

# Linux / How to rebuild rootfs in linux

[yocto / yocto how to add a file for rootfs](#)

layer/

yoctoyoctotar.gz

phyboard\_mira\_imx6\_3phytec-qt5demo-image

<ftp://ftp.phytec.cn/> machine/images/xxx.tar.gz BSPbuild/deploy/image/xxx.tar.gz

```
mkdir rootfs
sudo tar zxvf xxx.tar.gz -C rootfs
```

root, , sudo .

phytec-qt5demo-image/bsp/build/tmp/work/phyboard\_mira\_imx6\_3-phytec-linux-gnueabi/phytec-qt5demo-image/1.0-r0/temp ubifsext4sdcard

```
18 5 25 19:05 run.do_image -> run.do_image.11236
27 5 25 19:09 run.do_image_complete -> run.do_image_complete.11684
23 5 25 19:09 run.do_image_ext4 -> run.do_image_ext4.11548
5 5 25 19:09 run.do_image_sdcard -> run.do_image_sdcard.11633
22 5 25 19:09 run.do_image_tar -> run.do_image_tar.11552
24 5 25 19:09 run.do_image_ubifs -> run.do_image_ubifs.11551
22 5 25 19:06 run.do_listtasks -> run.do_listtasks.11399
25 12 29 13:12 run.do_populate_lic -> run.do_populate_lic.14293
24 1 10 17:49 run.do_populate_sdk -> run.do_populate_sdk.3146
18 5 25 19:00 run.do_rootfs -> run.do_rootfs.2957
```

## ubifs

run.do\_image\_ubifs ubifs

```
do_image_ubifs() {
    mkfs.ubifs -r /mnt/work/home/nzhang/bsp/mx6/PD16.1.0/build/tmp/work/phyboard_mira_imx6_3-phytec-linux-
gnueabi/phytec-qt5demo-image/1.0-r0/rootfs -o /mnt/work/home/nzhang/bsp/mx6/PD16.1.0/build/deploy/images
/phyboard-mira-imx6-3/phytec-qt5demo-image-phyboard-mira-imx6-3-20180525110858.rootfs.ubifs -F -m 2048 -e
126976 -c 8083
    cd /mnt/work/home/nzhang/bsp/mx6/PD16.1.0/build/deploy/images/phyboard-mira-imx6-3
}

cd '/mnt/work/home/nzhang/bsp/mx6/PD16.1.0/build/tmp/work/phyboard_mira_imx6_3-phytec-linux-gnueabi/phytec-
qt5demo-image/1.0-r0/phytec-qt5demo-image-1.0'
do_image_ubifs
```

do\_image\_ubifs( )ubifs

```
sudo mkfs.ubifs -r [rootfs] -o rootfs.ubifs -F -m 2048 -e 126976 -c 8083
[rootfs] ###
```

## sdcard

run.do\_image\_sdcard sdcardbarebox.bin, zImage, oftree, rootfs.ext4rootfs.ext4run.do\_image\_ext4

