

VirtualBox is a free and open-source virtualization software that allows you to run multiple operating systems on a single physical machine. Installing it involves the following steps:

1. **Download:** Go to the official VirtualBox website and download the version compatible with your operating system (Windows, macOS, Linux).
2. **Run Installer:** Open the downloaded file and follow the installation wizard. You can choose default settings or customize features like network options.
3. **Network & Permissions:** During installation, you may need to approve network interface and driver installations. On macOS, grant system permissions if prompted.
4. **Complete Installation:** Finish the wizard and launch VirtualBox. You can now create virtual machines to install other operating systems.

1 Yosys on Ubuntu:

```
$ sudo apt-get update
```

```
$ git clone https://github.com/YosysHQ/yosys.git
```

```
$ cd yosys
```

```
$ sudo apt install make
```

```
$ sudo apt-get install build-essential clang bison flex \ libreadline-dev gawk  
tcl-dev libffi-dev git \ graphviz xdot pkg-config python3 libboost-system-dev  
\ libboost-python-dev libboost-filesystem-dev zlib1g-dev
```

```
$ make config-gcc
```

```
$ make
```

```
$ sudo make install
```

2 iverilog on Ubuntu:

```
verilog Steps to install iverilog
```

```
sudo apt-get update
```

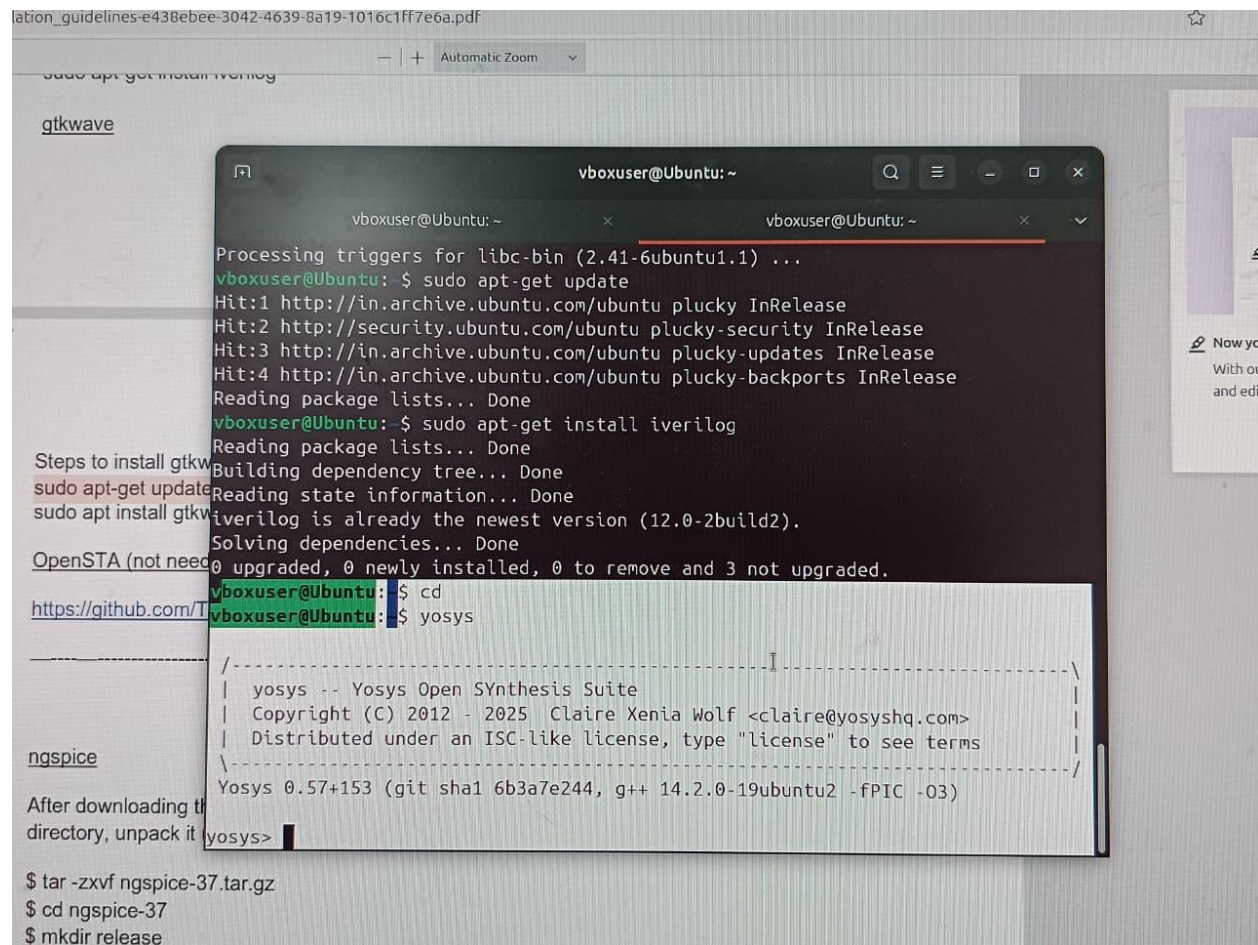
```
sudo apt-get install iverilog
```

3.gtkwave on Uuntu

`sudo apt-get update`

`sudo apt install gtkwave`

Here, I have attached a photograph taken after the installation of Yosys. Since I am using VirtualBox, it restricts me from taking a direct screenshot.



```
Processing triggers for libc-bin (2.41-6ubuntu1.1) ...
vboxuser@Ubuntu: ~$ sudo apt-get update
Hit:1 http://in.archive.ubuntu.com/ubuntu plucky InRelease
Hit:2 http://security.ubuntu.com/ubuntu plucky-security InRelease
Hit:3 http://in.archive.ubuntu.com/ubuntu plucky-updates InRelease
Hit:4 http://in.archive.ubuntu.com/ubuntu plucky-backports InRelease
Reading package lists... Done
vboxuser@Ubuntu: ~$ sudo apt-get install iverilog
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
iverilog is already the newest version (12.0-2build2).
Solving dependencies... Done
0 upgraded, 0 newly installed, 0 to remove and 3 not upgraded.
vboxuser@Ubuntu: ~$ cd
vboxuser@Ubuntu: ~$ yosys
-----
| yosys -- Yosys Open SYnthesis Suite
| Copyright (C) 2012 - 2025 Claire Xenia Wolf <claire@yosyshq.com>
| Distributed under an ISC-like license, type "license" to see terms
|-----
Yosys 0.57+153 (git sha1 6b3a7e244, g++ 14.2.0-19ubuntu2 -fPIC -O3)
yosys>
```