

# Installing Cocotb and Icarus Verilog

Yehowshua Immanuel

May 11, 2020

## What is Cocotb?

Cocotb is a Python simulator frontend. It supports the following simulators(bold are FOSS):

- **Icarus Verilog**
- **Verilator**
- **GHDL**
- Synopsys VCS
- Aldec Riviera-PRO
- Mentor Questa
- Mentor ModelSim
- Cadence Incisive
- Cadence Xcelium
- Tachyon DA CVC

## Dependencies

First make sure you have [brew](#) installed.

```
brew install python3 icarus-verilog
```

## Setting Up a Python Virtual Environment

Cocotb is shipped as a Python package. Python comes with a package manager called `pip`.

For python2, `pip` is usually aliased to `pip`, and for python3, `pip` is aliased to `pip3`.

Since there are often many versions of one package available in pypi(the repository store for pip), it is usually a good idea to use a python virtual environment to isolate conflicts between packages.

```
#install virtual environment from pypi  
pip3 install virtualenv  
mkdir ~/.virtualenvs  
cd ~/.virtualenvs
```

```
#create a virtual environment to be used for  
#cocotb  
python3 -m venv rtl
```

```
#activate virtual environment  
source ~/.virtualenvs/rtl/bin/activate
```

```
#install cocotb  
pip3 install --upgrade git+git://github.com/cocotb/cocotb@f87361c
```

## Using Cocotb

From now on, anytime you wish to use Cocotb, simply do:

```
source ~/.virtualenvs/rtl/bin/activate
```

For an example of using Cocotb, see [labs: Gentle Intro](#)