

1. Подключить репозиторий с nginx любым удобным способом, установить nginx и потом удалить nginx, используя утилиту dpkg.

Формулировка задание вызывает негатив!

Происходит разрыв мозга , когда понимаешь что ручками ставить зависимо, качая каждую и используя dpkg нафиг надо) либо я что то не понимаю,

Зачем подключать репозитории и потом юзать dpkg? Что бы понять как он работает? Ну ок.

Подключаем репы,

По инструкции,

```
ai@ubuntu20:~$ sudo apt install curl gnupg2 ca-certificates lsb-release
```

```
[sudo] password for ai:
```

```
Reading package lists... Done
```

```
Building dependency tree
```

```
Reading state information... Done
```

```
lsb-release is already the newest version (11.1.0ubuntu2).
```

```
lsb-release set to manually installed.
```

```
ca-certificates is already the newest version (20190110ubuntu1.1).
```

```
ca-certificates set to manually installed.
```

```
The following NEW packages will be installed:
```

```
curl gnupg2
```

```
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
```

```
Need to get 167 kB of archives.
```

After this operation, 462 kB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 curl amd64 7.68.0-1ubuntu2 [161 kB]

Get:2 http://archive.ubuntu.com/ubuntu focal/universe amd64 gnupg2 all 2.2.19-3ubuntu2 [5316 B]

Fetchd 167 kB in 1s (278 kB/s)

Selecting previously unselected package curl.

(Reading database ... 189771 files and directories currently installed.)

Preparing to unpack .../curl_7.68.0-1ubuntu2_amd64.deb ...

Unpacking curl (7.68.0-1ubuntu2) ...

Selecting previously unselected package gnupg2.

Preparing to unpack .../gnupg2_2.2.19-3ubuntu2_all.deb ...

Unpacking gnupg2 (2.2.19-3ubuntu2) ...

Setting up gnupg2 (2.2.19-3ubuntu2) ...

Setting up curl (7.68.0-1ubuntu2) ...

Processing triggers for man-db (2.9.1-1) ...

```
ai@ubuntu20:~$ echo "deb http://nginx.org/packages/mainline/ubuntu `lsb_release -cs` nginx" \
```

```
> | sudo tee /etc/apt/sources.list.d/nginx.list
```

```
deb http://nginx.org/packages/mainline/ubuntu focal nginx
```

Ключ

```
ai@ubuntu20:~$ curl -fsSL https://nginx.org/keys/nginx_signing.key | sudo apt-key add -
```

```
OK
```

Проверка

```
ai@ubuntu20:~$ sudo apt-key fingerprint ABF5BD827BD9BF62
```

```
pub  rsa2048 2011-08-19 [SC] [expires: 2024-06-14]
      573B FD6B 3D8F BC64 1079 A6AB ABF5 BD82 7BD9 BF62
uid      [ unknown] nginx signing key <signing-key@nginx.com>
```

Репозиторий добавлен и обновлен, можно ставить стандартно.

Ставим с dpkg.

Качаем deb,

```
ai@ubuntu20:~$ wget http://nginx.org/packages/ubuntu/pool/nginx/n/nginx/nginx-
dbg_1.18.0-1~xenial_amd64.deb
--2020-06-17 22:02:15-- http://nginx.org/packages/ubuntu/pool/nginx/n/nginx/nginx-
dbg_1.18.0-1~xenial_amd64.deb
Resolving nginx.org (nginx.org)... 95.211.80.227, 62.210.92.35, 2001:1af8:4060:a004:21::e3
Connecting to nginx.org (nginx.org)|95.211.80.227|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 7965234 (7.6M) [application/octet-stream]
Saving to: 'nginx-dbg_1.18.0-1~xenial_amd64.deb'
```

```
nginx-dbg_1.18.0-1~xenial_amd64.deb          100%
[=====
======>] 7.60M 825KB/s
```

in 13s

2020-06-17 22:02:28 (620 KB/s) - 'nginx-dbg_1.18.0-1~xenial_amd64.deb' saved [7965234/7965234]

Пробуем ставить,

```
ai@ubuntu20:~$ dpkg -i nginx-dbg_1.18.0-1~xenial_amd64.deb
dpkg: error: requested operation requires superuser privilege
ai@ubuntu20:~$ sudo dpkg -i nginx-dbg_1.18.0-1~xenial_amd64.deb
Selecting previously unselected package nginx-dbg.
(Reading database ... 189784 files and directories currently installed.)
Preparing to unpack nginx-dbg_1.18.0-1~xenial_amd64.deb ...
Unpacking nginx-dbg (1.18.0-1~xenial) ...
dpkg: dependency problems prevent configuration of nginx-dbg:
 nginx-dbg depends on nginx (= 1.18.0-1~xenial); however:
  Package nginx is not installed.

dpkg: error processing package nginx-dbg (--install):
 dependency problems - leaving unconfigured
Errors were encountered while processing:
 nginx-dbg
```

