neoctobers Documentation

latest

neoctobers

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RPi3B+

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Personal records.

CHAPTER 1

Init a RPi3B+ (and boot from USB HDD)

records. . .

1.1 Hardware

- **RPi3B+** x1
- **TF 16G** x1
- **USB HDD** 1T x1
- **USB Keyboard** x1
- **USB Mouse** x1

1.2 Image Flashing Tool

- balenaEtcher-Portable-1.4.8-x64

  ref https://www.balena.io/etcher/

1.3 System Image

https://www.raspberrypi.org/downloads/raspbian/

1.4 Switch to: Boot from USB HDD

1. Write the image to TF card.

2. Add `program_usb_boot_mode=1` to file `cmdline.txt`
3. Insert the TF card, power on for about 60 seconds, power off, remove the TF
4. Write the image to USB HDD
5. Adjust partitions, by `DiskGenius`, on win10:
   - 0: keep the `boot`, do not edit it
   - 2: adjust `rootfs` to `32GB`, and move it to the end, end, end
   - 1: create an `ext4` partition, with the rest all spaces, named `data`

1.5 Configurations

1. Boot to `Raspbian desktop`, follow the guide, then reboot
2. Terminal:
   - sudo apt update
   - sudo apt upgrade
3. Pi Configuration
   - rename
   - switch boot to CLI, will disable auto login at the same time
   - enable SSH
4. reboot

1.6 Mount partition #1

Append one line to `/etc/fstab`, before it, make sure `/dev/sda3` is correct:

```
/dev/sda3    /data    ext4    defaults    1    1
```

Reboot

1.7 Change /data owner to pi

```
$ sudo chown pi /data
```

1.8 Don't allow kworker eats CPU

System will check TF slot every 500ms(green led blinks), during it is blank, that will eat your CPU time.

> **ref** https://github.com/raspberrypi/linux/issues/2567

Check CPU usage:

```
$ top
top - 07:43:51 up  7:55,  1 user,  load average: 0.33, 0.29, 0.28
Tasks: 100 total,   2 running,  57 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.1 us,  1.3 sy,  0.0 ni, 98.6 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
KiB Mem :  1000180 total,   771736 free,    59604 used,   168840 buff/cache
KiB Swap:   102396 total,   102396 free,        0 used.   876512 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU %MEM     TIME+ COMMAND
   29 root      20   0       0      0      0 R   8.9  0.0  44:15.23 kworker/0:1
 1670 pi        20   0    8128   3288   2764 R   1.0  0.3   0:01.59 top
...
```

If kworker eats 8-13% CPU, append one line to `/boot/config.txt`:

```
# With no TF card
dtoverlay=sdtweak,poll_once
```

Reboot, OKay.

1.9 hd-idle

To protect the HDD, suspend when idle.

> **ref** http://www.mkitby.com/2016/05/15/raspberry-pi-nas-manage-hdd-power/

Check support:

```
$ cat /proc/diskstats
1       0 ram0 0 0 0 0 0 0 0 0 0 0 0
1       1 ram1 0 0 0 0 0 0 0 0 0 0 0
1       2 ram2 0 0 0 0 0 0 0 0 0 0 0
1       3 ram3 0 0 0 0 0 0 0 0 0 0 0
1       4 ram4 0 0 0 0 0 0 0 0 0 0 0
1       5 ram5 0 0 0 0 0 0 0 0 0 0 0
1       6 ram6 0 0 0 0 0 0 0 0 0 0 0
1       7 ram7 0 0 0 0 0 0 0 0 0 0 0
1       8 ram8 0 0 0 0 0 0 0 0 0 0 0
1       9 ram9 0 0 0 0 0 0 0 0 0 0 0
1      10 ram10 0 0 0 0 0 0 0 0 0 0 0
1      11 ram11 0 0 0 0 0 0 0 0 0 0 0
1      12 ram12 0 0 0 0 0 0 0 0 0 0 0
1      13 ram13 0 0 0 0 0 0 0 0 0 0 0
1      14 ram14 0 0 0 0 0 0 0 0 0 0 0
1      15 ram15 0 0 0 0 0 0 0 0 0 0 0
7       0 loop0 0 0 0 0 0 0 0 0 0 0 0
7       1 loop1 0 0 0 0 0 0 0 0 0 0 0
7       2 loop2 0 0 0 0 0 0 0 0 0 0 0
7       3 loop3 0 0 0 0 0 0 0 0 0 0 0
7       4 loop4 0 0 0 0 0 0 0 0 0 0 0
7       5 loop5 0 0 0 0 0 0 0 0 0 0 0
7       6 loop6 0 0 0 0 0 0 0 0 0 0 0
7       7 loop7 0 0 0 0 0 0 0 0 0 0 0
8       0 sda 17021 1174 1520519 302550 51991 7860 10477700 1732050 0 237770 2034780
8       1 sda1 146 199 4589 1050 3 0 4 10 0 770 1060
8       2 sda2 16756 923 1507888 299660 5031 7169 344976 359560 0 79220 659400
8       3 sda3 95 52 6994 1660 45719 691 10132720 1371990 0 163900 1373650
```

Install dependencies:

```
$ sudo apt install build-essential fakeroot debhelper -y
```

Download:

```
$ wget http://sourceforge.net/projects/hd-idle/files/hd-idle-1.05.tgz
```

Unzip and cd in:

```
$ tar -xvf hd-idle-1.05.tgz && cd hd-idle
```

Install:

```
$ sudo dpkg-buildpackage -rfakeroot
$ sudo dpkg -i ../hd-idle_*.deb
```

Check for support:

```
$ sudo hd-idle -i 0 -a sda -i 300 -d
probing sda: reads: 1520519, writes: 10949452
^C
```

`Ctrl + C` to break.

Edit conf:

```
$ sudo nano /etc/default/hd-idle
```

Modify:

```
START_HD_IDLE=true
```

Append for idle, after `600` seconds:

```
HD_IDLE_OPTS="-i 0 -a sda -i 600"
```

Restart the service:

```
$ sudo service hd-idle restart
```

CHAPTER 2

Install Python3.7.2

Install Phthon3.7.2 and make symlink to `/usr/bin/`.

2.1 Install dependence

```
$ sudo apt update
$ sudo apt install build-essential python-dev python-setuptools python-pip python-
↪smbus build-essential libncursesw5-dev libgdbm-dev libc6-dev zlib1g-dev libsqlite3-
↪dev tk-dev libssl-dev openssl libffi-dev
```

2.2 Download and install Python-3.7.2

```
$ wget https://www.python.org/ftp/python/3.7.2/Python-3.7.2.tgz
$ tar zxvf Python-3.7.2.tgz && cd Python-3.7.2
$ sudo ./configure --prefix=/usr/local/opt/python-3.7.2 --with-ssl
$ sudo make && sudo make install
```

: In the 3rd command, param `--with--ssl` is important, don't miss it!

