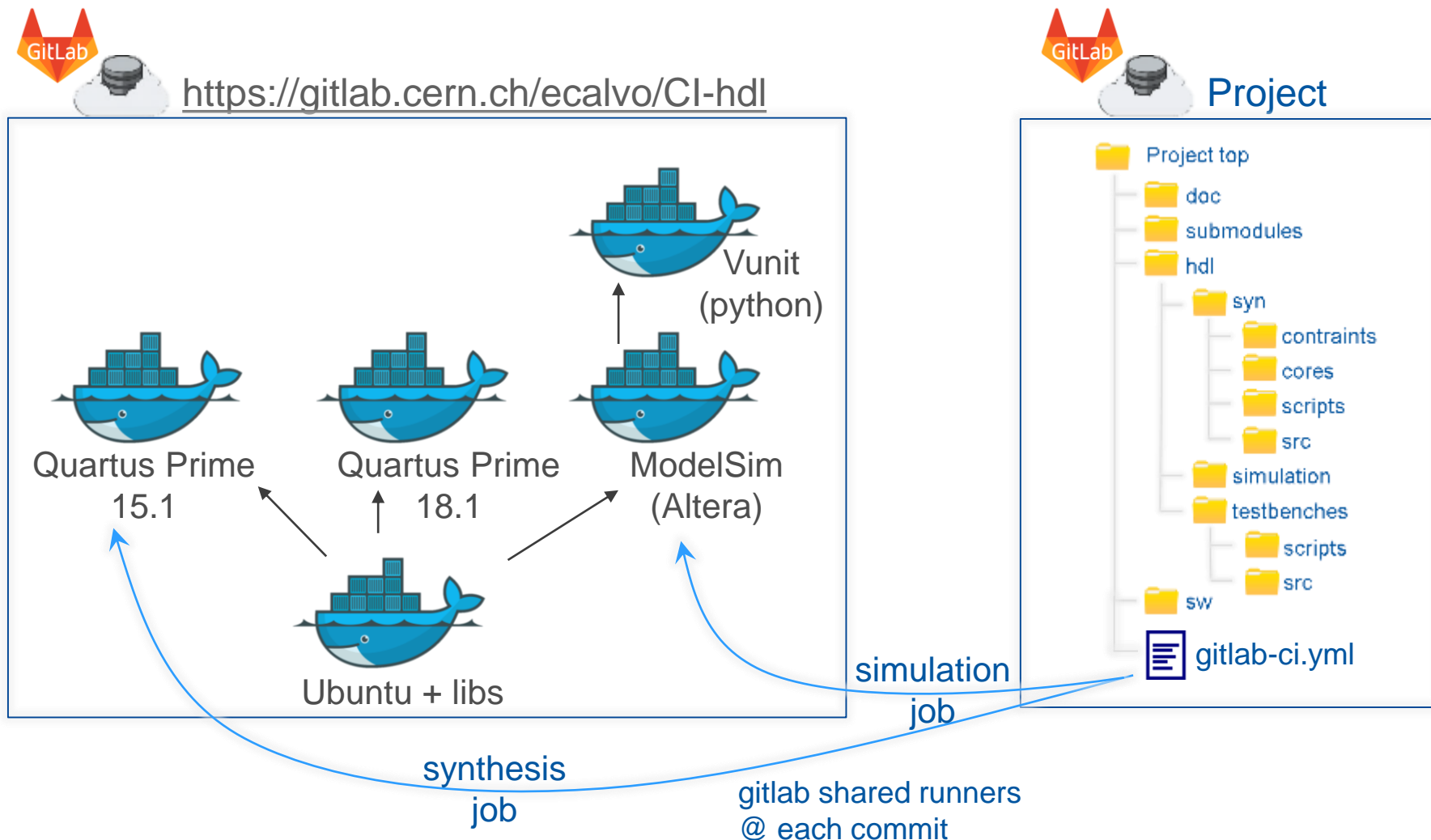


My brief experience implementing continuous integration for HDL projects

E. Calvo (BE/BI)

My Gitlab CI work-flow



The gitlab-ci.yml file

```
1 # .gitlab-ci.yml file to compile the blerc-v02 project through
2 # gitlab.cern.ch continuous integration workflow.
3 #
4 # Creator: E. Calvo (BE/BI-BLM)
5 #
6
7 variables:
8   GIT_SUBMODULE_STRATEGY: recursive
9
10 services:
11   - docker:dind
12
13 before_script:
14   - echo "Before script section"
15   - git submodule sync --recursive
16   - git submodule update --init --recursive
17
18 syn_job:
19   # stage: synthesis
20   image: gitlab-registry.cern.ch/ecalvo/ci-hdl/quartus-15_1
21   script:
22     - cd hdl/syn
23     - quartus_sh -t ./scripts/create_full_project.tcl -project blerc
24     - quartus_map blerc -c blerc
25     - quartus_fit blerc -c blerc
26     - quartus_asm blerc -c blerc
27     - quartus_sta blerc -c blerc
28     - echo "Synthesis Done !!!!!!!!!!! "
29
30 sim_job:
31   # stage: simulation
32   image: gitlab-registry.cern.ch/ecalvo/ci-hdl/modelsim-altera-17_1
33   script:
34     - cd /builds/bi-blm-fw/blerc-v02/hdl/simulation
35     - /home/developer/intelFPGA/17.1/modelsim_ase/bin/vsim -c -do ../testbenches/scripts/blerc_msim.do
36     - echo "Simulation done !!!!!!!!!!! "
```

Docker-in-docker

Synthesis job

Simulation job

Pros and cons...

Pros:

- Reproducibility
- Project compilation on different platforms
- Simplicity

Cons:

- Docker image size (GBs)
- Slow synthesis and simulation
- Cumbersome pipeline debugging

Thoughts:

- Licensed SW?
- Platform for CI Runners
- Safety?