Course introduction

Network Infrastructures labs

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Basic infos

- **Instructor details:**
  - Name: Marco Spaziani Brunella
  - e-mail: marco.spaziani.brunella@uniroma2.it
  - Office (La Sapienza): DIET - Networking Lab
  - Office (Tor Vergata): Information Engineering - SDN/NFV Lab
  - Office hours: Only on appointment (most of the question will be answered after the lecture)

Material

- **Links:**
  - Course main page ▸ Link
  - Labs page ▸ Link

On the Labs page you can find contact infos, lecture diary, material (e.g. Kathara labs) and some misc stuff. Check it periodically!

Course Objective

The aim of the course is to give the necessary knowledge to configure and manage LANs & WANs under Unix-like OSs.

You will be faced with problem sets and assignments that resemble very common situations in a system administrator's everyday life.

We will use a framework called Kathara, developed by Uniroma3, which allows to emulate a switching environment under Linux.

In order to take the most out of the course, is strongly recommended to actually write the commands, not just copy & paste.

Course tentative program (not necessarily in order)

- Linux Introduction
- Kathara Round-Up
- Physical interfaces and MAC addressing
- Static IP addressing & DHCP
- Network debug tools
- Static IP routing & OSPF
- iptables
- SSH
- x509 & VPN
- DNS

Examination methods

The examination consists in 3 **homeworks** assigned at day d and due to day $d + 4$ (96 hours). This deadline is **sharp** (check server time).
The homeworks need to be uploaded to your course upload form (be sure to be on your course page).You can find the link on the Labs page.
Homeworks on emails are ignored.
During the labs you can achieve a maximum of **22 points**. Points are divided as follows:

- First homework $\rightarrow$ 4 points
- Second homework $\rightarrow$ 6 points + 1 extra point
- Third homework $\rightarrow$ 8 points + 2 extra points

Extra points are related to something not necessarily covered in lectures $\rightarrow$ use any tool to complete them!
Homeworks are recursive, the $i - th$ homework can contain some concept that were present also on some $j < i$ homework.

Class policy

- Personal Computer needed in every lecture
- Regular attendance is essential and expected, although not formally required
- Work groups are allowed, although are strongly discouraged

Communication disclaimer

I've been, I'm and I'll always be a student, so I know how frustrating is not getting answers to e-mails. But consider that the instructor is:

- M/M/1 Markov chain
- Made with flesh, just like you

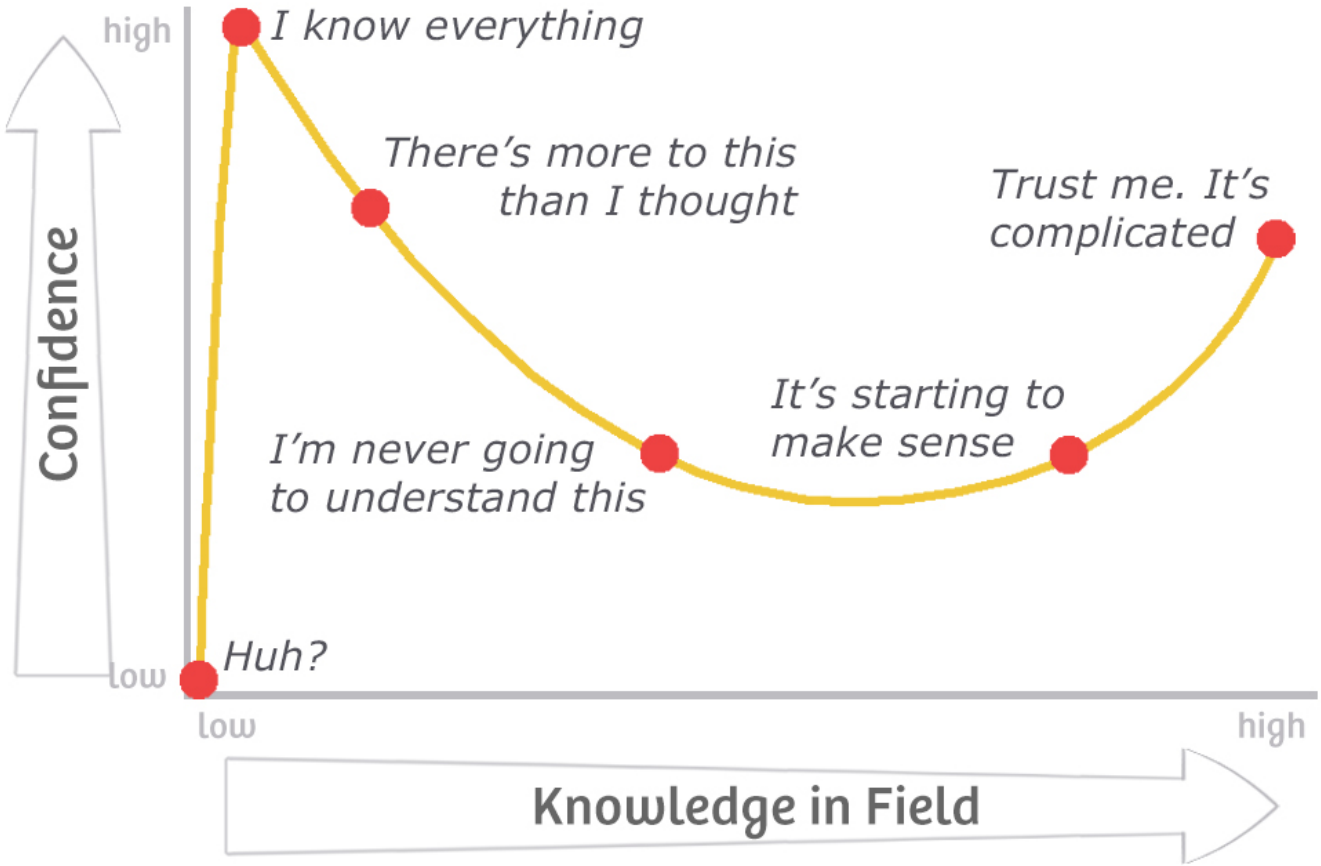
As a general rule, I will not answer to single e-mails regarding homeworks in real-time (but in a useful time hopefully).
Great minds think alike, so if you encounter a problem, many of your colleagues will do so.
I will cluster questions and answer on the mailing list $\rightarrow$ Just wait ☺

Mailing list

A mailing list is a multicast tool $\rightarrow$ easy to generate panic

- **How to use the mailing list**
  - Logistic problems (e.g. I'm stuck at the metro, You have to be away for university projects, ...)
  - Intra-student communications (avoid surveys $\rightarrow$ use doodles instead)
- **How to NOT use the mailing list**
  - "I didn't understand the point in the homework where you ask.." $\rightarrow$ this is called a thread and you should send an e-mail to me
  - Answer to someone who asked something related to the homework on the mailing list (you may be wrong, see next slide $\rightarrow$ panic)

Dunning–Kruger effect



Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments, Kruger J. & Dunning D., Journal of Personality and Social Psychology, January 2000