2.3 Backup python3.5 and pip3 symlink

```
$ sudo cp /usr/bin/python3 /usr/bin/python3.5
cp: '/usr/bin/python3' and '/usr/bin/python3.5' are the same file

$ sudo cp /usr/bin/pip3 /usr/bin/pip3.5
```

2.4 Make Symlinks

```
$ sudo ln -s /usr/local/opt/python-3.7.2/bin/python3.7 /usr/bin/python3.7
$ sudo ln -s /usr/local/opt/python-3.7.2/bin/python3.7 /usr/bin/python3
$ sudo ln -s /usr/local/opt/python-3.7.2/bin/python3.7 /usr/bin/py

$ sudo ln -s /usr/local/opt/python-3.7.2/bin/pip3.7 /usr/bin/pip3.7
$ sudo ln -s /usr/local/opt/python-3.7.2/bin/pip3.7 /usr/bin/pip3

$ sudo ln -s /usr/local/opt/python-3.7.2/bin/pydoc3.7 /usr/bin/pydoc3.7
$ sudo ln -s /usr/local/opt/python-3.7.2/bin/python3.7m /usr/bin/python3.7m
$ sudo ln -s /usr/local/opt/python-3.7.2/bin/pyvenv-3.7 /usr/bin/pyvenv-3.7
```

2.5 Rename lsb_release if there is a error

Try:

```
$ $ pip3 list
Package    Version
---------- -------
pip        10.0.1
setuptools 39.0.1
Traceback (most recent call last):
  File "/usr/bin/pip3", line 11, in <module>
    sys.exit(main())
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_internal/__init__
↪.py", line 246, in main
    return command.main(cmd_args)
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_internal/
↪basecommand.py", line 264, in main
    timeout=min(5, options.timeout)) as session:
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_internal/
↪basecommand.py", line 81, in _build_session
    insecure_hosts=options.trusted_hosts,
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_internal/
↪download.py", line 338, in __init__
    self.headers["User-Agent"] = user_agent()
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_internal/
↪download.py", line 101, in user_agent
    zip(["name", "version", "id"], distro.linux_distribution()),
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_vendor/distro.py
↪", line 120, in linux_distribution
    return _distro.linux_distribution(full_distribution_name)
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_vendor/distro.py
↪", line 634, in linux_distribution
    self.version(),
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_vendor/distro.py
↪", line 688, in version
    self.lsb_release_attr('release'),
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_vendor/distro.py
↪", line 836, in lsb_release_attr
    return self._lsb_release_info.get(attribute, '')
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_vendor/distro.py
↪", line 522, in __get__
```

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()

```
    ret = obj.__dict__[self._fname] = self._f(obj)
  File "/usr/local/opt/python-3.7.2/lib/python3.7/site-packages/pip/_vendor/distro.py
↪", line 933, in _lsb_release_info
    stdout = subprocess.check_output(cmd, stderr=devnull)
  File "/usr/local/opt/python-3.7.2/lib/python3.7/subprocess.py", line 389, in check_
↪output
    **kwargs).stdout
  File "/usr/local/opt/python-3.7.2/lib/python3.7/subprocess.py", line 481, in run
    output=stdout, stderr=stderr)
subprocess.CalledProcessError: Command '('lsb_release', '-a')' returned non-zero exit␣
↪status 1.
```

Rename it safely:

```
$ sudo mv /usr/bin/lsb_release /usr/bin/lsb_release_back
```

Then, try again:

```
$ pip3 list
Package    Version
---------- -------
pip        10.0.1
setuptools 39.0.1
You are using pip version 10.0.1, however version 18.1 is available.
You should consider upgrading via the 'pip install --upgrade pip' command.
```

2.6 Upgrade pip3

Do it:

```
$ pip3 install -U pip
Looking in indexes: https://pypi.org/simple, https://www.piwheels.org/simple
Collecting pip
  Downloading https://files.pythonhosted.org/packages/c2/d7/
↪90f34cb0d83a6c5631cf71dfe64cc1054598c843a92b400e55675cc2ac37/pip-18.1-py2.py3-none-
↪any.whl (1.3MB)
    100% || 1.3MB 43kB/s
Installing collected packages: pip
  Found existing installation: pip 10.0.1
    Uninstalling pip-10.0.1:
      Successfully uninstalled pip-10.0.1
Successfully installed pip-18.1
```

Check it:

```
$ pip3 list
Package    Version
---------- -------
pip        18.1
setuptools 39.0.1

$
```

May update setuptools:

```
$ sudo pip3 install -U setuptools
Looking in indexes: https://pypi.org/simple, https://www.piwheels.org/simple
Collecting setuptools
  Downloading https://files.pythonhosted.org/packages/37/06/
↪754589caf971b0d2d48f151c2586f62902d93dc908e2fd9b9b9f6aa3c9dd/setuptools-40.6.3-py2.
↪py3-none-any.whl (573kB)
    100% || 573kB 20kB/s
Installing collected packages: setuptools
  Found existing installation: setuptools 39.0.1
    Uninstalling setuptools-39.0.1:
      Successfully uninstalled setuptools-39.0.1
Successfully installed setuptools-40.6.3
```

Python3 is ready now, well done!

CHAPTER 3

Restore UART/ttyAMA0 over GPIO, by Disable BT

Release the serial port, GPIO:

GPIO	FUNC
6	TXD0(UART)
8	RXD0(UART)

3.1 Modify Boot Configuration

Edit `/boot/config.txt`, append:

```
# Disable BT
dtoverlay=pi3-disable-bt
```

Reboot.

3.2 Check

```
$ ls -l /dev
...
lrwxrwxrwx 1 root root           7 Dec 21 21:10 serial0 -> ttyAMA0
lrwxrwxrwx 1 root root           5 Dec 21 21:10 serial1 -> ttyS0
...
```

3.3 Permit access for pi

```
$ sudo raspi-config
```

Select: `Interfacing Options - Serial`:

- Disable the login shell on the serial
- Enable the serial port hardware
- Reboot

  ref https://www.raspberrypi.org/forums/viewtopic.php?t=180254

3.4 Disable `hciuart.service`

```
$ sudo systemctl disable hciuart
Removed /etc/systemd/system/multi-user.target.wants/hciuart.service.
```

CHAPTER 4

WaveShare 4.3inch e-paper UART module

GPIO	FUNC	EPaper
2	+5V	RED
4	GND	BLACK
6	TXD0(UART)	GREEN
8	RXD0(UART)	WHITE

CHAPTER 5

Supervisor

Supervisor: A Process Control System

ref http://supervisord.org/index.html

5.1 Install

```
$ sudo apt install supervisor
```

5.2 sample.conf

ref http://supervisord.org/configuration.html#program-x-section-example

Under `/etc/supervisor/conf.d/`, write a file `sample.conf` like:

```
[program:sample]
directory=/path/to/dir/
command=/path/to/file --param
autostart=true
autorestart=true
startretries=5
redirect_stderr=true
stdout_logfile=/path/to/file.log
```

5.3 Commands

```
$ supervisorctl status
$ supervisorctl reload
$ supervisorctl restart all

$ supervisorctl stop sample
$ supervisorctl start sample
$ supervisorctl restart sample
$ supervisorctl update
```

CHAPTER 6

Crontab -e

Create a cron task

ref https://linuxtools-rst.readthedocs.io/zh_CN/latest/tool/crontab.html

6.1 Edit crontab

```
$ crontab -e
```

Line:

```
0,30 * * * *    /path/to/command
```

6.2 Restart cron service

```
$ sudo service cron reload
[ ok ] Reloading configuration files for periodic command scheduler: cron.

$ sudo service cron restart
```

CHAPTER 7

ShadowsocksR Client

ShadowsocksR by Python

7.1 Install

```
$ git clone git@github.com:shadowsocksrr/shadowsocksr.git
```

7.2 Config

Make a config file in `/path/to/config.json`

```
{
    "server": "123.123.123.123",
    "server_port": 8388,
    "method": "aes-256-cfb",
    "password": "password",
    "protocol": "origin",
    "protocol_param": "",
    "obfs": "plain",
    "obfs_param": "",

    "local_address": "127.0.0.1",
    "local_port": 1080
}
```

They are:

- Server IP address or domain
- Server port
- Method

- Password
- Protocol
- Protocol params
- Obfs
- Obfs Params
- Listen IP
- Listen Port

7.3 Try to run

```
$ python /path/to/shadowsocksr/shadowsocks/local.py -c /path/to/config.json
```

7.4 Keep it running by supervisor

Write a supervisor `/etc/supervisor/conf.d/ssr.conf` file:

```
[program:ssr]
user=root
command=/usr/bin/python3 /path/to/shadowsocksr/shadowsocks/local.py -c /path/to/
↪config.json
autostart=true
autorestart=true
startretries=5
redirect_stderr=true
stdout_logfile=/path/to/ssr.log
```

Make sure all the path is already exist.