Утыкаемся в зависимости

Пробуем по нормальному,

```
ai@ubuntu20:~$ sudo apt install nginx
Reading package lists... Done
Building dependency tree
Reading state information... Done
Building dependency tree
Reading state information... Done
You might want to run 'apt --fix-broken install' to correct these.
The following packages have unmet dependencies:
  nginx-dbg : Depends: nginx (= 1.18.0-1~xenial)
E: Unmet dependencies. Try 'apt --fix-broken install' with no packages (or specify a solution).
ai@ubuntu20:~$ apt --fix-broken install
E: Could not open lock file /var/lib/dpkg/lock-frontent - open (13: Permission denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontent), are you root?
```

Побились зависимости

Лечим

```
ai@ubuntu20:~$ sudo apt --fix-broken install
Reading package lists... Done
Building dependency tree
Reading state information... Done
Correcting dependencies... Done
The following additional packages will be installed:
```

nginx nginx-dbg

The following NEW packages will be installed:

nginx

The following packages will be upgraded:

nginx-dbg

1 upgraded, 1 newly installed, 0 to remove and 48 not upgraded.

1 not fully installed or removed.

Need to get 7592 kB of archives.

After this operation, 1888 kB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 <http://nginx.org/packages/mainline/ubuntu/focal/nginx-amd64> nginx-dbg amd64 1.19.0-1~focal
[6733 kB]

Get:2 <http://nginx.org/packages/mainline/ubuntu/focal/nginx>

Fetches 7592 kB in 2s (3695 kB/s)

(Reading database ... 189791 files and directories currently installed.)

Preparing to unpack .../nginx-dbg_1.19.0-1~focal_amd64.deb ...

Unpacking nginx-dbg (1.19.0-1~focal) over (1.18.0-1~xenial) ...

Selecting previously unselected package nginx.

Preparing to unpack .../nginx_1.19.0-1~focal_amd64.deb ...

Thanks for using nginx!

Please find the official documentation for nginx here:

* <http://nginx.org/en/docs/>

Please subscribe to nginx-announce mailing list to get the most important news about nginx:

* <http://nginx.org/en/support.html>

Commercial subscriptions for nginx are available on:

* <http://nginx.com/products/>

Unpacking nginx (1.19.0-1~focal) ...

Setting up nginx (1.19.0-1~focal) ...

Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /lib/systemd/system/nginx.service.

Setting up nginx-dbg (1.19.0-1~focal) ...

Processing triggers for man-db (2.9.1-1) ...

Processing triggers for systemd (245.4-4ubuntu3.1) ...

Готово!!!!

Удаляем по нормальному

```
ai@ubuntu20:~$ sudo apt remove nginx
```

```
[sudo] password for ai:
```

```
Reading package lists... Done
```

```
Building dependency tree
```

```

Reading state information... Done
The following packages will be REMOVED:
  nginx nginx-dbg
0 upgraded, 0 newly installed, 2 to remove and 48 not upgraded.
After this operation, 10.4 MB disk space will be freed.
Do you want to continue? [Y/n] y
(Reading database ... 189828 files and directories currently installed.)
Removing nginx-dbg (1.19.0-1~focal) ...
Removing nginx (1.19.0-1~focal) ...
Processing triggers for man-db (2.9.1-1) ...

```

Удалять dpkg -r имя пакета

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2. Установить пакет на свой выбор, используя snap.

```
ai@ubuntu20:~$ sudo snap search zoom
```

| Name | Version | Publisher | Notes | Summary |
|-----------------|------------|---------------|-------|---|
| paintsupreme-3d | 1.0.41 | braindistrict | - | PaintSupreme 3D |
| transitionsdj | 1.6.0.0 | apollovibes | - | DJ Mixer |
| darktable | 3.0.1snap1 | kyrofa | - | Virtual lighttable and darkroom for photographers |

| | | | | |
|--------------------------|-------------------------|-------------------|---------|---|
| photoscape | 3.7 | merlijn-sebrechts | - | PhotoScape is a fun and easy photo editing software that enables you to fix and enhance photos. |
| kmplot | 20.04.0 | kde✓ | - | Mathematical Function Plotter |
| labplot | 2.6.0 | kde✓ | - | interactive graphing and analysis of scientific data |
| zoom-client | 5.0.418682.0603 | ogra | - | ZOOM Cloud Meetings |
| kwave | 18.04.1 | kde✓ | - | Kwave is a sound editor built on KDE Frameworks 5 |
| kgraphviewer | 2.4.3 | kde✓ | - | A Graphviz DOT graph viewer |
| custom-screen-resolution | 2.0.0 | anopensourcecoder | - | Create custom resolution base on screen size, PPI and zoom level. |
| heimer | 1.17.0 | jussi-lind | - | Heimer is a simple cross-platform mind map tool. |
| pixelorama | 0.7.0 | spacedriver88 | - | Pixelorama is a free and open source sprite editor, ideal for pixel art. |
| timeline | 2.2.0 | brunobergot | - | Timeline |
| recollectr | 3.13.60 | recollectr | - | Record and recall without breaking your flow |
| foobillard-plus | 3.43.0 | stanmichals | - | Billard game simulator |
| celestia-daily | ver1-6-0-1183-g22287736 | t4saha | - | Free, open source, Real-time 3D visualization of space. |
| vpv | 0.5.0 | angerj | - | Image viewer for image processing experts |
| submix | 1.0.13 | krasinsite | - | SubMix a Multitrack Audio Editor |
| terminalpp | 0.6.0 | zduka | classic | Cross-platform terminal emulator. |
| pynsource | 0+git.217c666-dirty | andybulka | - | Pynsource - reverse engineer |

