Linux

https://wiki.debian.org/NetworkConfiguration

https://wiki.debian.org/InstallingDebianOn/Allwinner

- Kernel
- ubuntu18.4 ubuntu20.4
- LXC
- Docker
- virtualbox
- GIMP
- multimedia
- wifi

Preferences

Titlebar-Icons

```
gsettings set org.gnome.desktop.wm.preferences button-layout
':minimize,maximize,close'
```

Terminal-Width

```
stty rows 50 cols 150
```

if linebreak does not work this can help in ~/.bashrc:

```
shopt -s checkwinsize
#if [ $(tty) == '/dev/ttyS0' ]; then
#  trap resize DEBUG
#fi
#resize-befehl in xterm
export PROMPT_COMMAND="resize &>/dev/null ; $PROMPT_COMMAND"
```

ppp ifup-script

Script in /etc/ppp/ip-up.d must not have extension Quelle

example: ppp-default-route in separate routing-Table:

```
PPP_LOCAL=$4
PPP_REMOTE=$5
PPP_IFACE=$1
```

```
ip route flush table telekom
ip route add $PPP_REMOTE/32 dev $PPP_IFACE src $PPP_LOCAL table telekom
ip route add default dev $PPP_IFACE table telekom
ip route show table telekom
exit 0
```

apt-get force ipv4

```
apt-get -o Acquire::ForceIPv4=true update
```

Quelle

permanent (as root):

```
echo 'Acquire::ForceIPv4 "true";' > /etc/apt/apt.conf.d/99force-ipv4
```

Quelle

basic x-server

```
apt-get install --no-install-recommends xserver-xorg xinit openbox
policykit-1 xterm xfonts-base
```

simple Mailserver

as Relay-Server (sending Mails over external Mailserver) for System-purposes (infos, backup,...)

https://linuxundich.de/gnu-linux/system-mails-ohne-einen-mail-server-mit-ssmtp-verschicken/

screen

http://fractio.nl/2008/09/29/setting-session-name-in-screen/

```
screen -S Sessionname command
```

wget

-P download in dir

```
wget <file.ext> -P /path/to/folder
```

-O download as file

```
wget <file.ext> -O /path/to/folder/file.ext
```

processinfo

```
ps -o pid,args -C tcpdump
```

ls

full timestamps:

```
ls -l --time-style="+%Y-%m-%d %H:%M"
```

deactivate colors:

```
ls -l --color=none
```

bashrc / alias

```
alias cp="rsync -av --partial --progress"
alias pynano="nano -ET4"
alias catconf='find . -type f -exec grep -Iq . {} \; -printf "\n\n%p:\n" -
exec cat {} \;'
```

nano

Jump to line: Ctrl+Shift+- (Ctrl+_)

Replace: Alt+R

settings

```
sudo nano /etc/nanorc
```

Cursorposition

```
## Constantly display the cursor position in the status bar.  Note that
## this overrides "quickblank".
```

```
set constantshow #temporär strg+C,
```

linenumbers

```
## Display line numbers to the left of the text.
set linenumbers  # alt+# to disable temporarily
```

TAB-width

```
#/etc/nanorc
set tabsize 4
#temporary setting it (e.g. for Patches)
nano -T 8 datei
```

storage check

```
#filesystem:
sudo fsck -f /dev/sdb1
#check for bad sectors
sudo badblocks -nsv /dev/sdb
```

http://www.das-werkstatt.com/forum/werkstatt/viewtopic.php?t=2346

NTP

```
apt-get install ntp
#nano /etc/ntp.conf # need restart after change
service ntp status
#show state of servers
ntpq -p
```

manual update:

```
service ntp stop
ntpdate ptbtime1.ptb.de
service ntp start
```

set time

```
#timedatectl --help
```

```
timedatectl set-timezone CET #timezone (CET/CEST)
date -s "2020-10-29 19:14" #time
hwclock -w #set RTC if there is any, else time will be wrong after next
reboot
```

update-alternatives

```
sudo apt-get install gcc-8-arm-linux-gnueabihf
sudo update-alternatives --install /usr/bin/arm-linux-gnueabihf-gcc arm-
linux-gnueabihf-gcc /usr/bin/arm-linux-gnueabihf-gcc-8 50
sudo update-alternatives --config arm-linux-gnueabihf-gcc
arm-linux-gnueabihf-gcc --version
```

```
#to create update-alternatives in a loop you can use this
for i in $(ls /usr/bin/arm-linux-gnueabihf-gcc-{9..12});do sudo update-
alternatives --install /usr/bin/arm-linux-gnueabihf-gcc arm-linux-gnueabihf-
gcc $i 50;done
```

other example

```
sudo update-alternatives --install /usr/bin/calc calc /usr/bin/gnome-
calculator 10
```

renaming

File test will be renamed into test.bak (same directory)

```
mv /home/frank/test{,.bak}
```

gunzip

on-the-fly decompress and write to disk

```
gunzip -c bpi-r3_sdmmc_bullseye.img.gz | sudo dd bs=1M status=progress
conv=notrunc,fsync of=/dev/sdX
```

