

# TOOLS INSTALLATION

```
v@v:~/yosys$ sudo apt-get install verilog
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'iverilog' instead of 'verilog'
iverilog is already the newest version (12.0-1).
Solving dependencies... Done
The following packages were automatically installed and are no longer required:
  grub-pc-bin nvidia-firmware-570-570.133.07
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

```
v@v:~/yosys$ sudo apt install gtkwave
gtkwave is already the newest version (3.3.121-1).
The following packages were automatically installed and are no longer required:
  grub-pc-bin nvidia-firmware-570-570.133.07
Use 'sudo apt autoremove' to remove them.

Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 3
```

```
v@v: ~/OpenSTA/build
[ 90%] Building CXX object CMakeFiles/OpenSTA.dir/LibExprLex.cc.o
[ 91%] Building CXX object CMakeFiles/OpenSTA.dir/LibExprParse.cc.o
[ 91%] Building CXX object CMakeFiles/OpenSTA.dir/LibertyLex.cc.o
[ 92%] Building CXX object CMakeFiles/OpenSTA.dir/LibertyParse.cc.o
[ 92%] Building CXX object CMakeFiles/OpenSTA.dir/SpexLex.cc.o
[ 93%] Building CXX object CMakeFiles/OpenSTA.dir/SpexParse.cc.o
[ 93%] Building CXX object CMakeFiles/OpenSTA.dir/SdfLex.cc.o
[ 94%] Building CXX object CMakeFiles/OpenSTA.dir/SdfParse.cc.o
[ 95%] Building CXX object CMakeFiles/OpenSTA.dir/VerilogLex.cc.o
[ 95%] Building CXX object CMakeFiles/OpenSTA.dir/VerilogParse.cc.o
[ 96%] Building CXX object CMakeFiles/OpenSTA.dir/SaifLex.cc.o
[ 96%] Building CXX object CMakeFiles/OpenSTA.dir/SaifParse.cc.o
[ 97%] Linking CXX static library libOpenSTA.a
[ 97%] Built target OpenSTA
[ 98%] Swig compile app/StaApp.i for tcl
[ 98%] Built target sta_swig_swig_compilation
[ 98%] Building CXX object CMakeFiles/sta_swig.dir/CMakeFiles/sta_swig.dir/StaAp
pTCL_wrap.cxx.o
[ 99%] Linking CXX static library sta_swig.a
[ 99%] Built target sta_swig
[ 99%] Building CXX object CMakeFiles/sta.dir/app/Main.cc.o
[100%] Linking CXX executable sta
[100%] Built target sta
v@v:~/OpenSTA/build$
```

```
v@v:~/magic$ which magic
/usr/local/bin/magic
v@v:~/magic$ magic --version
8.3.552
v@v:~/magic$
```

```
v@v:~$ docker run hello-world
```

Hello from Docker!

This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:

1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.  
(amd64)
3. The Docker daemon created a new container from that image which runs the executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it to your terminal.

To try something more ambitious, you can run an Ubuntu container with:

```
$ docker run -it ubuntu bash
```

Share images, automate workflows, and more with a free Docker ID:

<https://hub.docker.com/>

For more examples and ideas, visit:

<https://docs.docker.com/get-started/>