run.do\_image\_sdcardrun.do\_image\_ext4sdcardrun.do\_image\_sdcard run.do\_image\_ext4

```
#!/bin/bash

export BASE_DIR=/mnt/work/home/nzhang/image/mx6_linux/image #

DEST_IMG=${BASE_DIR}/mx6.
sdcard
# sdcard

BAREBOX=${BASE_DIR}/barebox.bin
ZIMAGE=${BASE_DIR}/zImage-phyboard-mira-imx6-5.
bin #
OFTREE=${BASE_DIR}/zImage-imx6q-phytec-mira-rdk-emmc.
dtb #
ROOTFS=${BASE_DIR}/rootfs
ROOTFS_TAR=${BASE_DIR}/phytec-headless-image-phyboard-mira-imx6-5.tar.
gz #
ROOTFS_EXT4=${BASE_DIR}/rootfs.
ext4

ROOTFS_SIZE="327680"
BOOT_SPACE_ALIGNED=$(expr 8192 + 4096 - 1)
BOOT_SPACE_ALIGNED=$(expr ${BOOT_SPACE_ALIGNED} - ${BOOT_SPACE_ALIGNED} % 4096)
SDCARD_SIZE=$(expr 4096 + ${BOOT_SPACE_ALIGNED} + $ROOTFS_SIZE + 4096)

do_image_untar() {
    rm -rf ${ROOTFS}
    mkdir -p ${ROOTFS}
    tar xf ${ROOTFS_TAR} -C ${ROOTFS}
}

do_image_ext4() {
    rm -f ${ROOTFS_EXT4}
    dd if=/dev/zero of=${ROOTFS_EXT4} seek=$ROOTFS_SIZE count=0 bs=1024
    ${BASE_DIR}/mkfs.ext4 -F -i 4096 ${ROOTFS_EXT4} -d ${ROOTFS}
}

do_image_sdcard() {
    rm -f ${DEST_IMG}
    dd if=/dev/zero of=${DEST_IMG} bs=1 count=0 seek=$(expr 1024 \* ${SDCARD_SIZE})
    parted -s ${DEST_IMG} mklabel msdos
    parted -s ${DEST_IMG} unit KiB mkpart primary fat32 4096 $(expr 4096 \+ ${BOOT_SPACE_ALIGNED})
    parted -s ${DEST_IMG} unit KiB mkpart primary $(expr 4096 \+ ${BOOT_SPACE_ALIGNED}) $(expr 4096 \+
    ${BOOT_SPACE_ALIGNED} \+ $ROOTFS_SIZE)
    parted ${DEST_IMG} print
    dd if=${BAREBOX} of=${DEST_IMG} conv=notrunc seek=1 skip=1 bs=512

    #Create boot partition image
    BOOT_BLOCKS=$(LC_ALL=C parted -s ${DEST_IMG} unit b print | awk '/ 1 / { print substr($4, 1, length($4
-1)) / 1024 }')
    rm -f ${BASE_DIR}/boot.img
    mkfs.vfat -n "BOOT" -S 512 -C ${BASE_DIR}/boot.img $BOOT_BLOCKS
    mcopy -i ${BASE_DIR}/boot.img -s ${ZIMAGE} ::/zImage
    mcopy -i ${BASE_DIR}/boot.img -s ${OFTREE} ::/oftree

    #Burn Partition
    dd if=${BASE_DIR}/boot.img of=${DEST_IMG} conv=notrunc,fsync seek=1 bs=$(expr 4096 \* 1024)
    dd if=${ROOTFS_EXT4} of=${DEST_IMG} conv=notrunc,fsync seek=1 bs=$(expr ${BOOT_SPACE_ALIGNED} \* 1024 +
4096 \* 1024)
}
do_image_untar
do_image_ext4
do_image_sdcard
```

barebox.bin zImage, oftree \${BASE\_DIR}

\${BASE\_DIR}/rootfs sdcard

rootsudo



nzhang@Z220:~/image/fsl\_mx6\_linux/emmc\$ sudo ./mk\_sdcard.sh

mkfs.ext4 ubuntu mkfs.ext4

```
mkfs.ext4: invalid option -- 'd'
Usage: mkfs.ext4 [-c|-l filename] [-b block-size] [-C cluster-size]
        [-i bytes-per-inode] [-I inode-size] [-J journal-options]
        [-G flex-group-size] [-N number-of-inodes]
        [-m reserved-blocks-percentage] [-o creator-os]
        [-g blocks-per-group] [-L volume-label] [-M last-mounted-directory]
        [-O feature[,...]] [-r fs-revision] [-E extended-option[,...]]
        [-t fs-type] [-T usage-type ] [-U UUID] [-jngvDFKSV] device [blocks-count]
```

ubuntumkfs.ext4-d BSPbitbake phytec-qt5demo-image -c devshell devshell

```
sh-4.3# mkfs.ext4
Usage: mkfs.ext4 [-c|-l filename] [-b block-size] [-C cluster-size]
        [-i bytes-per-inode] [-I inode-size] [-J journal-options]
        [-G flex-group-size] [-N number-of-inodes] [-d root-directory]
        [-m reserved-blocks-percentage] [-o creator-os]
        [-g blocks-per-group] [-L volume-label] [-M last-mounted-directory]
        [-O feature[,...]] [-r fs-revision] [-E extended-option[,...]]
        [-t fs-type] [-T usage-type ] [-U UUID] [-jngvDFKSV] device [blocks-count]
```

mkfs.ext4-d mkfs.ext4

```
sh-4.3# which mkfs.ext4
/mnt/work/home/nzhang/bsp/mx6/PD16.1.0/build/tmp/sysroots/x86_64-linux/sbin/mkfs.ext4
```

mkfs.ext4sdcard

PD18.1.0mkfs.ext4, ext4, :mkfs.ext4

## bootloader

[dd-0.6beta3.zip](#)

	barebox
imx6/6ul	dd if=barebox.bin of=*.sdcard conv=notrunc seek=1 skip=1 bs=512

## windowssdcard

<https://www.osforensics.com/tools/mount-disk-images.html>