CHAPTER 8

Proxychains-NG: Run commands behind a Socks5 proxy

Run a command behind a Socks5 proxy.

ref https://github.com/rofl0r/proxychains-ng

8.1 Installation

```
$ git clone git@github.com:rofl0r/proxychains-ng.git
$ cd proxychains-ng
$ sudo ./configure
$ sudo make && sudo make install
```

The full path to command is: `/usr/local/bin/porxychains4`

8.2 Configuration

Write config file `/etc/proxychains.conf` as default:

```
strict_chain
proxy_dns
remote_dns_subnet 224
tcp_read_time_out 15000
tcp_connect_time_out 8000

[ProxyList]
socks5 127.0.0.1 1080
```

PS: Port 1080 is listened by a Shadowsocks or shadowsocksR.

: Original `proxychains.conf` file: proxychains.conf on Github.com or in RAW format

8.3 Check and usage

```
$ porxychains4 curl https://api.myip.com/
```

CHAPTER 9

Run Tor on RPi

Tor on RPi3B+

ref https://www.freebuf.com/geek/121780.html

ref http://shumeipai.nxez.com/2014/02/28/based-on-anonymous-proxy-raspberry-pi-and-tordajian.html

9.1 Install tor

```
$ sudo apt install tor
```

9.2 Stop tor service and make a configuration file

```
$ sudo service tor stop
```

Make tor work for lan, modify configuration file `/etc/tor/torrc`:

```
# VIA SS(R)
SOCKS5Proxy 127.0.0.1:1008

# SOCKS
SOCKSPort 9050
SocksListenAddress 0.0.0.0:9050
SocksPolicy accept 127.0.0.0/8
SocksPolicy accept 10.168.0.0/16
SocksPolicy accept 172.16.0.0/12
SocksPolicy accept 192.168.0.0/16
SocksPolicy reject *

# WOULD NOT BE A EXIT
ExitPolicy reject *:*
```

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()

```
# LOG
Log notice file /var/log/tor/notices.log
```

ref https://github.com/torproject/tor/blob/master/src/config/torrc.sample.in

9.3 Restart tor service

```
$ sudo service tor restart
```

9.4 Cat log

```
$ cat /var/log/tor/notices.log
Dec 21 23:19:40.000 [notice] Tor 0.2.9.16 (git-9ef571339967c1e5) opening log file.
Dec 21 23:19:39.939 [warn] OpenSSL version from headers does not match the version we
↪'re running with. If you get weird crashes, that might be why. (Compiled with␣
↪1010006f: OpenSSL 1.1.0f  25 May 2017; running with 101000af: OpenSSL 1.1.0j  20␣
↪Nov 2018).
Dec 21 23:19:40.367 [notice] Tor 0.2.9.16 (git-9ef571339967c1e5) running on Linux␣
↪with Libevent 2.0.21-stable, OpenSSL 1.1.0j and Zlib 1.2.8.
Dec 21 23:19:40.367 [notice] Tor can't help you if you use it wrong! Learn how to be␣
↪safe at https://www.torproject.org/download/download#warning
Dec 21 23:19:40.368 [notice] Read configuration file "/usr/share/tor/tor-service-
↪defaults-torrc".
Dec 21 23:19:40.368 [notice] Read configuration file "/etc/tor/torrc".
Dec 21 23:19:40.378 [warn] The SocksListenAddress option is deprecated, and will most␣
↪likely be removed in a future version of Tor. Use SocksPort instead. (If you think␣
↪this is a mistake, please let us know!)
Dec 21 23:19:40.379 [warn] You specified a public address '0.0.0.0:9050' for␣
↪SocksPort. Other people on the Internet might find your computer and use it as an␣
↪open proxy. Please don't allow this unless you have a good reason.
Dec 21 23:19:40.381 [warn] You specified a public address '0.0.0.0:9050' for␣
↪SocksPort. Other people on the Internet might find your computer and use it as an␣
↪open proxy. Please don't allow this unless you have a good reason.
Dec 21 23:19:40.381 [notice] Opening Socks listener on 0.0.0.0:9050
Dec 21 23:19:40.000 [notice] Parsing GEOIP IPv4 file /usr/share/tor/geoip.
Dec 21 23:19:41.000 [notice] Parsing GEOIP IPv6 file /usr/share/tor/geoip6.
Dec 21 23:19:42.000 [notice] Bootstrapped 0%: Starting
Dec 21 23:19:43.000 [notice] Bootstrapped 80%: Connecting to the Tor network
Dec 21 23:19:43.000 [notice] Signaled readiness to systemd
Dec 21 23:19:43.000 [notice] Opening Control listener on /var/run/tor/control
Dec 21 23:19:44.000 [notice] Bootstrapped 85%: Finishing handshake with first hop
Dec 21 23:19:45.000 [notice] Bootstrapped 90%: Establishing a Tor circuit
Dec 21 23:19:47.000 [notice] Tor has successfully opened a circuit. Looks like client␣
↪functionality is working.
Dec 21 23:19:47.000 [notice] Bootstrapped 100%: Done
```

That's right.

9.5 Use tor via socks5

Can use tor via socks5 now…

CHAPTER 10

Convert socks to http proxy thr privoxy

Privoxy

10.1 Installation

```
$ sudo apt install -y privoxy
```

10.2 Configuration

ref https://www.privoxy.org/faq/configuration.html

Modify or append lines of `/etc/privoxy/config`:

```
# listen on 9051
listen-address  :9051

# permit access from LOCAL
permit-access 127.0.0.0/8

# permit access from LAN
permit-access 10.168.0.0/16
permit-access 172.16.0.0/12
permit-access 192.168.0.0/16

# forward to TOR
forward-socks5    /    127.0.0.1:9050  .
```

so, the whole config text would be:

```
confdir /etc/privoxy
logdir /var/log/privoxy
actionsfile match-all.action # Actions that are applied to all sites and maybe␣
↪overruled later on.
actionsfile default.action   # Main actions file
actionsfile user.action      # User customizations
filterfile default.filter
filterfile user.filter      # User customizations
logfile logfile

# listen on 9051
listen-address  :9051
# listen-address  [::1]:8118

toggle  1
enable-remote-toggle  0
enable-remote-http-toggle  0
enable-edit-actions 0
enforce-blocks 0

# permit access from LOCAL
permit-access 127.0.0.0/8

# permit access from LAN
permit-access 10.168.0.0/16
permit-access 172.16.0.0/12
permit-access 192.168.0.0/16

buffer-limit 4096
enable-proxy-authentication-forwarding 0
forwarded-connect-retries  0
accept-intercepted-requests 0
allow-cgi-request-crunching 0
split-large-forms 0
keep-alive-timeout 5
tolerate-pipelining 1
socket-timeout 300
max-client-connections 128

# forward to TOR
forward-socks5    /    127.0.0.1:9050  .
```

: Make sure: don't miss the **.** at the end.

10.3 Restart privoxy service

```
$ sudo service privoxy restart
```

Enjoy.

CHAPTER 11

Add to $PATH

Add `/path/to/directory` to $PATH

11.1 For terminal

```
$ export PATH=/path/to/directory:$PATH
```

11.2 For system

Write a `/etc/profile.d/add_to_path.sh` file:

```
export PATH=/path/to/directory:$PATH
```

Then:

```
$ sudo chmod +x /etc/profile.d/add_to_path.sh
```

Reboot.

11.3 For sudo

```
$ sudo visudo
```

Add in `secure_path="...",` and reboot.

11.4 Check

```
$ echo $PATH
```

CHAPTER 12

Share thr samba

Share files and folders.