tar

```
tar -xzf file.tar.gz --strip-components 1 -C DESTINATION
```

sed

extract text between patterns:

https://stackoverflow.com/questions/38972736/how-to-print-lines-between-two-patterns-inclusive-or-exclusive-in-sed-awk-or

example (extract frequencies from iw command):

```
iw list | sed -n '/Frequencies/,/Band\|Supported commands/{/Band\|Supported commands/!p;}'
```

irssi

config

Server+nick:

```
irssi -n NICK #start irssi with nickname
```

```
/network add -nick NICK -autosendcmd "/msg nickserv IDENTIFY *******" fn
/server add -auto -ssl -network fn chat.freenode.net 7070 #ports 6697, 7000 and 7070 for SSL-encrypted connections.
```

```
/SET nick xxx
/SET alternate_nick xxx

/nick alternatenick
/msg NickServ IDENTIFY mainnick password
/msg NickServ GROUP
```

https://freenode.net/kb/answer/registration

```
/alias nick_recover msg NickServ GHOST $0 $1; wait 2000; msg NickServ RELEASE $0 $1; wait 2000; nick $0; wait 2000; msg NickServ IDENTIFY $1
/network modify -autosendcmd "/nick_recover NICK PASSWORD" fn
/SET server_reconnect_time 300
```

https://irssi.org/documentation/startup/

switch windows

```
/window 1-x #1=server-window
```

Ctrl+P (previous)/ctrl+N (next)

```
/win list #shows open windows in the Server-Status (1)
```

Away mode

```
/away grund #start awaymode (Nachrichten shown in Server-window #1)
/away #stop away mode
```

udev

same serial-adapter with Symlink based on USB-Ports (behind Hub)

https://askubuntu.com/questions/49910/how-to-distinguish-between-identical-usb-to-serial-adapters

```
udevadm info --attribute-walk --path=/sys/bus/usb-serial/devices/ttyUSB0
```

/etc/udev/rules.d/11-ttyusb.rules:

```
#r2 (first port) roothub-port.hubport
#    KERNELS=="1-3.1:1.0"
#    KERNELS=="1-3.1"
#r64 (second port=3)
#    KERNELS=="1-3.3:1.0"
#    KERNELS=="1-3.3"
KERNEL=="ttyUSB*", KERNELS=="*-*.1*", SYMLINK+="ttyUSB_R2"
KERNEL=="ttyUSB*", KERNELS=="*-*.3*", SYMLINK+="ttyUSB_R64"
```

my current config splitting by serial

```
#ch340 KERNELS=="1-3.3" no serial
SUBSYSTEM=="tty", ATTRS{idVendor}=="1a86", ATTRS{idProduct}=="7523",
SYMLINK+="tty_r2pro"
#cp2102 KERNELS=="1-3.2"
SUBSYSTEM=="tty", ATTRS{idVendor}=="10c4", ATTRS{idProduct}=="ea60",
ATTRS{serial}=="010CB6FA", SYMLINK+="tty_r3"
#cp2104 KERNELS=="1-3.1"
SUBSYSTEM=="tty", ATTRS{idVendor}=="10c4", ATTRS{idProduct}=="ea60",
ATTRS{serial}=="0001", SYMLINK+="tty_r2"
```

this udev rules i use for ftdi 4xuart adapter (FT4232H Quad RS232-HS)

```
SUBSYSTEM=="tty", ATTRS{idVendor}=="0403", ATTRS{idProduct}=="6011",
ENV{ID_USB_INTERFACE_NUM}=="00", SYMLINK+="ftdi_r2"
SUBSYSTEM=="tty", ATTRS{idVendor}=="0403", ATTRS{idProduct}=="6011",
ENV{ID_USB_INTERFACE_NUM}=="01", SYMLINK+="ftdi_r64"
```

```
SUBSYSTEM=="tty", ATTRS{idVendor}=="0403", ATTRS{idProduct}=="6011",
ENV{ID_USB_INTERFACE_NUM}=="02", SYMLINK+="ftdi_r3"
SUBSYSTEM=="tty", ATTRS{idVendor}=="0403", ATTRS{idProduct}=="6011",
ENV{ID_USB_INTERFACE_NUM}=="03", SYMLINK+="ftdi_r4"
```

easier way to get the main-properties of a device

```
udevadm info /dev/sdb1
```

sshd

qnap (entware)

```
nano /opt/etc/ssh/sshd_config #ggf. optionen anpassen (hostkey
ecdsa/ed.../...)
ps | grep ssh
kill PID #PID= pid von /opt/sbin/sshd
/opt/sbin/sshd -E /tmp/sshd.log -o LogLevel=DEBUG3
tail -f /tmp/sshd.log
#bei Fehler "Bad ownership":
chmod go-w ~/;chmod 700 ~/.ssh;chmod 600 ~/.ssh/authorized_keys
#wenn fertig
/opt/etc/init.d/S40sshd restart
```

