EXERCISE: MY FIRST FPGA / HPS SYSTEM

Exercise Goals

- Learn about the Qsys
- Learn how to build Linux applications for HPS devices.
- Learn the design flow for system on a programmable chip.

Prerequisites

- All tools prescribed on the   DE1SOC Wiki must be installed

Preparation of Development kit and Tools

- Prepare a Linux Image SD card
- Prepare an FPGA boot image . Use the default image in the tutorial.
- Configure a dhcp server on your PC

Build Your First FPGA SoC

- Clone the de1soc repo:

```
git clone https://redmine.ase.au.dk:443/courses/etdspc/de1soc.git my_destinati
```

Where *my_destination_folder* is the destination for the exercise template code. You only have read permissions to this repo.

- In Quartus, open the project located in the my_first_fpga_hps/rtl-fpga sub folder.

- Follow the   tutorial for the my_first_fpga_hps design to update the FPGA system to use the LEDs and write a Linux application to access the LEDs.