

Computer Networks

Introduction to the practical sessions

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When booting the computers, choose “FreeBSD”, and then login with:
Username: “root”
Password: “root./”

The goal of the practical sessions is to manipulate network elements in order to reuse and understand concepts from the course. We will manipulate both physical elements (routers, switches, cables) and logical elements (packet capture, encapsulation, protocols. . .) of networks.

1 Report

For each practical session, you must write a report. The reports will be graded, and the practical sessions will be worth one third of your final grade for the course. When you work in small groups, we expect a single report for each group, but please make sure that the person who writes the report is not always the same. The report should be a document in a readable format: plain text, markdown, ODT, LaTeX, PDF. . .

Each report must be sent by email to your teacher: aya.younes@inria.fr or olivier.hureau@univ-grenoble-alpes.fr. Please send your report the same day as the practical session (that is, you can finish writing the report at home, but only just after the practical session).

If you prefer hand-writing your reports, you can hand them out to the teacher at the end of each practical session, or scan them and send them by email.

In your reports, you should answer all questions, and explain any difficulties you encounter during the practical session. However, try to be as concise as possible, especially if the questions are straightforward. You should not spend too much time on the report, but make sure it is readable.

2 Conventions



When you need to perform a manipulation, it will be indicated by the “hand” symbol on the left.

Q 1 — *The questions you have to answer are formatted this way. In your report, please include the number of the question you are answering.*

3 Using the computers

For all practical sessions, you will use FreeBSD on the school computers. You can write your report on these computers if you want, but make sure to save your work regularly, for instance on a USB key: the computers may be reset at any time. If there are enough computers in the room, you can dedicate one computer for writing the report. You can even boot this computer on Linux if you find it easier to use.

There are no individual accounts on the computers. The practical sessions will be conducted as the `root` user, with the password “`root./`” (the password includes the dot and the slash).

Most of the exercises will be done with the command-line. To enter a command, you need to open a terminal. If you don’t like the French keyboard layout, you can switch to `qwerty` with the following command:

```
setxkbmap us
```

Most manipulations require you to disconnect from the school network, so the computers will be isolated from the Internet. To send your report at the end of the practical session, you may need to connect the computer back to the school network. This can be done using the two following commands in sequence:

```
ifconfig em0 down delete
```

```
dhclient em0
```