kernel kernelconfig (/proc/config.gz)

```
# modprobe configs
# zcat /proc/config.gz | grep -i hwmon
CONFIG_HWMON=y
# CONFIG_HWMON_DEBUG_CHIP is not set
# CONFIG_SENSORS_IIO_HWMON is not set
CONFIG_THERMAL_HWMON=y
```

mv-alternative

```
rsync -avh --progress --remove-source-files source target/
#delete empty directories (not done by rsync)
find source/ -type d -empty -delete
```

other

force fsck

in kernel-cmdline:

```
fsck.mode=force
```

smartctl / hdparm

```
smartctl -t short /dev/sdb
smartctl -a /dev/sdb | grep -A1 "Self-test execution status"
#Beispielausgabe:
Self-test execution status:      ( 249) Self-test routine in progress...
                    90% of test remaining.
#oder:
Self-test execution status:      ( 121) The previous self-test completed
having
                    the read element of the test failed.

#warten bis fertig und bei Fehler:
smartctl -a /dev/sdb | grep '^#'
Beispielausgabe mit Fehler (long):
# 1  Extended offline    Completed: read failure       90%       267
1709921

#sektor und angrenzende in Schleife versuchen neu zu schreiben
for i in {1709920..1709930};do hdparm --yes-i-know-what-i-am-doing --repair-
sector $i /dev/sdb;sleep 1;done
```

iostat

```
apt install sysstat
```

Ausgabe:

```
$ iostat -m -p /dev/sdb
Linux 5.15.0-56-generic (frank-G5)  29.12.2022     _x86_64_    (12 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2,19    0,01    0,74    2,58    0,00   94,48

Device             tps    MB_read/s    MB_wrtn/s    MB_dscd/s    MB_read
MB_wrtn    MB_dscd
```

```
sdb               5,80         0,00         0,67         0,00          3
9123          0
sdb1              0,01         0,00         0,00         0,00          2
0          0
```

rc.local

https://www.troublenow.org/752/debian-10-add-rc-local/

VNC-Server

based on https://www.scivision.dev/vncserver-setup-on-ubuntu/

```
apt install tightvncserver openbox
apt install lxterminal firefox-esr --no-install-recommends
```

~/.vnc/xstartup

```
#!/bin/sh
xrdb $HOME/.Xresources
xsetroot -solid grey

unset SESSION_MANAGER
exec openbox-session &
```

~/startVNC.sh

```
#!/bin/sh
vncserver :1 -geometry 1024x768 -depth 8
```

do not forget to set execute rights

```
chmod +x ~/startVNC.sh ~/.vnc/xstartup
```

i setart the script with rc.local (see above), but a init-script is also possible

https://www.digitalocean.com/community/tutorials/how-to-install-and-configure-vnc-on-ubuntu-18-04-de

locales

```
/usr/bin/locale: Cannot set LC_ALL to default locale: No such file or
directory
```

Solution:

if not yet done, generate locales

```
locale-gen de_DE.UTF-8
```

add this to /etc/environment:

```
LC_ALL=de_DE.UTF-8
LANG=de_DE.UTF-8
```

maybe again

```
dpkg-reconfigure locales
```

now error should be fixed

```
locale -a
```

Solution using /etc/default/locale was not working for me

LVM

https://wiki.debian.org/LVM#Create_a_PV

prepared initrd

```
  apt install initramfs-tools
  kernelversion=$(uname -r)
  echo $kernelversion
  zcat /proc/config.gz > /boot/config-$kernelversion
  less /boot/config-$kernelversion
  update-initramfs -k $kernelversion -c
```

```
root@bpi-r3-mini:~# apt install lvm2
root@bpi-r3-mini:~# fdisk /dev/nvme0n1
#changed type of partition 3 to lvm
root@bpi-r3-mini:~# pvcreate /dev/nvme0n1p3
root@bpi-r3-mini:~# vgcreate vg-nvme /dev/nvme0n1p3
  Volume group "vg-nvme" successfully created
root@bpi-r3-mini:~# vgdisplay
  --- Volume group ---
  VG Name               vg-nvme
  System ID
  Format                lvm2
  Metadata Areas        1
  Metadata Sequence No  1
  VG Access             read/write
  VG Status             resizable
  MAX LV                0
  Cur LV                0
```

```
  Open LV               0
  Max PV                0
  Cur PV                1
  Act PV                1
  VG Size               80.74 GiB
  PE Size               4.00 MiB
  Total PE              20670
  Alloc PE / Size       0 / 0
  Free  PE / Size       20670 / 80.74 GiB
  VG UUID               w22Wdx-Fhch-YNsA-roWh-Zq81-qv0R-d5fnvw
root@bpi-r3-mini:~# lvcreate -n var -L 10g vg-nvme
  Logical volume "var" created.
root@bpi-r3-mini:~# mkfs -t ext4 /dev/vg-nvme/var
root@bpi-r3-mini:~# mount /dev/mapper/vg--nvme-var /var_lvm
[ 5279.856899] EXT4-fs (dm-0): mounted filesystem 520d434d-
fdfc-48f3-823d-77e602
7e84e7 r/w with ordered data mode. Quota mode: disabled.
root@bpi-r3-mini:~#
```