STI
MEI/MIEBIOM

2022/2023

Practical Class #0

Our goals

- Security in electronic mail (PGP)
- PKI with OpenSSL
- VPN with OpenVPN
- Firewalls (packet filters, application–layer firewalls)
- Programming and security
- Security auditing (application–layer, remote and local auditing)
- Wireless network security
- Intrusion detection and prevention
- Web application security

Reference operating system: Linux CentOS 7

Evaluation

Lab projects: 12 in 20 points (practical component)

- Minimum of 40% on the overall projects

- Three (3) projects in groups of 2 (mandatory)

- Projects with defense (mandatory)

Planning (Labs & Projects)

06-Feb-23	Electronic mail security using PGP
13-Feb-23	Certification Authorities using OpenSSL
20-Feb-23	VPNs using OpenVPN
27-Feb-23	Practical Assignment 1 (support)
06-Mar-23	Practical Assignment 1 (defences)
13-Mar-23	Firewalls using IPTables (system)
20-Mar-23	Firewalls using IPTables (network)
27-Mar-23	Intrusion Detection and Prevention
03-Apr-23	*Ester Break*
10-Apr-23	Practical Assignment 2 (support)
17-Apr-23	Practical Assignment 2 (defences)
24-Apr-23	Web Security
01-May-23	Web Application Firewalls
08-May-23	Practical Assignment 3 (support)
15-May-23	Practical Assignment 3 (defences)

Plagiarism

- Plagiarism implies exclusion from course ("Não Admitido")

- UC has tools (URKUND) available to detect plagiarism

Documentation for practical classes

- Manual pages, tutorials, FAQs
- On-line (product) documentation (e.g. site of OpenVPN, etc)
- Book: Segurança Prática em Sistemas e Redes com Linux, Jorge Granjal, FCA 2017
- Book: Gestão de Sistemas e Redes em Linux, Jorge Granjal, FCA 2013
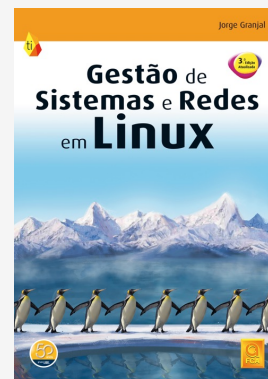
Contacts

Lecture (Theory and Practical classes)

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Lecture (Practical classes - PLs)

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Relevant information

Software for Virtualization:

- **VirtualBox,** available at**:**

  https://www.virtualbox.org/wiki/Downloads

- **VmWare desktop / VmWare Fusion**, available at:

  https://helpdesk.dei.uc.pt/

Linux Distribution to use:

- **CentOS 7** (for the majority of the classes), available at:

  https://centos.org/download/

- **Kali Linux** (auditing and web application security), available at:

  https://www.kali.org/get-kali/