

NS-3 installation & running scripts

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NS-3 is most preferable for Linux(Ubuntu/Mint).so, here's the installation process for ubuntu/Mint is given.

Step 1: installing libraries:

open Terminal (ctrl+Alt+T) & run the following commands one after one. if it requires (Y/N) anytime, then simply write Y & press 'Enter' button.

```
sudo apt-get install gcc g++ python python3
```

```
sudo apt-get install gcc g++ python python3 python3-dev
```

```
sudo apt-get install python3-setuptools git mercurial
```

```
sudo apt-get install qt5-default mercurial
```

```
sudo apt-get install python-pygraphviz python-kiwi python-pygoocanvas libgoocanvas-dev ipython
```

```
sudo apt-get install gir1.2-goocanvas-2.0 python-gi python-gi-cairo python-  
pygraphviz python3-gi python3-gi-cairo python3-pygraphviz gir1.2-gtk-3.0 ipython  
ipython3
```

```
sudo apt-get install openmpi-bin openmpi-common openmpi-doc libopenmpi-dev
```

```
sudo apt-get install autoconf cvs bzip2 unrar
```

```
sudo apt-get install gdb valgrind
```

```
sudo apt-get install uncrustify
```

```
sudo apt-get install doxygen graphviz imagemagick
```

```
sudo apt-get install texlive texlive-extra-utils texlive-latex-extra texlive-font-utils texlive-lang-portuguese  
dvipng latexmk
```

```
sudo apt-get install python3-sphinx dia
```

```
sudo apt-get install gsl-bin libgsl-dev libgsl23 libgslcblas0
```

```
sudo apt-get install tcpdump
```

```
sudo apt-get install sqlite sqlite3 libsqlite3-dev
```

```
sudo apt-get install libxml2 libxml2-dev
```

```
sudo apt-get install cmake libc6-dev libc6-dev-i386 libclang-6.0-dev llvm-6.0-dev  
automake pip
```

```
python3 -m pip install --user cxxfilt
```

```
sudo apt-get install libgtk2.0-0 libgtk2.0-dev
```

```
sudo apt-get install vtun lxc uml-utilities
```

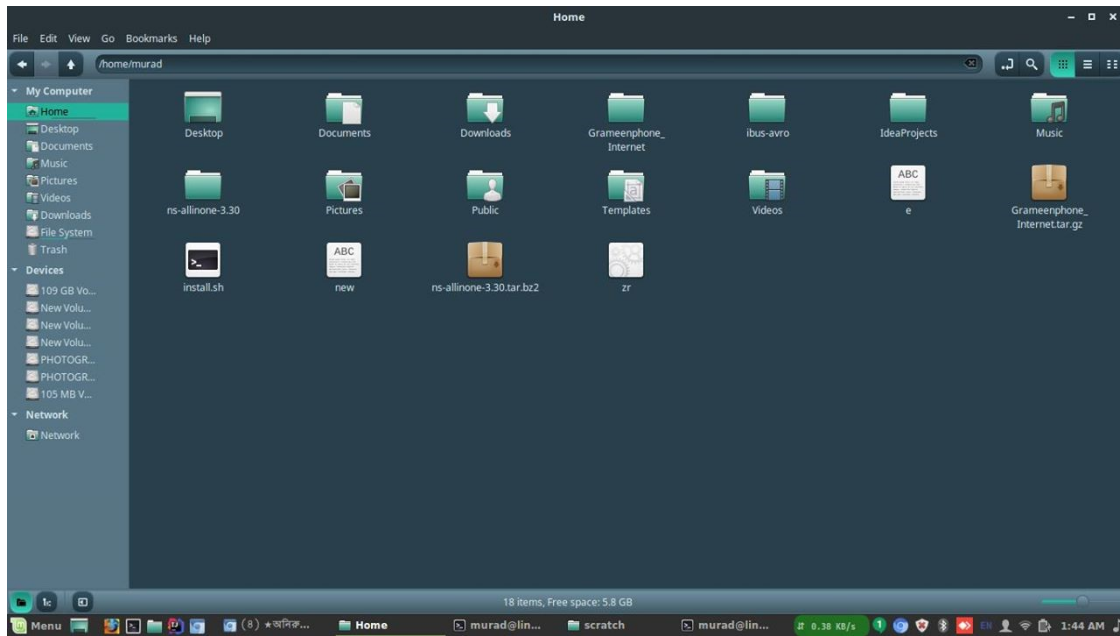
```
sudo apt-get install libboost-signals-dev libboost-filesystem-dev
```

Step 2: Download NS-3 & extract:

download the ns3 from here:

<https://drive.google.com/file/d/1vRMryHof4cBH0Zs4Z3WbxpayM3nLMaTP/view?usp=sharing>

now place the file in home folder..



Home folder.. here the downloaded file must be put.

now, open Terminal (ctrl+Alt+T) & run the following commands:

```
echo $HOME
```

```
tar jxvf ns-allinone-3.30.tar.bz2
```

it will extract the ns3 folder ... now we have to run the commands..

```
cd ns-allinone-3.30/ns-3.30
```

```
./build.py --enable-examples --enable-test
```

it will take about 30 minutes... 😊 .. keep patience..

go to the folder.. home/ns-allinone-3.30/ns-3.30/examples/tutorial ..& copy the files..

first.cc , first.py

& paste them into.. /home/ns-allinone-3.30/ns-3.30/scratch .. folder.

now, you are ready to run your first lab code first.cc

Step 3: Running first script(first Lab code):

```
cd
```

```
cd ns-allinone-3.30/ns-3.30
```

run the .cc file:

```
./waf --run scratch/first
```

```
murad@linuxMint ~/ns-allinone-3.30/ns-3.30 $ ./waf --run scratch/first
Waf: Entering directory `/home/murad/ns-allinone-3.30/ns-3.30/build'
[2743/2817] Compiling scratch/first.cc
[2744/2817] Compiling scratch/subdir/scratch-simulator-subdir.cc
[2775/2817] Linking build/scratch/subdir/subdir
[2776/2817] Linking build/scratch/first
Waf: Leaving directory `/home/murad/ns-allinone-3.30/ns-3.30/build'
Build commands will be stored in build/compile_commands.json
'build' finished successfully (5.646s)
At time 2s client sent 1024 bytes to 10.1.1.2 port 9
At time 2.00369s server received 1024 bytes from 10.1.1.1 port 49153
At time 2.00369s server sent 1024 bytes to 10.1.1.1 port 49153
At time 2.00737s client received 1024 bytes from 10.1.1.2 port 9
```

successfully running first.cc file

run the .py file:

```
./waf --pyrun scratch/first.py
```

done.....

if u face any problem..feel free to share screen live at..
google hangouts(wazidullahmurad@gmail.com) or use
AnyDesk software (remote desktop software)