12.1 Installation

```
$ sudo apt install samba samba-common-bin
$ sudo cp /etc/samba/smb.conf /etc/samba/smb.conf.bak
```

12.2 Configuration

`/etc/samba/smb.conf`:

```
[global]
security = user
encrypt passwords = true
guest account = nobody
map to guest = bad user

#======================= Share Definitions =======================
[share]
comment = Guest access shares
path = /data/share
browseable = yes
writable = yes
#read only = yes
guest ok = yes
public = yes

[data]
comment = NAS
```

(continues on next page)

()

```
path = /data
browseable = yes
writable = yes
valid users = root pi
```

12.3 Start samba

```
$ sudo service samba restart
Failed to restart samba.service: Unit samba.service is masked.
```

WTF is masked?!!

```
$ sudo rm /lib/systemd/system/samba.service
$ sudo systemctl enable samba
samba.service is not a native service, redirecting to systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable samba
update-rc.d: error: samba Default-Start contains no runlevels, aborting.

$ sudo service samba restart
pi@RPi3Bp0:/data $ sudo service samba status
 samba.service - LSB: ensure Samba daemons are started (nmbd, smbd and samba)
   Loaded: loaded (/etc/init.d/samba; generated; vendor preset: enabled)
   Active: active (exited) since Wed 2018-12-26 15:22:14 HKT; 7s ago
     Docs: man:systemd-sysv-generator(8)
  Process: 11428 ExecStop=/etc/init.d/samba stop (code=exited, status=0/SUCCESS)
  Process: 11451 ExecStart=/etc/init.d/samba start (code=exited, status=0/SUCCESS)

Dec 26 15:22:14 RPi3Bp0 systemd[1]: Starting LSB: ensure Samba daemons are started␣
↪(nmbd, smbd and samba)...
Dec 26 15:22:14 RPi3Bp0 samba[11451]: Starting nmbd (via systemctl): nmbd.service.
Dec 26 15:22:14 RPi3Bp0 samba[11451]: Starting smbd (via systemctl): smbd.service.
Dec 26 15:22:14 RPi3Bp0 systemd[1]: Started LSB: ensure Samba daemons are started␣
↪(nmbd, smbd and samba).
```

Cannot get shared resource in LAN?

12.4 Add pi as samba user

```
$ sudo touch /etc/samba/smbpasswd
$ sudo smbpasswd -a pi
New SMB password:
Retype new SMB password:
Added user pi.
```

12.5 Restart service

```
$ sudo service samba reload
$ sudo service samba restart
$ sudo service samba status
```

OKay.

CHAPTER 13

Install Basic Calculator

```
$ sudo apt install bc
```

ref https://www.tecmint.com/bc-command-examples/

CHAPTER 14

Google

- Google
- Google

CHAPTER 15

FRP

-
-
-
- Downloads

15.1 ubuntu

`frps.ini`:

```
[common]
bind_port = 7000
vhost_https_port = 443
token = t0ken4c0nnect
```

`/etc/systemd/system/frps.service`:

```
[Unit]
Description=FRP Server
After=network.target

[Service]
ExecStart=/path/to/frps -c /path/to/frps.ini
Restart=on-abort

[Install]
WantedBy=multi-user.target
```

Enable the service:

```
$ systemctl enable frps
```

start / stop / restart / check status:

```
$ service frps start
$ service frps stop
$ service frps restart
$ service frps status
```

or run it in console:

```
$ ./frps -c ./frps.ini
```

15.2 Client-side, win10 for example

Edit the `frpc.ini`:

```
[common]
server_addr = your-ip-address
server_port = 7000
token = t0ken4c0nnect

[your.domain.com:port]
type = https
local_port = 443
custom_domains = your.domain.com
```

Run:

```
$ ./frpc -c ./frpc.ini
```

Enjoy it!

CHAPTER 16

Git

16.1

Download

16.2

```
$ git config --global user.name "your-name"
$ git config --global user.email "your-name@domain.com"
$ ssh-keygen -t rsa -C "your-name@domain.com"
```

16.3

```
$ cd existing_folder
$ git init
$ git remote add origin ...
$ git add .
$ git commit -m "Initial commit"
$ git push -u origin master
```

16.4 git add .

```
$ git reset --mixed
```

CHAPTER 17

Git

17.1 ssh-key

`id_rsa`

```
$ ssh-keygen -t rsa -C "name1@sample.domain"
$ ssh-keygen -t rsa -C "name2@sample.domain"
$ ssh-keygen -t rsa -C "name3@sample.domain"
```

Put them to `~/.ssh/` directory.

Edit or create `~/.ssh/config` file:

```
# name1
Host name1
    HostName github.com
    IdentityFile C:\\Users\\user\\.ssh\\id_rsa_name1
    PreferredAuthentications publickey
    User name1

# name2
Host name2
    HostName github.com
    IdentityFile C:\\Users\\user\\.ssh\\id_rsa_name2
    PreferredAuthentications publickey
    User user2

# name3
Host name3
    HostName git.oschina.net
    IdentityFile C:\\Users\\user\\.ssh\\id_rsa_name3
    PreferredAuthentications publickey
    User user3

# ...
```

17.2 Usage

clone for example:

```
$ git clone git@name?:user-name/repository-name.git
```

CHAPTER 18

Shorten a Github URL

run:

```
$ curl -i https://git.io -F "url=https://github.com/neoctobers" -F "code=neoctobers"
```

CHAPTER 19

cmder

Run cmder as administrator, and run:

```
$ Cmder.exe /REGISTER ALL
```

ref https://www.jianshu.com/p/979db1a96f6d

CHAPTER 20

cmder in hyper.js

ref https://hyper.is/

ref https://github.com/cmderdev/cmder/wiki/Seamless-Hyper-integration

```
// Future versions of Hyper may add additional config options,
// which will not automatically be merged into this file.
// See https://hyper.is#cfg for all currently supported options.

module.exports = {
  config: {
    // choose either `'stable'` for receiving highly polished,
    // or `'canary'` for less polished but more frequent updates
    updateChannel: 'stable',

    // default font size in pixels for all tabs
    fontSize: 12,

    // font family with optional fallbacks
    fontFamily: 'Menlo, "DejaVu Sans Mono", Consolas, "Lucida Console", monospace',

    // default font weight: 'normal' or 'bold'
    fontWeight: 'normal',

    // font weight for bold characters: 'normal' or 'bold'
    fontWeightBold: 'bold',

    // line height as a relative unit
    lineHeight: 1,

    // letter spacing as a relative unit
    letterSpacing: 0,

    // terminal cursor background color and opacity (hex, rgb, hsl, hsv, hwb or cmyk)
    cursorColor: 'rgba(248,28,229,0.8)',
```

(continues on next page)

()

```
    // terminal text color under BLOCK cursor
    cursorAccentColor: '#000',

    // `'BEAM'` for |, `'UNDERLINE'` for _, `'BLOCK'` for
    cursorShape: 'BLOCK',

    // set to `true` (without backticks and without quotes) for blinking cursor
    cursorBlink: false,

    // color of the text
    foregroundColor: '#fff',

    // terminal background color
    // opacity is only supported on macOS
    backgroundColor: '#000',

    // terminal selection color
    selectionColor: 'rgba(248,28,229,0.3)',

    // border color (window, tabs)
    borderColor: '#333',

    // custom CSS to embed in the main window
    css: '',

    // custom CSS to embed in the terminal window
    termCSS: '',

    // if you're using a Linux setup which show native menus, set to false
    // default: `true` on Linux, `true` on Windows, ignored on macOS
    showHamburgerMenu: '',

    // set to `false` (without backticks and without quotes) if you want to hide the␣
↪minimize, maximize and close buttons
    // additionally, set to `'left'` if you want them on the left, like in Ubuntu
    // default: `true` (without backticks and without quotes) on Windows and Linux,␣
↪ignored on macOS
    showWindowControls: '',

    // custom padding (CSS format, i.e.: `top right bottom left`)
    padding: '12px 14px',

    // the full list. if you're going to provide the full color palette,
    // including the 6 x 6 color cubes and the grayscale map, just provide
    // an array here instead of a color map object
    colors: {
      black: '#000000',
      red: '#C51E14',
      green: '#1DC121',
      yellow: '#C7C329',
      blue: '#0A2FC4',
      magenta: '#C839C5',
      cyan: '#20C5C6',
      white: '#C7C7C7',
      lightBlack: '#686868',
      lightRed: '#FD6F6B',
      lightGreen: '#67F86F',
```

