

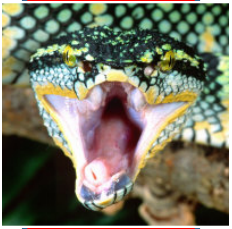
Lab Work Environment

A Quick Overview

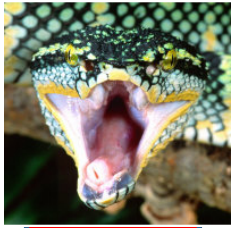
(More Information in Installation and Getting Started Guides)

Lab Environment – Preinstalled

- Username: "user", Password: <see sticker>
- CentOS 7.5 (1804)
- Installed:
 - OpenCPI 1.5 (w/ ANGRYVIPER IDE)
 - Xilinx Vivado and SDK (2017.1)
 - Various support utilities (python, matplotlib, git, etc)
- Configured SELinux and firewall for NFS export to Ettus E310



Lab Environment – Pre-Built Projects



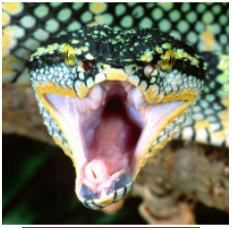
- Pre-Built Projects:
 - core, assets, assets_ts, bsp_310 (order is critical)
- Located in
 - ~/training/ocpi_projects/core (Listed in Registry as ocpi.core)
 - ~/training/ocpi_projects/assets (Listed in Registry as ocpi.assets)
 - ~/training/ocpi_projects/assets_ts (Listed in Registry as ocpi.assets_ts)
 - ~/training/ocpi_projects/bsp_e310 (Listed in Registry as ocpi.bsp.e310)
- Built per instructions in:
 - OpenCPI Getting Started Guide
 - OpenCPI Ettus E3xx Getting Started Guide
- Built RCC Workers (x86_64 and xilinx13_4 ARM)
- Built all HDL (targeting "e3xx" and "xsim" platforms)

```
$ ocpidev show registry
Project registry is located at: /opt/opencpi/project-registry
```

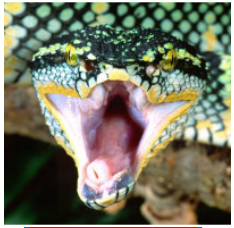
Project Package-ID	Path to Project	Valid/Exists
ocpi.assets_ts	/home/user/training/ocpi_projects/assets_ts	True
ocpi.assets	/home/user/training/ocpi_projects/assets	True
ocpi.core	/home/user/training/ocpi_projects/core	True
ocpi.bsp.e310	/home/user/training/ocpi_projects/bsp_e310	True

Lab Environment – Falling Behind

- If you find yourself falling behind, e.g. you did not complete a lab
 - A script is available
 - `provided/scripts/complete_lab.sh`
 - Expects lab number of the one you want to be completed up to
 - Export `BUILD_HDL=1` to synthesize as well
 - (Not vigorously tested)



Lab Environment – E310 Usage



- The USB console connection is using a port intended by the manufacturer for debug-only usage. It is very delicate and easily breaks, which is why the unit and the associated cables are affixed. Do not move them.
- If sharing a E310 between adjacent students, use the "reboot" command when moving the USB cable. This will ensure its NFS mounts point to the correct student's laptop.
 - If needed, unplugging the power from the mains is preferred over the connection on the front of the radio

Lab Environment – Conclusion

- Serving /home/user/training and /opt/opencpi via NFS
- Locations
 - IDE: /usr/bin/ocpigui
 - Core Project: ~/`training/ocpi_projects/core`
 - Assets Project: ~/`training/ocpi_projects/assets`
 - Assets_ts Project: ~/`training/ocpi_projects/assets_ts`
 - BSP for E3xx Project: ~/`training/ocpi_projects/bsp_e310`
- Global variables (for all users)
 - `OCPI_XILINX_LICENSE_FILE` pre-configured for WebPACK

