboud University Nijmegen, The Netherlands

Winter 2015/2016

About this course

- Lecture (hoorcollege): Tuesday, 10:30–12:30 in HG00.062.
- Exercise class (werkcollege): Wednesday , 10:30–12:30 in HG00.616.
- Exam on Tuesday, January 19, 12:30–15:30 in LIN 1
  (12:30–16:30 in HG00.068 for students with extra time)
- Exam grade is your final grade for this course
- 3 EC points
- Website:
  https://cryptojedi.org/peter/teaching/os-security-2015.shtml
- Language of the lectures: English

Teachers

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Homework

- Homework assignments will be online (at the latest) tuesday morning
- Homework assignments are due Wednesday (one week later) by midnight (sharp!)
- Homework submission through Blackboard
- Homework submission in groups of 2 (preferably)
- Grading of homework in **g**, **v**, **o**, and **NSI**
- Grading has no effect on final grade, but:

  More than one NSI and you're not admitted to the exam!

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- Practical Exercises will mainly use Linux
- Some exercises will use vulnerability scanners and penetration-testing tools
  - Nessus
  - Metasploit
  - ...

Examples of what you will learn

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- How authentication and authorization works (and fails)
- How processes are separated
- How the OS helps to make memory attacks harder
- Why traditional UNIX security is insufficient today
- Malware and how it hides from malware scanners
- How operating-systems can be “hardened”

Disclaimer

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- You’re grown up, use your skills responsibly
- If you want to try something out, get consent

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- In the homework, don’t break anything that others still need
- Be careful when attacking your own machine:
  - Make sure that you attack the *virtual* machine
  - Make sure that the attack only affects the virtual machine