

Langkah-langkah Install MiniNDN

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1. Install git (untuk clone file dari github): `sudo apt-get install git`
2. Install python-pip : `sudo apt-get install python-pip`

```
root@gpradana1210:/home/gpradana_rio/mini-ndn# sudo apt-get install python-pip
Sedang membaca daftar paket... Selesai
Membangun pohon ketergantungan
Membaca informasi yang tersedia... Selesai
Paket-paket tambahan berikut akan dipasang:
 build-essential dpkg-dev fakeroot g++ g++-7 gcc gcc-7 libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl
 libasan4 libatomic1 libc-dev-bin libc6-dev libcilkrts5 libexpat1-dev libfakeroot libgcc-7-dev libitm1 liblsan0 libmpx2
 libpython-all-dev libpython-dev libpython-stdlib libpython2.7-dev libquadmath0 libstdc++-7-dev libtsan0 libubsan0 linux-libc-dev
 make manpages-dev python python-all python-all-dev python-asn1crypto python-ctypes-backend python-cryptography
 python-dbus python-dev python-enum34 python-gi python-idna python-ipaddress python-keyring python-keyrings.alt python-minimal
 python-pip-whl python-pkg-resources python-secretstorage python-setuptools python-six python-wheel python-xdg python2.7
 python2.7-dev python2.7-minimal
```

3. add NDN ppa : `sudo add-apt-repository ppa:named-data/ppa`

```
root@gpradana1210:/home/gpradana_rio# sudo add-apt-repository ppa:named-data/ppa
A collection of binary packages related to NDN project
Info lebih lanjut: https://launchpad.net/~named-data/+archive/ubuntu/ppa
Tekan [ENTER] untuk melanjutkan atau Ctrl-C untuk membatalkan menambah.
```

Adapun daftar paket dalam PPA NDN dapat dilihat pada :
<https://launchpad.net/~named-data/+archive/ubuntu/ppa>

Overview of published packages

Published in:

1 → 40 of 40 results

Package	Version	Uploaded by
libchronosync	0.5.3-9-g5f408ae-ppa1~xenial	Alex Afanasyev (2020-12-17)
libchronosync	0.5.3-9-g5f408ae-ppa1~focal	Alex Afanasyev (2020-12-17)
libchronosync	0.5.3-9-g5f408ae-ppa1~bionic	Alex Afanasyev (2020-12-17)
libpsync	0.2.0-11-g8ab7572-ppa1~xenial	Alex Afanasyev (2020-12-17)
libpsync	0.2.0-11-g8ab7572-ppa1~focal	Alex Afanasyev (2020-12-17)
libpsync	0.2.0-11-g8ab7572-ppa1~bionic	Alex Afanasyev (2020-12-17)
name-based-access-control	0.1.1-commit-dddc19a-ppa1~focal	Alex Afanasyev (2020-12-17)
name-based-access-control	0.1.1-commit-dddc19a-ppa1~bionic	Alex Afanasyev (2020-12-17)
ndn-cxx	0.7.1-ppa2~xenial	Alex Afanasyev (2020-12-17)
ndn-cxx	0.7.1-ppa2~focal	Alex Afanasyev (2020-12-17)
ndn-cxx	0.7.1-ppa2~bionic	Alex Afanasyev (2020-12-17)
ndn-tools	0.7.1-ppa1~xenial	Alex Afanasyev (2020-12-17)
ndn-tools	0.7.1-ppa1~focal	Alex Afanasyev (2020-12-17)
ndn-tools	0.7.1-ppa1~bionic	Alex Afanasyev (2020-12-17)
ndn-traffic-generator	0.0.14-g1cbe1d0-ppa1~xenial	Alex Afanasyev (2020-12-17)
ndn-traffic-generator	0.0.14-g1cbe1d0-ppa1~focal	Alex Afanasyev (2020-12-17)
ndn-traffic-generator	0.0.14-g1cbe1d0-ppa1~bionic	Alex Afanasyev (2020-12-17)
ndnmap-data-collector	0.1.0-17-g793e4b6-ppa1~xenial	Alex Afanasyev (2020-12-17)
ndnmap-data-collector	0.1.0-17-g793e4b6-ppa1~focal	Alex Afanasyev (2020-12-17)
ndnmap-data-collector	0.1.0-17-g793e4b6-ppa1~bionic	Alex Afanasyev (2020-12-17)
ndns	0.0.12-g28229df-ppa1~xenial	Alex Afanasyev (2020-02-27)
ndns	0.0.12-g28229df-ppa1~eoan	Alex Afanasyev (2020-02-27)
ndns	0.0.12-g28229df-ppa1~bionic	Alex Afanasyev (2020-02-27)
nfd	0.7.1-ppa1~xenial	Alex Afanasyev (2020-12-17)
nfd	0.7.1-ppa1~focal	Alex Afanasyev (2020-12-17)
nfd	0.7.1-ppa1~bionic	Alex Afanasyev (2020-12-17)
nlsr	0.5.2-15-g0af4627a-ppa1~xenial	Alex Afanasyev (2020-12-17)

