

# Debian

## debootstrap

<https://blog.night-shade.org.uk/2013/12/building-a-pure-debian-armhf-rootfs/>

ubuntu



in jessie/Ubuntu 14.x (64bit) there are problems in second-stage: [link](#), here debootstrap must be updated (first stage must be called again): [download](#)

```
sudo apt-get install qemu-user-static debootstrap binfmt-support
distro=buster
arch=armhf
#for bpi-r64 use arch=arm64
targetdir=$(pwd)/debian_${distro}_${arch}
mkdir $targetdir
sudo debootstrap --arch=$arch --foreign $distro $targetdir
sudo cp /usr/bin/qemu-arm-static $targetdir/usr/bin/
#for r64 use
# sudo cp /usr/bin/qemu-aarch64-static $targetdir/usr/bin/
sudo cp /etc/resolv.conf $targetdir/etc
sudo distro=$distro chroot $targetdir
export LANG=C
/debootstrap/debootstrap --second-stage
```

like it's done in source hostname,apt (local Server),...must be configured

- hostname (/etc/hostname)

bpi-r2

- /etc/apt/sources.list

```
deb http://ftp.us.debian.org/debian buster main contrib non-free
deb-src http://ftp.us.debian.org/debian buster main contrib non-free
deb http://ftp.us.debian.org/debian buster-updates main contrib non-free
deb-src http://ftp.us.debian.org/debian buster-updates main contrib non-free
deb http://security.debian.org/debian-security buster/updates main contrib
non-free
deb-src http://security.debian.org/debian-security buster/updates main
contrib non-free
```

- fstab (boot,root)

#	<file system>	<dir>	<type>	<options>	<dump>	<pass>
	/dev/mmcblk0p1	/boot	vfat	errors=remount-ro	0	1

/dev/mmcblk0p2	/	ext4	defaults	0	0
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- Dns-server in /etc/resolv.conf

```
nameserver 192.168.0.5
```

- Network-Configuration

```
auto eth0
iface eth0 inet manual
    pre-up ip link set $IFACE up
    post-down ip link set $IFACE down

auto lan0
iface lan0 inet static
    hwaddress ether 08:00:00:00:00:00 # if you want to set MAC manually
    address 192.168.0.10
    netmask 255.255.255.0
    gateway 192.168.0.5
    pre-up ip link set $IFACE up
    post-down ip link set $IFACE down
...
```

in existing Jessie-Image clear root-partition (except lib/modules/<kernelversion>) and put contents of Bootstrap-folder (debian\_stretch) to it

Uploaded work so far on my [gdrive](#)

Image (sd+emmc in separate img's): [gdrive](#)

(deb\_stretch\_...)

on EMMC-Image SSH-Login is not possible as root because of missing option in ssh-server

add the following line to /etc/ssh/sshd\_config and reboot/restart sshd:

```
PermitRootLogin yes
```

## change working Image

- clear logs (echo -n „>logfile),
- delete backup-files,
- clear cache (e.g. APT),
- remove unused Kernel-Modules (/lib/modules/)
- delete own Users
- reset PW for root

fill free space in the Image with null-file (for better packing):

```
loopdev=$(losetup -f) #get first free loopdevice
losetup ${loopdev} /path/to/file
```

```
partprobe ${loopdev}
mount ${loopdev}p2 /mnt

#if you want to install/update things
cp /usr/bin/qemu-arm-static /mnt/usr/bin/
chroot /mnt

#overwrite free space
dd if=/dev/zero of=/mnt/null.dat
rm /mnt/null.dat

losetup -d ${loopdev}
```

<https://softwarebakery.com/shrinking-images-on-linux>

alternative <https://wiki.debian.org/DebianInstaller/Arm/OtherPlatforms>

## my Image for BPI-R2

### network

you have ports wan, lan0-lan4 with kernel 4.14+

current config can be displayed using ip a or by editing /etc/network/interfaces

```
wan:dhcp # maybe needs additional "auto wan" to go up on boot
lan0: 192.168.0.10/24
lan1+lan2 are in a bridge with address 192.168.40.1/24 #currently also auto
lanx>manual missing
lan3 unconfigured
```

to add default-gateway / DNS server do this

```
ip route add default via <your router ip>
nano /etc/resolv.conf #change ip of your gateway for DNS
```

### keyboard

for configuring keyboard you have to install console-setup then you will be prompted for keyboard-layout

```
apt-get install console-setup
```

From:

<https://www.fw-web.de/dokuwiki/> - **FW-WEB Wiki**

Permanent link:

<https://www.fw-web.de/dokuwiki/doku.php?id=en:bpi-r2:debian&rev=1598714046>

Last update: **2023/06/08 17:06**