(continues on next page)

()

```
      lightYellow: '#FFFA72',
      lightBlue: '#6A76FB',
      lightMagenta: '#FD7CFC',
      lightCyan: '#68FDFE',
      lightWhite: '#FFFFFF',
    },

    // the shell to run when spawning a new session (i.e. /usr/local/bin/fish)
    // if left empty, your system's login shell will be used by default
    //
    // Windows
    // - Make sure to use a full path if the binary name doesn't work
    // - Remove `--login` in shellArgs
    //
    // Bash on Windows
    // - Example: `C:\\Windows\\System32\\bash.exe`
    //
    // PowerShell on Windows
    // - Example: `C:\\WINDOWS\\System32\\WindowsPowerShell\\v1.0\\powershell.exe`
    shell: 'cmd.exe',

    // for setting shell arguments (i.e. for using interactive shellArgs: `['-i']`)
    // by default `['--login']` will be used
    shellArgs: ['/k', 'D:\\G\\cmder_mini\\vendor\\init.bat'],

    // for environment variables
    env: { 'TERM':'cygwin' },

    // set to `false` for no bell
    bell: 'SOUND',

    // if `true` (without backticks and without quotes), selected text will␣
↪automatically be copied to the clipboard
    copyOnSelect: false,

    // if `true` (without backticks and without quotes), hyper will be set as the␣
↪default protocol client for SSH
    defaultSSHApp: true,

    // if `true` (without backticks and without quotes), on right click selected text␣
↪will be copied or pasted if no
    // selection is present (`true` by default on Windows and disables the context␣
↪menu feature)
    // quickEdit: true,

    // URL to custom bell
    // bellSoundURL: 'http://example.com/bell.mp3',

    // for advanced config flags please refer to https://hyper.is/#cfg
  },

  // a list of plugins to fetch and install from npm
  // format: [@org/]project[#version]
  // examples:
  //   `hyperpower`
  //   `@company/project`
  //   `project#1.0.1`
```

(continues on next page)

()

```
  plugins: [
    'hyperpower',
    'hyper-tab-icons',
    'hyper-statusline',
    'hyper-material-theme',
    'hyper-pane',
  ],

  // in development, you can create a directory under
  // `~/.hyper_plugins/local/` and include it here
  // to load it and avoid it being `npm install`ed
  localPlugins: [],

  keymaps: {
    // Example
    // 'window:devtools': 'cmd+alt+o',
  },
};
```

CHAPTER 21

CMD behind a proxy

I am using the cmder, just run:

```
$ set http_proxy=http://127.0.0.1:1009
$ set https_proxy=http://127.0.0.1:1009
```

If u wanna know what ip address u are using:

```
$ curl https://api.myip.com/
```

CHAPTER 22

Multi-Commands in one line

just write:

```
command1 & command2
command1 && command2
```

CHAPTER 23

Read the docs

Use sphinx to write a documentation, and host it on RTD, just like this page(site) you are reading.

23.1 sphinx

RTD

pip sphinx `sphinx-quickstart`

```
$ pip install sphinx
$ cd /path/to/project
$ mkdir docs
$ cd docs
$ sphinx-quickstart
```

`.rst`

html

```
$ make html
```

23.2 Localization of Documentation

RTD Manage Translations

Create/Update translatable files:

```
$ make gettext
```

or:

```
$ sphinx-build -b gettext . _build/gettext
```

This command above will leave the generated files under `_build/gettext`.

Generate `.po` files from source language manually:

```
$ sphinx-intl update -p _build/gettext -l zh_CN
```

Do translate, edit the `.po` files.

Then,

Build the documentation in target language, for preview locally:

```
$ sphinx-build -D language=zh_CN . _build/html/zh_CN
```

23.3 Multi-languages in RTD

Manually.

23.4 Use Transifex?

https://docs.readthedocs.io/en/latest/guides/manage-translations.html#using-transifex

CHAPTER 24

VS Code Settings Sync

Synchronize Settings, Snippets, Themes, File Icons, Launch, Keybindings, Workspaces and Extensions Across Multiple Machines Using GitHub Gist.

- Settings Sync on Visual Studio Marketplace All there.

CHAPTER 25

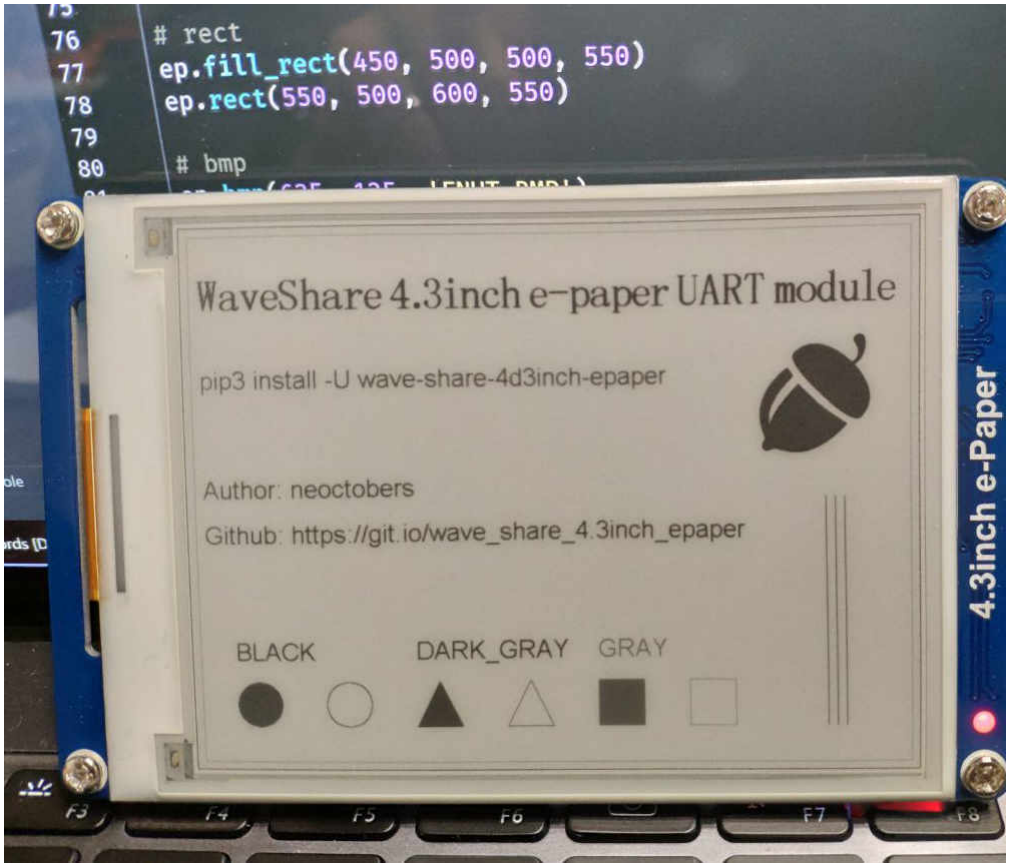
WaveShare 4.3inch e-paper UART module

- Official: WaveShare 4.3inch e-paper UART module
- Github: neoctobers/wave_share_4.3inch_epaper