Python source code into UML

| | | | | |
|--------------------|------------------------------|-----------|---|---|
| fakecam | 2.0.0 | diddledan | - | Fakecam |
| rview | 1.1.1 | raotech | - | rview |
| clari3d-lite-64 | 2.0.5 | clari3d | - | Welcome to the main installation package of Clari3D Lite. |
| mp3splt-gtk | 0.9.2+2.6.2+patched+pkg-b6bf | brlin | - | Utility to split mp3, ogg vorbis and FLAC files without decoding |
| featherpad | 0.10.0+pkg-3be6 | brlin | - | Lightweight Qt5 Plain-Text Editor for Linux |
| pick-colour-picker | 1.51-e54bc02 | sil | - | A colour picker that remembers where you picked colours from |

```
ai@ubuntu20:~$ sudo snap install zoom-client
zoom-client 5.0.418682.0603 from Oliver Grawert (ogra) installed
```

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3. Настроить iptables: разрешить подключения только на 22-й и 80-й порты.

```
ai@ubuntu20:~$ sudo iptables -F INPUT ACCEPT
ai@ubuntu20:~$ sudo iptables -A INPUT -p tcp --dport=22 -j ACCEPT
ai@ubuntu20:~$ sudo iptables -A INPUT -p tcp --dport=80 -j ACCEPT
ai@ubuntu20:~$ sudo iptables -A INPUT -i lo -j ACCEPT
ai@ubuntu20:~$ sudo iptables -A INPUT -p icmp -j ACCEPT
ai@ubuntu20:~$ sudo iptables -A INPUT -p TCP -m state --state ESTABLISHED,RELATED -j
```

ACCEPT

```
ai@ubuntu20:~$ sudo iptables -P INPUT DROP
```

```
ai@ubuntu20:~$ sudo iptables -A INPUT -p tcp --dport=443 -j ACCEPT
```

```
ai@ubuntu20:~$ sudo iptables -L -nv
```

Chain INPUT (policy DROP 11 packets, 3571 bytes)

| pkts | bytes | target | prot | opt | in | out | source | destination | |
|------|-------|--------|------|-----|----|-----|-----------|-------------|---------------------|
| 1543 | 94168 | ACCEPT | tcp | -- | * | * | 0.0.0.0/0 | 0.0.0.0/0 | tcp dpt:22 |
| 0 | 0 | ACCEPT | tcp | -- | * | * | 0.0.0.0/0 | 0.0.0.0/0 | tcp dpt:80 |
| 42 | 3212 | ACCEPT | all | -- | lo | * | 0.0.0.0/0 | 0.0.0.0/0 | |
| 0 | 0 | ACCEPT | icmp | -- | * | * | 0.0.0.0/0 | 0.0.0.0/0 | |
| 5 | 416 | ACCEPT | tcp | -- | * | * | 0.0.0.0/0 | 0.0.0.0/0 | state |
| | | | | | | | | | RELATED,ESTABLISHED |
| 0 | 0 | ACCEPT | tcp | -- | * | * | 0.0.0.0/0 | 0.0.0.0/0 | tcp dpt:443 |

Chain FORWARD (policy ACCEPT 0 packets, 0 bytes)

| pkts | bytes | target | prot | opt | in | out | source | destination |
|------|-------|--------|------|-----|----|-----|--------|-------------|
|------|-------|--------|------|-----|----|-----|--------|-------------|

Chain OUTPUT (policy ACCEPT 15 packets, 3252 bytes)

| pkts | bytes | target | prot | opt | in | out | source | destination |
|------|-------|--------|------|-----|----|-----|--------|-------------|
|------|-------|--------|------|-----|----|-----|--------|-------------|

=====

4. Настроить проброс портов локально с порта 80 на порт 8080.

для внешних клиентов и только при открытом порте приложения.

```
ai@ubuntu20:~$ sudo iptables -t nat -A PREROUTING -p tcp --dport=80 -j REDIRECT --to-port 8080
```

на локальной машине

```
ai@ubuntu20:~$ sudo iptables -t nat -A OUTPUT -p tcp -s 127.0.0.1 --dport 80 -j REDIRECT --to-ports 8080
```

=====

5. * Настроить проброс портов с локального 8080 на удалённый 80.

```
ai@ubuntu20:~$ sudo iptables -t nat -A OUTPUT -p tcp -m tcp -s 127.0.0.1 --dport 8080 -j DNAT --to-destination 178.248.232.209:80
```