

Ubuntu

debootstrap

Steps to get ubuntu-system (use armhf as arch):

<https://help.ubuntu.com/lts/installation-guide/armhf/apds04.html>

```
sudo apt-get install qemu-user-static debootstrap binfmt-support

distro=bionic
#distro=focal
arch=armhf
#for bpi-r64 use arch=arm64
targetdir=$(pwd)/debootstrap_ubuntu_${distro}_${arch}

sudo debootstrap --arch=$arch --foreign $distro $targetdir


#if you got this error: E: Cannot install into target '...' mounted with
noexec or nodev
sudo mount -i -o remount,exec,dev /mounted_dir

sudo cp /usr/bin/qemu-arm-static $targetdir/usr/bin/
sudo cp /etc/resolv.conf $targetdir/etc
sudo distro=$distro chroot $targetdir
export LANG=C
/debootstrap/debootstrap --second-stage

#echo "deb-src http://archive.ubuntu.com/ubuntu $distro
main">>/etc/apt/sources.list
#echo "deb http://security.ubuntu.com/ubuntu $distro-security
main">>/etc/apt/sources.list
#echo "deb-src http://security.ubuntu.com/ubuntu $distro-security
main">>/etc/apt/sources.list
echo "deb http://ports.ubuntu.com/ubuntu-ports/ $distro
main">>/etc/apt/sources.list
echo "deb-src http://ports.ubuntu.com/ubuntu-ports/ $distro
main">>/etc/apt/sources.list
echo "deb http://ports.ubuntu.com/ubuntu-ports/ $distro-updates
main">>/etc/apt/sources.list
echo "deb-src http://ports.ubuntu.com/ubuntu-ports/ $distro-updates
main">>/etc/apt/sources.list
echo "deb http://ports.ubuntu.com/ubuntu-ports/ $distro-security
main">>/etc/apt/sources.list
echo "deb-src http://ports.ubuntu.com/ubuntu-ports/ $distro-security
main">>/etc/apt/sources.list

echo "bpi-r2-ubuntu" >/etc/hostname
```

```
#set root-password! else you will not be able to login  
passwd
```

configure fstab/... like it's done for [debian](#)  ubuntu 18.4 uses netplan as default network-framework [bionic releasenotes](#)

```
#exit chroot  
exit
```

pack:

```
cd $targetdir  
sudo tar cvpzf ../debootstrap_${distro}_${arch}.tar.gz .
```

install System to SD-Card

[prepare SD-Card](#)

```
#unpacking in root-partiton with  
sudo tar -xpf /path/to/debootstrap_${distro}.tar.gz  
sudo mkdir lib/modules/  
cd lib/modules/  
#unpack kernel-modules here
```

temporary configure network:

```
ip a  
ip link set eth0 up  
ip addr add 192.168.0.11/24 dev lan0 #ip/prefix in your lan-segment not used  
ip link set lan0 up  
ip route add default via 192.168.0.10 #ip from your router  
echo "nameserver 192.168.0.10" >>/etc/resolv.conf #ip from your router for  
dns resolution
```

install “ifupdown” and add “netcfg/do_not_use_netplan=true” to bootopts in /boot/bananapi/bpi-r2/linux/uEnv.txt

after reboot the “old” system with /etc/network/interfaces is used. currently /etc/resolv.conf is resetted every reboot

```
root@bpi-r2-ubuntu:~# ls -l /etc/resolv.conf  
lrwxrwxrwx 1 root root 39 Jun 13 10:27 /etc/resolv.conf ->  
../run/systemd/resolve/stub-resolv.conf  
#delete symlink and replace it by a static file with your settings  
rm /etc/resolv.conf  
echo "nameserver 192.168.0.10" >>/etc/resolv.conf
```

in ubuntu 18.4 there is a own dns-service running, which have to be disabled (followed by a reboot or stop), in order to get e.g. DNSMasq running (like in my wifi.sh-script)

```
systemctl disable systemd-resolved
systemctl stop systemd-resolved
```

create the image

```
imgfile=/path/to/ubuntu-18.04-bpi-r2-preview.img

#create img file from sdcard (optional if no img file available)
sudo dd if=/dev/sdx of=$imgfile
#watch state of dd from another terminal with "sudo kill -SIGUSR1 $(pidof dd)"

#truncate image to last partitions end (mbr only, do not use for gpt)...make
sure your path does not contain spaces!
IFS=$'\t' #just for security reasons (ignore spaces in path)
ENDOFDATA=$(fdisk -l "$imgfile" | tail -1 | awk '{print $3}')
echo $ENDOFDATA
truncate --size=$((($ENDOFDATA+1)*512) $imgfile
#check size
ls -lh "$imgfile"

#maybe do some stuff with the img
loopdev=$(losetup -f)
sudo losetup $loopdev $imgfile
sudo partprobe $loopdev
sudo mount ${loopdev}p2 /mnt
ls /mnt
#overwrite free space with zeros for better packing and not leaving possible
sensitive data
sudo sh -c 'cat /dev/zero >/mnt/null.dat'
sudo rm /mnt/null.dat
sudo umount /mnt

#pack image
gzip $imgfile
md5sum $imgfile.gz > $imgfile.gz.md5
```

i have uploaded my image to [my gdrive](#) for testing (ubuntu-18.04-bpi-r2-preview.img.gz)

Lan0-IPv4 is 192.168.0.11 (second port, next to wan) you can change it in /etc/network/interfaces.
More on [network](#)

installation

Sdcard:

```
dd if=path/to/ubuntu.img of=/dev/sdx
```

Emmc:

- dd if=path/to/ubuntu.img of=/dev/mmcblkx
- maybe you need reboot reading the partitiontable
- First follow steps [here](#)
- in /boot/bananapi/bpi-r2/linux/uEnv.txt: find the line "root=..." and replace /dev/mmcblk0p2 with /dev/mmcblk1p2
- in /etc/fstab: replace /dev/mmcblk0p2 with /dev/mmcblk1p2

SSH

ssh-server is installed on my image [ubuntu-18.04-bpi-r2-preview.img.gz](#) from my [gdrive](#), but root-login have to be enabled

```
echo "PermitRootLogin yes" >> /etc/ssh/sshd_config  
service sshd restart
```

you should create new host-keys for ssh...

```
#first delete your old keys  
rm /etc/ssh/ssh_host_*  
#reconfigure sshserver-package  
dpkg-reconfigure openssh-server
```

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