25.1 Installation

```
$ pip3 install -U wave-share-4d3inch-epaper
```

25.2 Preview



25.3 Demo

```
import wave_share_4d3inch_epaper

# init on COM3
ep = wave_share_4d3inch_epaper.EPaper('COM3')

# clear
ep.clear()

# rotation 0
ep.set_rotation(ep.ROTATION_0)

# black
ep.set_color(ep.COLOR_BLACK)

# rect
ep.rect(0, 0, 799, 599)

# gray
ep.set_color(ep.COLOR_GRAY)
```

(continues on next page)

()

```
# rect
ep.rect(10, 10, 790, 590)

# black
ep.set_color(ep.COLOR_BLACK)

# text
ep.set_font_size_en(ep.FONT_SIZE_48)
ep.set_font_size_zh(ep.FONT_SIZE_48)
ep.text(20, 50, 'WaveShare 4.3inch e-paper UART module')

# dark gray
ep.set_color(ep.COLOR_DARK_GRAY)

# text
ep.set_font_size_en(ep.FONT_SIZE_32)
ep.set_font_size_zh(ep.FONT_SIZE_32)
ep.text(20, 150, 'pip3 install -U wave-share-4d3inch-epaper')

# author
ep.text(20, 270, 'Author: neoctobers')
ep.text(20, 320, 'Github: https://git.io/wave_share_4.3inch_epaper')

# line
ep.line(700, 300, 700, 550)
ep.line(710, 300, 710, 550)
ep.line(720, 300, 720, 550)

# text
ep.text(50, 450, 'BLACK')

# circle
ep.fill_circle(75, 525, 25)
ep.circle(175, 525, 25)

# dark gray
ep.set_color(ep.COLOR_DARK_GRAY)

# text
ep.text(250, 450, 'DARK_GRAY')

# tri
ep.fill_tri(275, 500, 250, 550, 300, 550)
ep.tri(375, 500, 350, 550, 400, 550)

# gray
ep.set_color(ep.COLOR_GRAY)

# text
ep.text(450, 450, 'GRAY')

# rect
ep.fill_rect(450, 500, 500, 550)
ep.rect(550, 500, 600, 550)

# bmp
ep.bmp(625, 125, 'FNUT.BMP')
```

(continues on next page)

()

```
# update
ep.update()
```

CHAPTER 26

Creating a self-signed certificate using OpenSSL

```
$ openssl req -newkey rsa:2048 -sha256 -nodes -keyout private.key -x509 -days 3650 -
↪out cert.pem
```

The `openssl` utility will ask you a few details. **Make sure you enter the correct FQDN!** If your server has a domain, enter the full domain name here (eg. `sub.example.com`).

ref https://github.com/python-telegram-bot/python-telegram-bot/wiki/Webhooks

CHAPTER 27

PostgreSQL: Grant all privileges on all xxx in schema public to user-name

For tables:

```
# GRANT ALL PRIVILEGES ON ALL TABLES IN SCHEMA public TO user-name;
```

ref https://poanchen.github.io/blog/2018/03/07/How-to-fix-permission-denied-for-relation-some_table_name-in-PostgreSQL

For sequence `xx_id_seq`:

```
# GRANT ALL PRIVILEGES ON ALL SEQUENCES IN SCHEMA public TO user-name;
```

ref https://stackoverflow.com/questions/9325017/error-permission-denied-for-sequence-cities-id-seq-using-postgres

CHAPTER 28

reStructuredText

reStructuredText(reST) is the default plaintext markup language used by Sphinx.

http://www.sphinx-doc.org/en/master/usage/restructuredtext/basics.html

And, [Official] reStructuredText Markup Specification

28.1 Inline markup

- Italics: *italics*
- Bold: **bold**
- Code samples: `code samples`

```
*italics*
**boldface**
``text``
```

28.2 Lists and Quote-like blocks

- This is a bulleted list.
- It has two items, the second item uses two lines.

1. This is a numbered list.
2. It has two items.

```
* This is a bulleted list.
* It has two items, the second
  item uses two lines.
```

(continues on next page)

()

```
1. This is a numbered list.
2. It has two items.
```

and:

1. This is a numbered list.
2. It has two items too.

```
#. This is a numbered list.
#. It has two items too.
```

28.3 Nested lists

Nested lists are possible

- this is
- a list
  - with a nested list
  - and some subitems
- and here the parent list continues

```
* this is
* a list

  * with a nested list
  * and some subitems

* and here the parent list continues
```

but be aware that they must be separated from the parent list items by blank lines:

28.4 Definition Lists

term (up to a line of text) Definition of the term, which must be indented

and can even consist of multiple paragraphs

next term Description.

```
term (up to a line of text)
   Definition of the term, which must be indented

   and can even consist of multiple paragraphs

next term
   Description.
```

Note that the term cannot have more than one line of text.

28.5 Quoted paragraphs

John Doe wrote:

```
>> Great idea!
>
> Why didn't I think of that?
```

You just did! ;-)

```
John Doe wrote::

>> Great idea!
>
> Why didn't I think of that?

You just did!  ;-)
```

28.6 Line Blocks

Take it away, Eric the Orchestra Leader!

> A one, two, a one two three four
>
> Half a bee, philosophically,
> must, *ipso facto*, half not be.
> But half the bee has got to be,
> *vis a vis* its entity. D'you see?
>
> But can a bee be said to be
> or not to be an entire bee,
> when half the bee is not a bee,
> due to some ancient injury?
>
> Singing...

```
Take it away, Eric the Orchestra Leader!

    | A one, two, a one two three four
    |
    | Half a bee, philosophically,
    |     must, *ipso facto*, half not be.
    | But half the bee has got to be,
    |     *vis a vis* its entity.  D'you see?
    |
    | But can a bee be said to be
    |     or not to be an entire bee,
    |         when half the bee is not a bee,
    |             due to some ancient injury?
    |
    | Singing...
```

28.7 Literal blocks

Literal code blocks are introduced by ending a paragraph with the special marker `::`.

The literal block must be indented (and, like all paragraphs, separated from the surrounding ones by blank lines):

```
This is a normal text paragraph. The next paragraph is a code sample::

   It is not processed in any way, except
   that the indentation is removed.

   It can span multiple lines.

This is a normal text paragraph again.
```

The handling of the :: marker is smart:

- If it occurs as a paragraph of its own, that paragraph is completely left out of the document.
- If it is preceded by whitespace, the marker is removed.
- If it is preceded by non-whitespace, the marker is replaced by a single colon.

28.8 Doctest blocks

Doctest blocks are interactive Python sessions cut-and-pasted into docstrings. They do not require the literal blocks syntax. The doctest block must end with a blank line and should not end with with an unused prompt:

```
>>> 1 + 1
2
```

28.9 Tables

Grid tables:

Header row, column 1 (header rows optional)	Header 2	Header 3	Header 4
body row 1, column 1	column 2	column 3	column 4
body row 2	...	...	

```
+------------------------+------------+----------+----------+
| Header row, column 1   | Header 2   | Header 3 | Header 4 |
| (header rows optional) |            |          |          |
+========================+============+==========+==========+
| body row 1, column 1   | column 2   | column 3 | column 4 |
+------------------------+------------+----------+----------+
| body row 2             | ...        | ...      |          |
+------------------------+------------+----------+----------+
```

Simple tables:

A	B	A and B
False	False	False
True	False	False
False	True	False
True	True	True

```
=====  =====  =======
A      B      A and B
=====  =====  =======
False  False  False
True   False  False
False  True   False
True   True   True
=====  =====  =======
```

28.10 Hyperlinks

External links:

This is a paragraph that contains a Link text, inline:

```
This is a paragraph that contains a `Link text <https://neoctobers.readthedocs.io/>`_,
↪ inline:
```

You can also separate the link and the target definition (ref), like this:

```
This is a paragraph that contains a `Link text`_, inline:

.. _Link text: https://neoctobers.readthedocs.io/
```

Internal links:

Internal linking is done via a special reST role provided by Sphinx, see the section on specific markup, Cross-referencing arbitrary locations.

