

# Architecture des Ordinateurs I

## Introduction to the laboratories

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EPFL – I&C – LAP

## Laboratories

- ❑ Web site of the course  
<http://lap.epfl.ch/courses/archord1>
- ❑ The labs are between 8:15-10:00 on Wednesdays in INF2. The room and the assistants will be available until 12:00 and you can stay until then.
- ❑ Teaching Assistants:
  - ❖ Ali Galip Bayrak ([aligalip.bayrak@epfl.ch](mailto:aligalip.bayrak@epfl.ch))
  - ❖ Nithin George ([nithin.george@epfl.ch](mailto:nithin.george@epfl.ch))
  - ❖ Grace Zgheib ([grace.zgheib@epfl.ch](mailto:grace.zgheib@epfl.ch))
- ❑ Student Assistants:
  - Catherine Gasnier • Denoreaz Thomas • Florian Vessaz
  - Sander Kromwijk • Sahand Kashani-Akhavan

## Laboratories

- ❑ You will test your implementations on:
  - ❖ The FPGA4U or DE0 (new) board
  - ❖ Quartus II and ModelSim (Starter Edition)
- ❑ The details of the tools and the FPGA4U board is available at <http://fpga4u.epfl.ch>

## Development Boards

- ❑ For the labs, you will need either the FPGA4U or the DE0 boards
  - ❖ The boards are sold for 100.-
  - ❖ You can get the refund at the end of the semester, if you no longer need the board.
  - ❖ To purchase, fill the payment slip, pay it at the post office and return the receipt to HelpDesk (INF117) or to us.
  - ❖ HelpDesk is open on Tuesdays from 13:00 to 14:00 (subject to modification: <http://fpga4u.epfl.ch/wiki/Helpdesk>).

## Working space

- ❑ Each student has a personal storage space on servers which are accessible from all the machines.
- ❑ Only the files saved in myfiles are guaranteed to be saved accross logins.

See <http://mynas.epfl.ch/> for more informations.

## Working space

- ❑ Your directory « My Documents » can not be used because Quartus does not network paths. One solution is to map this directory to one of the hard drive letters (e.g., « Z: »):
  - ❖ In Explorer press the alt key then select « Tools → Map Network Drive... »
  - ❖ Select a letter (e.g., « Z: »)
  - ❖ Enter the network path
    - \\filesN.epfl.ch\data\USERWhere N is the last digit of your sciper and USER is your gaspar username.

## Installing drivers for the boards

- ❑ Connect development board to your PC with the USB cable.
- ❑ For FPGA4U boards, if the driver installation wizard appears, then the drivers are not installed. In such a case, follow the instructions on: [http://fpga4u.epfl.ch/wiki/Install\\_Quartus\\_II](http://fpga4u.epfl.ch/wiki/Install_Quartus_II)
- ❑ For DE0 boards, use the CD that comes with your board to install the necessary drivers.

## Submission instructions

- ❑ For the submission, you will use:  
<http://lapsubmit.epfl.ch>
- ❑ Login with your Gaspar username and password.
- ❑ You will see all the labs and their status on the page.
- ❑ You should form groups of two for the labs.
- ❑ Both of the students in a group should submit their final work. The two students can either submit the same work or different works.

## Submission instructions

- ❑ You can re-submit your work as much as you want until the deadline. Only the latest one will be graded, others will not be kept in our submission system.
- ❑ After each submission, the system informs you about whether you meet the specifications (file names, syntax etc.). The result will be shown in the « preliminary results » section. Refresh your page after the submission to see the result.
- ❑ Final evaluation will be made by the assistants after the deadline. This evaluation will cover different test cases and student should pass all of the tests to get grade for that lab. You can not update your files after deadline.

## Submission web page

- ❑ **Deadline:** The last date that you can submit your work. You can submit till 23:59.
- ❑ **Upload:** You will upload all the necessary files one by one. The files you should submit is listed at the end of each lab question sheet.
- ❑ **Status:** The latest status of your submission for the given lab.
- ❑ **Preliminary results:** Your preliminary evaluation results.
- ❑ **Final results:** Your results after the evaluation of that lab has been completed.
- ❑ **Download:** Download the latest version of your submitted files.

## First lab (Tutorial)

- ❑ During the first lab, you get familiar with the tools ModelSim and Quartus and the development board.
- ❑ Take your time to understand each step of the tutorial carefully. It is not very long but gives you all the details necessary to perform the labs.
- ❑ At the end of the tutorial, you find some exercises to recall VHDL and a simple exercise to submit for evaluation.
- ❑ The assistants are here to help you. Do not hesitate to ask for help or report any problems.