4. `sudo apt update`
5. `sudo apt-get install nfd nlsr ndn-tools ndn-traffic-generator ndnmap-data-collector`

```

root@gpradana1210:/home/gpradana_rio# sudo apt-get install nfd nlsr ndn-tools ndn-traffic-generator ndnmap-data-collector
Sedang membaca daftar paket... Selesai
Membangun pohon ketergantungan
Membaca informasi yang tersedia... Selesai
Paket-paket tambahan berikut akan dipasang:
  libboost-chrono1.65.1 libboost-log1.65.1
  libboost-stacktrace1.65.1 libchronosync libndn-cxx libpsync
  ndn-dissect ndnchunks ndndump ndnpeek ndnping ndnsec
Paket BARU berikut akan diinstal:
  libboost-chrono1.65.1 libboost-log1.65.1
  libboost-stacktrace1.65.1 libchronosync libndn-cxx libpsync
  ndn-dissect ndn-tools ndn-traffic-generator ndnchunks ndndump
  ndnmap-data-collector ndnpeek ndnping ndnsec nfd nlsr
0 dimutakhirkan, 17 baru terinstal, 0 akan dihapus dan 0 tidak akan dimutakhirkan.
Perlu mendapatkan 4.053 kB dari arsip.
Setelah operasi ini, 17,9 MB ruang kosong harddisk akan digunakan.

```

Download MiniNDN : git clone <https://github.com/named-data/mini-ndn.git>

```

root@gpradana1210:/home/gpradana_rio# git clone https://github.com/named-data/mini-ndn.git
Cloning into 'mini-ndn'...
remote: Enumerating objects: 1294, done.
remote: Total 1294 (delta 0), reused 0 (delta 0), pack-reused 1294
Receiving objects: 100% (1294/1294), 799.94 KiB | 601.00 KiB/s, done.
Resolving deltas: 100% (729/729), done.

```

6. Masuk directory mini-ndn (cd mini-ndn), dan install mini ndn dengan perintah :
./install.sh -a
7. Lalu lakukan build dengan ./install.sh -d

```

root@gpradana1210:/home/gpradana_rio/mini-ndn# ./install.sh
Usage: install.sh [-a]

options:
  -a: install all the required dependencies
  -A: install all the required dependencies (wired only)
  -c: install Common Client Libraries
  -d: build documentation
  -h: print this (H)elp message
  -i: install mini-ndn
  -m: install mininet and dependencies (for wired-only installation)
  -n: install NDN dependencies of mini-ndn including infoedit
  -p: patch ndn-cxx with dummy key chain
  -q: quiet install (must be specified first)
  -w: install mininet-wifi and dependencies
root@gpradana1210:/home/gpradana_rio/mini-ndn# ./install.sh -a

```

```

root@gpradana1210:/home/gpradana_rio# cd mini-ndn/
root@gpradana1210:/home/gpradana_rio/mini-ndn# ls
AUTHORS.rst COPYING.md docs examples install.sh minindn README.md requirements.txt setup.py topologies util Vagrantfile
root@gpradana1210:/home/gpradana_rio/mini-ndn# ./install.sh -d

```

jika build sudah sukses, coba running example dengan perintah :
sudo python examples/mnndn.py

```

root@gpradana1210:/home/gpradana_rio/mini-ndn# sudo python examples/mnndn.py
Using topology file /usr/local/etc/mini-ndn/default-topology.conf
*** Creating network
*** Adding controller
*** Adding hosts:
a b c d
*** Adding switches:

*** Adding links:
(10ms delay) (10ms delay) (a, b) (10ms delay) (10ms delay) (a, c) (10ms delay) (10ms delay) (b, d)
*** Configuring hosts
a b c d
*** Starting controller
c0
*** Starting 0 switches

Starting NFD on nodes
Starting NLSR on nodes
*** Starting CLI:
mini-ndn>

```

Beberapa perintah dalam mini-ndn

```
mini-ndn> ?

Documented commands (type help <topic>):
=====
EOF      gterm  iperfudp  nodes      pingpair    py      switch  xterm
dpctl    help   link      noecho     pingpairfull  quit    time
dump     intfs  links     pingall    ports       sh      wait
exit     iperf  net       pingallfull  px          source  x

You may also send a command to a node using:
  <node> command {args}
For example:
  mininet> h1 ifconfig

The interpreter automatically substitutes IP addresses
for node names when a node is the first arg, so commands
like
  mininet> h2 ping h3
should work.

Some character-oriented interactive commands require
noecho:
  mininet> noecho h2 vi foo.py
However, starting up an xterm/gterm is generally better:
  mininet> xterm h2

mini-ndn> █
```