See: http://www.sphinx-doc.org/en/master/usage/restructuredtext/roles.html#ref-role

28.11 Sections

Section headers are created by underlining (and optionally overlining) the section title with a punctuation character, at least as long as the text:

```
=================
This is a heading
=================
```

or:

```
This is a heading
-----------------
```

Normally, there are no heading levels assigned to certain characters as the structure is determined from the succession of headings. However, this convention is used in Python's Style Guide for documenting which you may follow:

- # with overline, for parts
- * with overline, for chapters
- =, for sections
- -, for subsections
- ^, for subsubsections
- “, for paragraphs

For me, in this reST guide sample, I prefer `----------`.

28.12 Use keyword for footnote

Here is a[1] sample, and a same[1] here, and a link *note* also.

```
Here is a [#note]_ sample, and a same [#note]_ here, and a link note_ also.

.. [#note] This is the footnote labeled "note".
```

28.13 Citations

Here is a citation reference: *[CIT2002]*.

```
Here is a citation reference: [CIT2002]_.

.. [CIT2002] This is the citation.  It's just like a footnote,
   except the label is textual.
```

28.14 Hyperlink Targets

Clicking on this internal hyperlink will take us to the *target*

The hyperlink target above points to this paragraph.

```
Clicking on this internal hyperlink will take us to the target_

.. _target:

The hyperlink target above points to this paragraph.
```

28.15 Substitution Definitions

The symbol must be used on containers used to dispose of medical waste.

[1] This is the footnote labeled “note”.

```
The |biohazard| symbol must be used on containers used to
dispose of medical waste.

.. |biohazard| image:: https://avatars2.githubusercontent.com/u/6206827?s=40&v=4
```

28.16 TBC

To be continued…

CHAPTER 29

Linux Tools Quick Tutorial

https://linuxtools-rst.readthedocs.io/ (zh_CN Only)

CHAPTER 30

Set timezone on Ubuntu

Run and select `Asia`, `China`, `Beijing time`:

```
$ tzselect
```

Copy the zoneinfo file to `/etc`:

```
$ cp /usr/share/zoneinfo/Asia/Shanghai /etc/localtime
```

CHAPTER 31

TCP Ping on Ubuntu

A TCP Ping tool.

31.1 Download

```
$ sudo apt install tcptraceroute
$ sudo wget http://www.vdberg.org/~richard/tcpping -O /usr/bin/tcping
$ sudo chmod 755 /usr/bin/tcping
```

31.2 Usage

```
$ tcping 127.0.0.1 22
seq 0: tcp response from localhost (127.0.0.1) [open]  0.031 ms
seq 1: tcp response from localhost (127.0.0.1) [open]  0.095 ms
seq 2: tcp response from localhost (127.0.0.1) [open]  0.032 ms
seq 3: tcp response from localhost (127.0.0.1) [open]  0.034 ms
seq 4: tcp response from localhost (127.0.0.1) [open]  0.111 ms
seq 5: tcp response from localhost (127.0.0.1) [open]  0.035 ms
^C
```

CHAPTER 32

Linux Commands (for remark)

some commands here...

32.1 Update & upgrade

```
$ sudo apt update
$ sudo apt upgrade

or
$ sudo apt update && sudo apt upgrade
```

32.2 List listening ports

```
$ netstat -ntlp | grep LISTEN
```

32.3 .tar.gz

```
$ tar -zcvf filename.tar.gz source
```

32.4 unzip

```
$ tar xzf filename.tar.gz
```

32.5 Check tcp_bbr

```
$ lsmod | grep bbr
```

CHAPTER 33

MySQL Connection support for Python3 on ubuntu

```
$ sudo apt install libmysqlclient-dev
$ pip3 install mysqlclient
```

CHAPTER 34

Install libsodium

```
$ sudo apt install libsodium-dev
```

CHAPTER 35

Python Cookbook 3rd Edition Documentation

https://python3-cookbook.readthedocs.io/ (zh_CN Only)

CHAPTER 36

Update pip3 to 18.x on Ubuntu 18.04 LTS

Check for python3 version:

```
# python3
Python 3.6.7 (default, Oct 22 2018, 11:32:17)
[GCC 8.2.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

Install `pip3`:

```
# wget https://bootstrap.pypa.io/get-pip.py
# python3 get-pip.py
```

Check `pip3`:

```
# pip3
-bash: /usr/bin/pip3: No such file or directory
```

but:

```
# pip -V
pip 18.1 from /usr/local/lib/python3.6/dist-packages/pip (python 3.6)
```

`pip` === `pip3` ??! Make a symblink for it:

```
# ln -s /usr/local/bin/pip /usr/bin/pip3
# pip3 -V
pip 18.1 from /usr/local/lib/python3.6/dist-packages/pip (python 3.6)
```

CHAPTER 37

Django

useful commands:

```
django-admin startproject projectname

python manage.py startapp appname
python manage.py makemigrations appname
python manage.py makemigrations
python manage.py migrate

python manage.py runserver 8000
```

CHAPTER 38

Use Django ORM

In a deeper directory, without the manage.py

```
# coding:utf-8
import os, sys
from django.core.wsgi import get_wsgi_application

# /path/to/django/project
PROJECT_DIR = os.path.abspath(os.path.join(os.path.dirname(os.path.abspath(__file__)),
↪ os.pardir))
sys.path.extend([PROJECT_DIR])

# load auto.settings
os.environ.setdefault('DJANGO_SETTINGS_MODULE', 'name.settings')
application = get_wsgi_application()

# only if run directly
if __name__ == "__main__":
    pass
```

CHAPTER 39

virtualenvwrapper-win

39.1 Install

```
pip3 install virtualenvwrapper-win
```

39.2 Enviroment Vars

set enviroment `WORKON_HOME` as `D:\path\to\envs`

39.3 create venv

```
mkvirtualenv venv-name
```

39.4 enter venv

```
workon venv-name
```

39.5 exit venv

```
deactivate
```

CHAPTER 40

PostgreSQL

set id auto_increasement:

```
select setval('tablename_id_seq', 1000, false);
```

CHAPTER 41

PostgreSQL SSL connection for Django settings

Many many many many many many searches and tries..... Fxck...

41.1 psycopg2 package

```
pip3 install --upgrade psycopg2
```

41.2 configration file

PostgreSQL official: Database Connection Control Functions

https://www.postgresql.org/docs/current/libpq-connect.html

Edit the `settings.py` file like this:

```
DATABASES = {
    # 'default': {
    #     'ENGINE': 'django.db.backends.sqlite3',
    #     'NAME': os.path.join(BASE_DIR, 'db.sqlite3'),
    # },
    'default': {
        'ENGINE': 'django.db.backends.postgresql_psycopg2',
        'HOST': 'server-ip',
        'PORT': '5432',
        'NAME': 'database-name',
        'USER': 'username',
        'PASSWORD': 'password',
        'OPTIONS': {
            'sslmode': 'require',
            'sslcert': '/path/to/file',
            'sslkey': '/path/to/file',
```

(continues on next page)

()

```
            'sslrootcert': '/path/to/file',
        },
    },
}
```

CHAPTER 42

Auto install packages from requirements.txt

```
$ pip3 install -r requirements.txt
```

CHAPTER 43

Useful packages

- use profig for config

CHAPTER 44

PyPI

44.1 Installation

```
$ pip3 install --user --upgrade setuptools wheel twine
```

44.2 Configuration

~/.pypirc file:

```
[distutils]
index-servers=pypi

[pypi]
repository = https://upload.pypi.org/legacy/
username = <username>
password = <password>
```

44.3 Pack

