
neoctobers Documentation

Release latest

neoctobers

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Personal records.

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
```

Install Python3.7.2

Install Python3.7.2 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
```

Note: 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!

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

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
```

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
```

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.

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/proxychains4`

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.

Note: Original `proxychains.conf` file: [proxychains.conf on Github.com](#) or in RAW format

8.3 Check and usage

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

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...

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 .
```

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

10.3 Restart privoxy service

```
$ sudo service privoxy restart
```

Enjoy.

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
```

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
```

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```
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 Style Guides

- [Google Style Guides \(en\)](#)
- [Google Style Guides \(zh_CN\)](#)

- [Project Link](#)
- [Documents CN](#)
- [Documents EN](#)
- [Downloads](#)

15.1 Server-side, ubuntu for example

Edit the `frps.ini`:

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

Write a `/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!

16.1 Download

Download

16.2 Config

```
$ 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 Push a existing folder

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

16.4 Cancel the command `git add .`

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

Multiple ssh-key for git

Multiple users for different repositories.

17.1 Generate multiple ssh-keys for different users

Different passwords is recommended.

```
$ 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
```

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```
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/neoctober" -F "code=neoctober"
```


CHAPTER 19

cmdr

Run cmdr as administrator, and run:

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

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

CHAPTER 20

cmdr in hyper.js

ref <https://hyper.is/>

ref <https://github.com/cmdrdev/cmdr/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)',
```

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```
// 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',
```

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```

    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\\cmdr_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`

```

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```
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 `cmdr`, 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
```

Read the docs

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

23.1 Initial docs by sphinx

RTD Quick Start

Install `sphinx` with `pip`, then `sphinx-quickstart` to init.

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

Edit the `.rst` files to write.

To make html for preview locally, run:

```
$ 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.

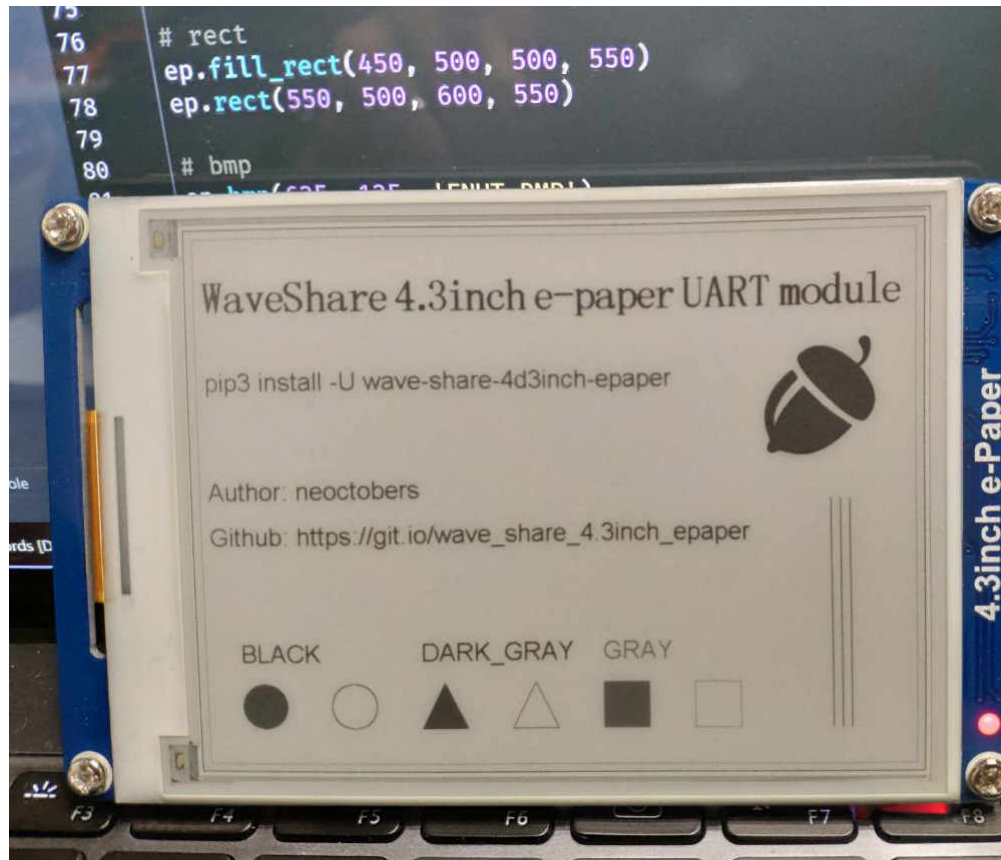
WaveShare 4.3inch e-paper UART module

- Official: [WaveShare 4.3inch e-paper UART module](#)
- Github: [neoctober/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)
```

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```
# 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: neoctober')
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')
```

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

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>

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>

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.
```

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```
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://neoctober.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://neoctober.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 a¹ sample, and a same¹ 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
```

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/tcpping
$ sudo chmod 755 /usr/bin/tcpping
```

31.2 Usage

```
$ tcpping 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
```

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
```

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)

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 symlink 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
```

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
```

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);
```

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 configuration 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',
```

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```
        '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

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/*
```

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

PyPI: list-ext - A Python list extension

A Python list extension:

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

46.1 Installation

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

46.2 Usage

```
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))
```

Result:

```
['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']
```

PyPI: dict-ext - A Python dict extension

A Python `list` extension.

...tbc

47.1 Installation

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

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
```

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.

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
```

Laravel-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",
```

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```
    "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/>

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.