```
$ py setup.py sdist bdist_wheel
```

44.4 Upload

```
$ twine upload dist/*
```

CHAPTER 45

Github: scripts - Some useful scripts

https://github.com/neoctobers/scripts

45.1 Clone

```
$ git clone git@github.com:neoctobers/scripts.git
```

45.2 Windows

Add the absolute path to `PATH`. Then you can easily use these commands everywhere.

45.3 Linux

`+x`:

```
$ sudo chmod +x /path/to/scripts/linux/*
```

Create `/etc/profile.d/add_to_path.sh`:

```
$ sudo nano /etc/profile.d/add_to_path.sh
```

Edit with one line:

```
export PATH=/path/to/scripts/linux:$PATH
```

Permit:

```
$ sudo chmod +x /etc/profile.d/add_to_path.sh
```

Add to sudo:

```
$ sudo visudo
```

Add `/path/to/scripts/linux` in `secure_path="..."`.

Reboot

CHAPTER 46

PyPI: list-ext - Python list

Python `list`

- `unique`
- `strip`
- `strip_and_unique`
- `remove`
- `strip_and_remove`
- `remove_and_unique`
- `sur`

46.1

```
$ pip3 install -U list-ext
```

46.2

```
import list_ext

a = ['abc', ' abc ', 'a', 'b', 'c', 'a', 'b', '', '', 'd', None, 0, '', '1']

print(a)

print()
print(list_ext.unique(a))
```

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()

```
print(list_ext.strip(a))
print(list_ext.remove(a))
print(list_ext.remove(a, 0))
print(list_ext.remove(a, ['', None, 0]))

print()
print(list_ext.strip_and_unique(a))
print(list_ext.strip_and_remove(a))
print(list_ext.remove_and_unique(a))

print()
print(list_ext.sur(a))
print(list_ext.sur(a, 0))
```

```
['abc', ' abc ', 'a', 'b', 'c', 'a', 'b', '', '', 'd', None, 0, '', '1']

['abc', ' abc ', 'a', 'b', 'c', '', 'd', None, 0, '1']
['abc', 'abc', 'a', 'b', 'c', 'a', 'b', '', '', 'd', None, 0, '', '1']
['abc', ' abc ', 'a', 'b', 'c', 'a', 'b', 'd', 0, '1']
['abc', ' abc ', 'a', 'b', 'c', 'a', 'b', '', '', 'd', None, '', '1']
['abc', ' abc ', 'a', 'b', 'c', 'a', 'b', 'd', '1']

['abc', 'a', 'b', 'c', '', 'd', None, 0, '1']
['abc', 'abc', 'a', 'b', 'c', 'a', 'b', 'd', 0, '1']
['abc', ' abc ', 'a', 'b', 'c', 'd', 0, '1']

['abc', ' abc ', 'a', 'b', 'c', 'a', 'b', 'd', 0, '1']
['abc', ' abc ', 'a', 'b', 'c', 'a', 'b', '', '', 'd', None, '', '1']
```

CHAPTER 47

PyPI: dict-ext - A Python dict extension

A Python `list` extension.

. . . tbc

47.1 Installation

```
$ pip3 install -U dict-ext
```

CHAPTER 48

PyPI: file-ext - A Python file extension

A Python `file` extension, comment starts with # is allowed:

- `read_to_list(path_to_file)`

48.1 Installation

```
$ pip3 install -U file-ext
```

CHAPTER 49

PyPI: ssr-utils - Shadowsocks(R) Utils

Shadowsocks(R) utils:

- Get SSR URLs by subscribe
- SSR URL encode/decode
- Generate plain text
- Generate `.json` config file
- Check available (for linux only)

49.1 Installation

```
$ pip3 install ssr-utils
```

49.2 Usage

```
import ssr_utils

ssr = ssr_utils.SSR()

ssr.load(ssr_object)

# or
ssr.url = 'ssr://...' # 'ss://...' is accepted too

# or
ssr.set(server=server,
```

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()

```
        port=port,
        method=method,
        password=password,
        protocol=protocol,
        proto_param=proto_param,
        obfs=obfs,
        obfs_param=obfs_param,

        remarks=remarks,
        group=group,
        )


# and you may:
ssr.remarks = '...'
ssr.group = '...'

# then...
print(ssr.url)
print(ssr.plain)
print(ssr.config)


# generage a config file, as .json
ssr.local_address = '127.0.0.1'
ssr.local_port = 1080
ssr.path_to_config = 'config.json'
print(ssr.json_string)
ssr.generate_config_file()


# even, healthy check, for linux only and need a .env file
if ssr.is_available:
    print(ssr.ip)
    print(ssr.country)
    print(ssr.country_code)
```

49.3 Get SSR URLs by subscribe

```
import ssr_utils

urls = ssr_utils.get_ssr_urls_by_subscribe('https://...')
```

CHAPTER 50

PyPI: ip-utils - IP utils

TBC.

CHAPTER 51

PyPI: xpi - Some useful functions for Raspberry Pi3B+

https://github.com/neoctobers/xpi

51.1 Installation

```
$ pip3 install -U xpi
```

51.2 Usage

```
import xpi

ip = xpi.get_host_ip()  # Get host IP address by UDP
ip = xpi.save_host_ip() # Force to save the IP address to a temporary file
ip = xpi.read_host_ip() # Read the IP address from a temporary file, or get and save␣
↪it
```

CHAPTER 52

Lavarel-Homestead on Win10

https://laravel.com/docs/5.7/homestead

52.1 VirtualBox and Vagrant

Download and install:

- VirtualBox: https://www.virtualbox.org/wiki/Downloads
- Vagrant: https://www.vagrantup.com/downloads.html

52.2 Clone Homestead

```
$ git clone https://github.com/laravel/homestead.git
```

52.3 Download Laravel Homestead Box file

Index page: https://app.vagrantup.com/laravel/boxes/homestead

Find the latest version, `v6.4.0` for example, copy the url `https://app.vagrantup.com/laravel/boxes/homestead/versions/6.4.0`, append `/providers/virtualbox.box`, it will be `https://app.vagrantup.com/laravel/boxes/homestead/versions/6.4.0/providers/virtualbox.box`.

Download it to the homestead directory, and create a file `virtualbox.json`:

```
{
    "name": "laravel/homestead",
    "versions": [{
        "version": "6.4.0",
```

(continues on next page)

()

```
        "providers": [{
            "name": "virtualbox",
            "url": "virtualbox.box"
        }]
    }]
}
```

52.4 Add virtualbox to vagrant

Under the homestead directory:

```
$ vagrant box add virtualbox.json
==> box: Loading metadata for box 'virtualbox.json'
    box: URL: file://D:/_dev/homestead/virtualbox.json
==> box: Adding box 'laravel/homestead' (v6.4.0) for provider: virtualbox
    box: Downloading: virtualbox.box
    box: Progress: 100% (Rate: 892M/s, Estimated time remaining: --:--:--)
==> box: Successfully added box 'laravel/homestead' (v6.4.0) for 'virtualbox'!
```

52.5 Launch

```
$ vagrant up
```

Or use a `.bat` script.

CHAPTER 53

Lightshot

An excellent snapshot tool.

https://app.prntscr.com/

CHAPTER 54

TOR

Just TOR

54.1 Download

https://www.torproject.org/download/download

54.2 Expert Bundle on windows

Edit a file `torrc` in directory `%AppData%/tor`:

```
# VIA SS(R)
SOCKS5Proxy 127.0.0.1:1080

# LOCAL PORT
SOCKSPort 9050
```

Then, run `tor.exe` and enjoy, with `socks5://127.0.0.1:9050`

Full and a raw `torrc`, visit github

Bibliography

[CIT2002] This is the citation. It's just like a footnote, except the label is textual.